Gender Attitude on Web Advertisement: A Study in Taiwan

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Abstract

While a lot of resources are being spent on Internet ads, there has been little formal empirical research that provides guidelines for effective Web ads for genders. By using a behavioral online environment database that consists of customer advertising attitude at a Web site along with individual advertising exposure, we measure the effect of interactivity on their advertising attitude.

For the experiment which investigated by a between-subject ANOVA experimental design of Internet users. And the results showed as: (1) For a high-involved product, people evaluate an interactive Web ad with stronger attitude; and for a low-involved product, people evaluate a non-interactive one with stronger attitude. (2) Male than female evaluates an interactive ad than a non-interactive one with stronger attitude; whereas, female than male evaluates a non-interactive Web one with stronger attitude.

Keywords: Personal and Product Involvement, Interactivity, Advertisement Attitude

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### Introduction

Consumer interactions with Internet advertising will be influenced by their Internet use motivations. For example, a consumer who uses the Internet for writing a research paper will be less likely to click on a pop-up banner ad that disrupts his/her work. On the other hand, a consumer who plans to purchase a vacation package is more likely to view an Internet travel advertising or related Websites. As Web use by both males and females continues to grow, it is becoming clear that genders make use of the Web differently (Sheehan, 1999). Additional knowledge concerning the Web’s gender-specific advertising behavior is needed.

Well over a decade ago, gender differences have been of interest to advertisers and marketers. For example, there is some evidence to suggest that males might better process technical product information in rational forms because logical depictions are conductive to right-hemisphere procession. Whereas female, technical product information might be better processed if presented in verbal prose or graphic form, which is more compatible with left-hemisphere processing (Meyers-Levy, 1994). Despite a recent surge in the use of the Internet by women (Pastore, 2001), there is a great deal of evidence that suggests the Internet remains less hospitable to women than men (Herring, 1993).

Differences have been seen, however, in how men and women use the internet (Kehoe et al., 1997; Sheehan, 1999), their online purchasing habits (Kehoe et al., 1997). These empirical studies still do not explain why promotional ads on the web might differentially impact the two sexes. Specially, how their information search, personal and product involvement and affinity for visual ad will influence the effectiveness of Web ads. In this paper, we reexamines several existing theories about how advertising works in traditional media and then explores how they can be adjusted to explain different way of gender’s information processing of web advertising. To assess our hypotheses about the different effects of the Web ads on gender, we conducted an online experimental study and examined their interactive relationship. Our findings and contributions offer an information processing explanation on gender-based effect and implications for broader generalization of these findings and future researches in advertising strategy and media placement are also discussed.
Background Literature and Hypotheses

Consumers’ Information Processing

The Internet is a unique medium that differentiates itself from other traditional advertising media with its interactivity and media capacity in facilitating the communication process. An Internet advertisement is organized through hyperlinks, hypertexts, icons, objects, and pull-down menus that allow consumers to interact and search for information about advertised products or services. Recent studies of online consumers now conceptualize them as active seekers of product related information. Such as Rodgers & Harris (2003) pointed out that “In an interactive context, consumers have more influence on the information processes and on subsequent marketing communications by searching for, selecting, processing, using and responding to information”. Papacharissi & Rubin (2000) found that Internet motivations were the most significant predictors of consumer uses and responses to Internet advertising. They also found that researchers were more negative toward Internet advertising than surfers. The existed studies show evidence that the motivation will intend to create consumers’ information processing behavior.

Elaboration Likelihood Model (ELM)

According to the ELM (the elaboration likelihood model of persuasion is a theory about the processes responsible for yielding to a persuasive communication and the strength of the attitudes that result from those processes), there are two different persuasion routes that consumers follow when they come across persuasive communication: (1) the central route and (2) the peripheral routes (Petty et al., 1983). When consumers have high involvement (personal or situational) to process communication, they are willing or able to exert a lot of cognitive processing effort which called high elaboration likelihood. In this situation, central cues such as existing beliefs, argument quality, and initial attitude are important in determining persuasion effects (i.e., enduring positive attitude change or boomerang effects). In contrast to high involvement, when involvement is low, consumers are either not willing or unable to exert a lot of processing effort. In this low elaboration situation, peripheral persuasion cues such as attractive sources, music, humor and visuals are determining factors of persuasion effects (a
temporary attitude shift or retaining the initial attitude).

**Computer-mediated Hypermedia Marketing Environment (CME)**

The interactive nature of Internet advertising is useful to advertisers only when consumers are willing to interact with an advertising message. Hoffman & Novak (1996) proposed the constructs to explain antecedents and consequences affecting consumer information processing behavior. According to their network navigation model, message characteristics (i.e., interactivity and vividness), and other factors (e.g., control characteristics, processing, involvement, and focused attention) can influence consumer flow experiences that increase learning, more exploratory behavior, an overall positive subjective experience, and greater perceived behavioral control among online consumers.

Based on the above mentioned of information processing in the Web from that in the traditional media, factors that enhance the effects of Web ads, such as product and personal involvement and advertising media type have been explored in next session.

**Personal and Product Involvement**

The most important determining factor of clicking an ad is the level of involvement. In high-involvement situations, consumers have high motivation to process advertising messages due to high personal relevance, high product category involvement, and high need for cognition. In these situations, consumers are more likely to demand greater information to satisfy their intrinsic need for information and cognition; that is, they are more likely to request more information by clicking ads in order to see detailed ad content than consumers in low-involvement situations. In contrast, consumers in low involvement situations have low motivation to process advertising messages, they are less likely to request more information, i.e., less likely to click banners to see more detailed information. However, they follow another route to clicking ads---the peripheral route to voluntary exposure. When consumers are not highly motivated to process further ad content, they do not want to engage in message-related thinking; rather they are more likely to focus on available peripheral cues. In other words, favorability of peripheral cues will influence click ability of Web ads in low-involvement situations.
Web advertising Interactivity

Web advertising is a different form of traditional advertisement. The traditional involuntary exposure concept can be applied; that is, the ads on the Web are nothing but the traditional passive form of non-interactive advertising unless they are clicked and move users into the separate target ads. For example, consumers have the choice to perform more actions for further active information processing by interacting with messages (e.g., clicking to deeper sites, searching contents, providing feedback, purchasing products on-line, etc.). In this sense, more intensive and active information processing requires more interactions between consumers and messages or between consumers and advertisers. Information processing in the Internet requires more conscious cognitive effort, because the medium itself requires action to process information; that is, information processing in the Internet is more action oriented and more interactive than that in traditional media.

Definitions of Web ad interactivity can be categorized on the basis of the primary focus of the users’ information processing, or perception. In the information processing perspective, researchers focus on ad features seek to identify either general characteristics (such as user control and two-way communication) or specific characteristics of Web sites (such as search engines and chat room) that define interactivity (Lee, 2000). Researchers who examine ways that computers facilitate human interaction often focus on the importance of enabling two-way communication (Kirsh, 1997; Rafaeli & Sudweeks, 1997). In other words, interactivity of Web ad focuses on the capability for providing feedback.

Previous literature suggests that males exhibit more positive attitude advertising in general compared to females (O’Donohoe, 1995). Wells & Chen (1999) find that, in general, male Internet users tended to have a positive view of advertising and showed more web advertising attitude of Web-based activities. Furthermore, males are theorized to prefer Web advertising to traditional media ads because of the Web’s interactivity (Bezjian-Avery, Calder & Iacobucci, 1998). Accordingly, there is a good reason to expect that males will exhibit stronger attitude levels for web ad interactivity versus more than females do (Donthu & Garcia, 1999; Haller, 1974; Mittal, 1994), suggesting the importance of attitude with Web advertising in guiding online purchase behaviour.
According to ELM, consumers need to exert more effort interacting in the Web advertising which may serves as central routes (Keng & Lin, 2006). Web-based interactivity (such as user control and human-to-computer interaction) involves communication among persons, to find information and to get caught in the flow of computer-mediate communication (McMillan & Hwang, 2002). Bezjian-Avery et al. (1998) indicated that interactive media may interrupt the persuasion process for visual-oriented consumers. Hence, we propose that,

**H1:** For a high-involved product, people will evaluate an interactive Web ad with stronger attitude; and for a low-involved product, people will evaluate a non-interactive ad with stronger attitude.

Since male’s processing entails effortful elaboration of the message content, while female tends to process the message content less thoroughly and focuses on peripheral cues (Meyers-Levy, 1994; Brunel & Nelson, 2003). Dunn & Perse (1998) also find that male believed contrary to female that computer is useful for escape purpose, companionship, and personal-identity satisfaction. Given that male processes information more deeply than female, he is also likely to be sensitive to use more information cues than female. Hence, we propose that,

**H2:** Male will evaluate an interactive Web ad than a non-interactive one with stronger attitude; whereas, female will evaluate a non-interactive one than an interactive one with stronger attitude.

**Methodology**

**Overview**

To test our expectations concerning Web ad interactivity effect, we conducted the experiment to verify theories such as the ELM by examining several variables influencing consumers’ attitude of Web ads. These variables include (1) Interactivity (interactive vs. non-interactive) and moderators are (1) Level of personal and product involvement (high vs. low), (2) Gender (male vs. female). As for the moderator *Personal and Product Involvement Levels* which the manipulation is specified here as virtual products in an online environment. Two treatments of personal and product involvement levels (high/low-involvement)
provided.

Twenty-one virtual product categories were used to measure the level of involvement. After pretest, the high-involved product---a virtual cellular phone “iMod-W950i” (X\text{mean}=6.35, p<0.01) was chosen; on the other hand, the low-involved one was a virtual toy (X\text{mean}=1.15, p<0.01) which these two products chosen from the pretest result.

Consumers’ attitude to the ad is found to be comprised and affected by factors, such as the congruence of the Web, and other salient factors (e.g., online experience, brand loyalty; etc.) that might affect consumers overall perception (Rau et al., 2006). However, our major purpose is to investigate the main and interactive effects of advertising appeals, personal and product involvement levels and the gender difference (female / male); therefore, we choose subjects that have online experience and considered other variables (e.g., brand loyalty, product information searching and limited control over site features) as controlled variables.

Also, the experiment conducted an online feedback by cooperating with one well-known Website in Taiwan (www.payeasy.com.tw), which was rating as in the top ten shopping Webs in Taiwan (source from: www.pchome.com.tw/2008-03-01.phtml). Samples randomly chosen from their database and e-mails were sent to Website’s newsletter subscribers’ e-mail addresses according to Web databases. Different Internet advertisements were developed to remove extraneous factors when existing Internet advertisements were used. Interface designs, layers of information, and layouts for Internet advertisements were made identical to control for potential confounding variables. Only pictures of the products, fictional brand name, and product description were manipulated to correspond to product characteristics and advertising appeals.

**Pilot Test**

Conducting a pretest, we evaluated the content validity of the items by subjecting them to 160 college students in department of business administration at the TransWorld University in middle Taiwan and 160 working adults all with online shopping experiences. The survey site was hyperlinked to a web within our school server. The experiment employed a between-group subject design, where each
subject was randomly exposed to experimental treatments. Each website with different web advertising presentation format was embedded. Subjects were told that the purpose of the study was to evaluate a new website with an ad. Each subject (from two groups---male/female) was randomly designed to the cells, and in each experimental group was given a questionnaire to answer that was divided into two parts. For Part I, each subject was asked to answer questions by viewing the ads placed on each site. After completing Part I, each subject was asked to continue with Part II of the questionnaire, which asked him/her several questions about his/her demographic information. The participation for each subject took approximately 10 minutes. Prior to testing the hypotheses, the multi-item measures were subjected to a series of validity checks of these constructs.

**Reliability of the Constructs**

"**Personal and product involvement**" was constructed with 15 question items consisted of five differential variables: interesting/boring, risk probability/no risk probability, pleasure/no pleasure, risk important/not risk important, symbol/no symbol. The questions are similar to what have been used to measure personal involvement in earlier studies (Beatty & Smith, 1987; Zaichkowsky, 1985). The reliability of the "personal and product involvement" construct is $\alpha = 0.73$.

As for the manipulated ad **interactivity**, the reliability of the “**interactivity**” construct is $\alpha = 0.77$ and t value is significant; that is to say, it meets the critical standard. The manipulated **advertising attitude**, the reliability of the construct is $\alpha = 0.93$; that is to say, it meets the critical standard.

**Main Experiment Procedures**

**Data Collection**

We chose users aged 10-60 as the respondents from database (offered by: www.payeasy.com.tw) to send e-mail. The subjects were randomly selected from the members and divided into two kinds of e-mail groups (male/female) to review the web advertising and then complete the online survey. To prevent redundant replies, the members must key in his/her account number, the password and his/her identification number, then they can enter to participate the online investigative. If
he/she is redundant replied, the program will tell him/her “You have replied this questionnaire, Sorry! It's unable to reply once more.” Prizes (i-pod nano) were offered for randomly selected winners from all completed questionnaires and sent to his/her address in the database.

**Procedure**

A between-subject experiment which 2 (interactive/non-interactive) × 2 (high/low involved product) × 2 (male/female) procedure was designed. One thousand and five hundred e-mails were sent to the customers with online experience, and 421 customers have finished the online questionnaire (the respondent rate is nearly 28%). Out of 421 surveys, 359 were usable for the analysis in this research (the others were uncompleted or outliers; online survey period: 2008/05/07~2008/05/15).

Male composed 47.8% (or 172) of the sample, 52.2% (or 187) of the sample were females. The majority 78.5% of the subjects were 20-40 years of age, with a mean age of 25.0 years. Demographically, the male and female respondents were similar in age (about 79% of both men and women were under 25 years; χ²(5)=2.02 p>0.1) with similar education levels (around 72% of both men and women had college degree; χ²(3)=4.65 p>0.1). Also males and females had similar online purchase habits (χ²(3) =3.53 p>0.1). The information showed the sample was representative of the online population.

**Analysis and Results**

Based on the online experiment, an analysis of variance (ANOVA) was conducted. The overall interactions were strong and showed support for hypotheses 1 and 2. Significant difference in main effect of interactivity (F=120.181, p< .01) was found. The result of ANOVA test indicated significant differences existing in interactivity and gender (F=87.218, p< .000), also interactivity and involvement (F=41.856, p< .000) as showed in table 1. Table 1 showed the ANOVA results of experiment.
Table 1 ANOVA test Results—Experiment

Tests of Between-Subjects Effects
Dependent Variable: Advertising Attitude

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Type III Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>After adjusted interception</td>
<td>171.973</td>
<td>6</td>
<td>28.662</td>
<td>76.773</td>
<td>.000**</td>
</tr>
<tr>
<td>Gender</td>
<td>2.406</td>
<td>1</td>
<td>2.406</td>
<td>6.445</td>
<td>.012</td>
</tr>
<tr>
<td>Involvement</td>
<td>48.541</td>
<td>1</td>
<td>48.541</td>
<td>130.020</td>
<td>.000**</td>
</tr>
<tr>
<td>Interactivity</td>
<td>44.868</td>
<td>1</td>
<td>44.868</td>
<td>120.181</td>
<td>.000**</td>
</tr>
<tr>
<td>Gender * Involvement</td>
<td>7.510</td>
<td>1</td>
<td>7.510</td>
<td>20.115</td>
<td>.000**</td>
</tr>
<tr>
<td>Gender * Interactivity</td>
<td>32.562</td>
<td>1</td>
<td>32.562</td>
<td>87.218</td>
<td>.000**</td>
</tr>
<tr>
<td>Involvement * Interactivity</td>
<td>15.626</td>
<td>1</td>
<td>15.626</td>
<td>41.856</td>
<td>.000**</td>
</tr>
<tr>
<td>Error</td>
<td>131.414</td>
<td>352</td>
<td>.373</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5320.000</td>
<td>359</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total after adjusted</td>
<td>303.387</td>
<td>358</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: \( R^2 = .567 \) (Adjusted \( R^2 = .559 \))

** p<0.01, * p<0.05

As results show in Table 1, through an ANOVA analysis, it is found:

1. As can be seen (Figure 1), in a high involved situation, people will increase their Web ad attitude when the ad with an interactive design; a interactive design increases their web ad attitude despite the difference of involvement, that is to say, in a high involved situation, people prefer the Web ad appeal with interactive design (Mean_{interactive}=4.66 vs. Mean_{non-interactive}=3.25, the difference is statistically significant); in a low involved situation, people prefer the non-interactive appeal design (Mean_{interactive}=3.32 vs. Mean_{non-interactive}=3.62, the difference is statistically significant). The interaction test does stand the hypothesis H1.

2. As can be seen (Figure 2), H2 is supported. Male than female will evaluate an interactive Web ad with stronger attitude (Mean_{interactive}=4.36 vs. Mean_{non-interactive}=3.62, the difference is statistically significant); and, from the figure 2, females than male will evaluate a non-interactive Web advertising appeal design with stronger advertising attitude (Mean_{interactive}=3.30 vs. Mean_{non-interactive}=3.57, the difference is statistically significant). That is to say,
the interaction test does stand the hypothesis H2.

(‘1’: high involvement, male, interactive appeal)
(‘2’: low involvement, female, non-interactive appeal)

In this between-subject experiment, it can be explained that male prefers the interactive Web advertising, presumably because they prefer its informational content and unfavorable with the clutter animation ads. From previous research (Weiser, 2000; Brunel & Nelson, 2003), it is argued that many consumers choose not to click the ad because of an aversion to the amount and clutter of ads on the Internet. Information theory suggests that anything that impairs efficient interactivities between consumers and advertiser, such as placement, timing, and size of ads, can affect perception and be viewed as clutter. Therefore, Web advertisers and publishers should understand that too much ad clutter could possibly reduce the collective effectiveness of Web advertising.

## Conclusion and Suggestions

### Theoretical Discussion

From these online surveys of Internet users, the results were almost supported to
all the hypotheses, and to suggest additional implications. Possible contributions of the present study are threefold. This study offers the first attempt to build a comprehensive thought explaining the behavior of males’/females’ clicking Web ad on the Internet. This experiment employs the “interactivity” antecedent of clicking Web advertising; whereas previous studies have not used in a whole study.

The between-subject online experimental results support H1 (For a high-involved product, people prefer the Web ad appeal with an interactive design and for a low-involved product, people prefer the non-interactive appeal design.) and H2 is supported (Males than females will evaluate an interactive Web ad with stronger ad attitude; also, the result is reverse for females.). That is an interesting finding which means no matter male or female, an interactive Web ad is more attractive than a non-interactive ad in high-involved product situation.

**Managerial Implications**

Even though our findings appear compelling from empirical and theoretical standpoints, gender and Web advertising warrants more investigation before definite managerial recommendations can be made. That is to say, future work tests these effects across other advertising media (e.g., TV, radio) besides print and should also expand these findings to other products or service.

This paper provides managerial implication for online market strategy maker to manipulate the gender orientation advertising. Practically, this paper shows marketers that they can manipulate Web advertising media interactivity using different personal and product involvement. The findings also demonstrated that gender have different attitude with Web advertising while changing the Web ad interactivity.

From managerial implication point of view, the findings of this study suggests that anything that impairs efficient interactivities between consumers and advertiser, such as placement, timing, and size of ads, can affect perception and be viewed as clutter. Therefore, Internet advertisers and publishers should understand that too much ad clutter could possibly reduce the collective effectiveness of Internet advertising.
Our findings and contributions offer an information processing explanation on gender based effect and future researches in advertising appeal strategy and message placement are also discussed.

**Limitations**

Our experiment was conducted with particular manipulations of the advertising interactivity, personal and product involvement and the gender difference. We note there are limitations of our experimental results.

Firstly, the study focused on the role of involvement and exposure way in consumers’ clicking ad intention without offering a micro-level explanation of the mechanism by which this happens. That is, there are different psychological factors affecting consumers’ clicking the ad, such avoidance behaviors as, prior negative experience, the context of ad; etc. To develop consumer continuance intention for clicking Internet ads, it is essential to create consumer satisfaction toward ad services and increase perceived incentive and utility for clicking on ads.

Secondly, the presence and importance of avoidance reasons may vary with specific user situations, not only for involvement reason. For example, people who search for specific information in a limited amount of time may have different reasons for avoiding ads on the Internet (e.g., time pressure, irrelevant or non-targeted ads, no cognitive resources to devote to ads, etc.) than those who use the Internet to pass time or for pure entertainment purposes, and whose possible avoidance reasons may include "Internet ads are not fun, trustful, or practical," and so forth. Therefore, the future study for consumers’ behavior on the Internet should be discussed more in details.

Thirdly, in our research the processing conditions involved forced exposure to a single ad on the Web, which is likely to heighten the extent of processing for this ad. Accordingly, additional research is needed to determine whether the results presented here generalize to different processing for kinds of ads and observed in actual consumer contexts.
Suggestions for Future Research

This study attempts to fill the gap in the Web advertising literature by researching the effects on different genders’ motivations toward advertising appeals. Giving the complexity of Internet consumer behavior as suggested by scholars, more researches are clearly needed.

1. Although the measured data in this study is randomly selected from the customer database (which all the samples have online shopping experience) on “www.payeasy.com.tw”, these are random samples. Many scholars have pointed out the study of online consumer behavior is often deterred by the difficulty in complete set of data to represent their characters. Unfortunately, due to the technical constraints, this study did not collect other Website customer data on this aspect. Future study should aim to investigate other homogeneous Website customers and comparison from these online customers.

2. This paper has shed lights on certain aspects of gender behavior and reactions toward Web advertising; however, the results suggest that online gender motivations have effects on their searching, purchase behavior by viewing different appeals of Internet ads. The further work should aim to measure the different online searching motivations among gender.

In light of the limitations stated above, future research in this area should be suggested to include research on different gender’s information processing of Web advertising. In this sense, this paper provides some groundwork in this field. Most studies on Web advertising have been conducted by Web publishers on audience measurement data, i.e., how many people visit their sites, or how many people are exposed to banner ads, etc. But this kind of result-oriented data does not provide the understanding of consumers’ step-by-step information processing, e.g., why people click banner ads and why they click one banner ad more than another. Again, we urge that advertising practitioners and researchers consider further how the gender of the target audience, the involvement with promoted products, ad viewing condition and the message content all interplay and impact advertising effectiveness.

In conclusion, information processing of Web advertising is too important to leave unstudied, therefore, more future studies on this area are strongly recommended.
References


