



The Causal Model of Internet Advertising Effectiveness

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Abstract

Internet has become the emerging fifth major media. The aim of this research is to demonstrate evidence-based Internet advertisement scenarios: the impacts, from dissimilar “contents and types of webpage” and diverse “presentation types of advertisement”, on five indexes of advertising effectiveness. 688 interviewees are convenient sampled on-site for the survey of the persuaded response to three phases of Internet advertising effectiveness – cognition, affection and action. Three interference variables, “content involvement of webpage”, “media users’ behavior” and “personal background information”, are brought into the study structure.

The results are as follows : (1) “contents and types of webpage” has significant impacts on advertisement clicking, memory effectiveness and general attitude toward the advertisement; (2) the influence on advertising effectiveness from “presentation types of advertisement” is the most powerful of all influence factors; (3) Among six presentation types, the banner advertisement is identified as the most valuable for adoption while the animated ads advertisement are the most attractive but lacks for persuasion; (4) three interference variables, “involvement”, “media users’ behavior” and “age level” yield reciprocal influence on two causal models, “contents and types of webpage → advertising effectiveness” and “advertisement presentation types → advertising effectiveness”, respectively; (5) males are more likely persuaded by Internet advertisement into shopping online than females; and (6) the highly involved excel the lowly involved in advertisement clicking, memory effectiveness, the attitude toward the advertisement and toward the advertisement agent, and online shopping frequency; (7) both casual models, “contents and types of webpage → advertising effectiveness” and “advertisement presentation types → advertisement effectiveness”, are supported.

Keywords: Causal model; Internet advertisement; Presentation type; Advertising effectiveness; Attitude toward the advertisement; Involvement

1. Introduction

In recent years the Internet has become an almost permanent fixture in our daily lives; It has become the emerging fifth major media following other traditional forms (Hoffman and Novak, 1997). From a business standpoint, the Internet is basically a form of scattered computer network system; the electronic commerce developed in an Internet environment has also slowly become a new form of commercial trading behavior in the new information society. Through a series of web searches, consumers are able to look for information, advertising on products and services, content or directly making purchases over the Internet (MIC Online AD’99 Plan, 1999). The immense business opportunities provided by the Internet have already become a topic of intense discussion and interest. Whether it is to serve Internet users or to position themselves to take advantage of future business opportunities, many businesses have already invested vast amounts of capital to start providing related information on the company and its goods as well as direct Internet services to enhance the market potential of the company’s electronic commerce (Croteau and Hoynes. 2001).

Among the various types of business models established on the Internet, the hottest topic is the trading ex-

changes between consumers and companies. Past-related researches have focused on one of either two issues: from the consumer’s standpoint, studies primarily explore the buying behavior of people who purchase goods and services over the Internet (Norris and Colman, 1992). From the corporate point of view, studies primarily focus on the design of the shopping environment (e.g. Lohse and Spiller, 1998) or issues on Internet advertising (e.g. Bayles, 2002; Singh and Dalal, 1999). The existence of Internet advertising is due to corporations hoping that, by encouraging consumers to surf the Internet and creating an impression in the consumer’s mind, the next step will be to attract these consumers or achieve some other promotional goals. In reality, corporations place great value on the influence of advertising; it is the cornerstone of most business activities and many consider it the best way to inject new life into business opportunities. From the first time Internet advertising first came out, it has since grown and developed rapidly within a very short span of time. According to Jupiter Communications (2003), a leading research organization, the size of the global Internet advertising market will grow from US\$700 million dollars in 2000 to US\$28 billion dollars in 2005. The 2003 market is estimated at US\$18.4 billion, with the United States leading the rest of the pack with a 66% market share valued at

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US\$12.2 billion dollars. The US is followed by Europe and Asia, with markets valued at US\$3.1 billion and US\$1.9 billion, respectively.

The human traffic and low cost advertising brought about by the Internet allows traditional advertisers to have another channel in which to market their goods and services. They hope to reach these potential consumers through these ads, thereby increasing the chances of product exposure (Baltas, 2003).

Businesses have invested a lot of capital on Internet advertising in order to achieve advertising effectiveness. Commercial websites should focus on providing marketing information, establishing brand image, attracting and keeping consumer support and strengthening buying activities. Some investigations have proved that Internet technology can be used as a media tool for target market groups (Croteau and Hoynes, 2001). However, consumers' attraction to and identification towards websites are different; Korgaonkar and Wolin show that one should pay attention to the motivation and concerns of Internet users in order to develop effective advertising and market segmentation, providing new services and environment to narrow target groups (Goldsmith and Lafferty, 2002).

The mission of commercial advertising is to raise consumer awareness and increase the consumers' understanding of the products and services through various forms of message presentations. It also goes one step further and initiates a need in the consumer to use the particular product or service. Internet advertising refers to a type of electronic information service used by the advertiser to communicate an advertising message (Hawkins, 1994). Internet advertising combines the advantages of both traditional advertising and direct marketing. Like television, radio, and print media, it can be used to build brands; like print media or direct marketing ads, it can also be used to transmit large volumes of information to potential customer groups; you may even complete a transaction online (Yoon, 2003).

In measuring the results of Internet advertising, because there are no standard systems for measuring and valuating Internet advertising effectiveness, and the market also lacks a third party which can provide objective evidence, both advertisers and advertising agencies can only segment the market according to consumer characteristics using subjective factors such as the website's category, number of "hits," and popularity to ensure that the ads really reach the target market. However, advertisers should note that people who surf the Internet might have different motives or purposes for surfing the web; this influences the nature of the users' involvement and surfing behavior. Understanding the characteristics and behavior of Internet users is the only way by which businesses can control the pulse and trends of the Internet market. Consequently, this study uses webpage surfing as the circumstance of the research; using actual surveys to study the following issues:

1. What kind of advertising content presentation mode is able to attract the attention of Internet users?
2. How should website content and advertising mes-

sages complement each other to enhance advertising effectiveness?

3. Do differences in the degrees of user involvement due to website content affect the way Internet surfers see advertisement?

2. Theoretical Development

The influence of the multimedia environment on consumers can be explored from two fronts: from the influence of multimedia and initiation from the consumer himself. The former include the types of presenting information Internet advertising uses in the corporate world, the basic Internet bandwidth established (which would determine customer's waiting time), design and presentation of Internet advertising, etc. The latter would be more related to the consumer's ability to process information, like personal degree of involvement, product preferences, internal (the consumer himself) and external (browsing bookmarks) recall, and others. The influence sources of these two aspects are machine interaction and human interaction, as Hoffman and Novak (1997) have pointed out. They represent the additions the environment makes to affect consumer behavior, like using the worldwide web as a tool for persuasion, attracting customers to go online, or for customers to display different surfing or information processing behaviors due to different individual characteristics (e.g. degree of involvement with web page content). This interactive behavior of "stimulation – reaction" is also the focal point of this study.

The theoretical model is demonstrated and tested as Figure 1, which is categorized independent and interference variables based on the related literature (Sarla and Gupta, 2001; Wang, 2002).

Form of the Content of the Web Page. Different types of content will interfere with the concentration and recall of the advertisement (Norris and Colman, 1992). For example, Soldow and Principe found that when consumers read magazines, the level of involvement with the content was very high (Singh and Dalal, 1999). The higher the involvement with the content is, the lesser their attention given to the advertisement will be. Because the consumer is in control of the reading action, once that concentration is broken by the advertising, the consumer will ignore the ad and quickly look for the next part of the article to read. The viewing characteristic of Internet media is sometimes very similar to those of newspapers and magazines; they are categorized as non-linear reading media. Viewers have

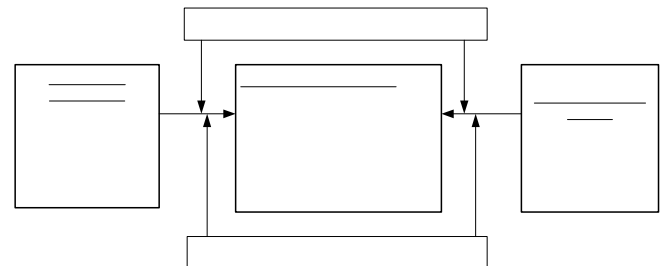


Figure 1. Research Framework

higher autonomy to choose the content and ads that they like. In addition, Internet media is also very much like television, which is an animated media form; information can relayed at the same time through audio and video as well as other multi-media channels. The Internet media is a safe middle ground between print and electronic media; when web browsers surf through the Internet, the content preference may affect advertising effectiveness.

H₁: Different forms of web page contents will produce different advertising effectiveness.

Presentation of Internet Advertising. Although the type of presentation of Internet advertising is very similar to print media in its static form, and its animated display is very similar to that of television, the very nature of Internet ads is still vastly different from that of traditional media (Zaichkowsky, 1985). The major presentation types of Internet advertising can be divided into two major categories: text based and multi-based. Text based ads include e mail ads and electronic bulletin boards, BBS, while multimedia based ads include classified ads, banners, buttons, interstitial ads, sponsorship ads, push, and watermark effect ads (Yoon, 2003). According to commonly seen types of presentation, Internet advertising can be categorized into banner ads, text-based ads, animated ads, pop out window ads, interstitial ads, and e-mail ads.

The categorizations of types of ad presentation by academics are not really that consistent; moreover, prevailing types of ad presentation are mostly traditional print, radio, and television, mostly electromagnetic media. For the Internet, which is considered an emerging medium, everything is in a wait-and-see mode. Consequently, this study has combined some strategies for ad presentation from traditional media and to modify them for Internet use. These are: banner ads, text based ads, animated ads, pop-out windows, interstitial ads, and e-mail. Animated ads, which may be categorized into those created through gif, flash, and virtual reality.

According to the theory of communicative persuasion, in order for communication to be persuasive, it is necessary to get the attention, understanding, and acceptance of the receiver and change his/her old attitude and stand. During the persuasion process, factors that may affect the effectiveness of communicative persuasion include the source, the message, and the receiver (Hovland, Janis and Kelley, 1953). Among these, the "source" includes nature of the web page content and the types of ad presentation. To put it simple, in the computer medium environment of a super media, the information processing behavior of the consumer is limited to receiving the message content provided by the information on one end and type of ad presentation and media interaction process on the other.

Whether the advertising is effective or not will depend on the relationship between many interference variables (for example, involvement) and "stimulation – reaction." Because viewers will experience various degrees of involvement while viewing different types of contents and due to the interference of content involvement, advertisements on the Internet may be ignored when viewers fo-

cused too much on the content (Norris and Colman, 1992).

In the early days, academics Goldberg and Gorn discovered and verified that the interactive effects of the basic characteristics of television programs and advertisements influence the audience's recall (Goldberg and Gorn, 1987); the feeling viewers get after the program also affects their assessment of the commercial spots. Bayles also found that the advertising effectiveness of animated themed ads is better than passive ones (Bayles, 2002). Consequently, the study hopes that the following hypotheses may gain support.

H₂: Different interactions of "Forms of web page content" and "types of ad presentation" will produce different advertising effectiveness.

Involvement. Involvement is a non-observable state based on motivation, stimulation, or interest. Zaichkowsky defined involvement as, "An instinct on a specific event produced on the basis of need, values, and interest (Zaichkowsky, 1985)." Based on the target categorization of involvement, it can be divided into advertising involvement, product involvement, and purchase decision involvement (Zaichkowsky, 1985). According to the differences in the basic quality of the involvement, it can be divided into situational involvement, continuous involvement, and reactionary involvement (Houston and Rothschild, 1978).

Regarding the factors affecting involvement; different individuals may have different levels of involvement, even if the products are similar. Likewise, consumers will have different degrees of involvement when faced with different products. Similar consumers may display different degrees of involvement with similar products when situations are different (Yoon and Kim, 2001).

Articles with different types of content may cause the readers to have different degrees of involvement; they may also interfere with the attention and recall of the ad (Norris and Colman, 1992). Boring, uninteresting articles may lead to lower involvement, which, compared to interesting articles, may actually have higher ad recall (Norris and Colman, 1992).

Speaking of the theory of involvement, the degree of involvement represents the priority or concern given by a person to a specific topic, event, or thing. Consequently, when more priority or concern is given to a specific message, the individual gives more attention, and processes the content of the message more in depth (Greenwald and Leavitt, 1984; Paivio, 1986). The media involvement of the consumer (James and Kover, 1992) and the amount of time and attention he/she gives to the advertisement itself (Celsi and Olson, 1988) are factors that affect advertising effectiveness. For example, Clancy and Kweskin believed that program content involvement is directly related to advertising effectiveness (Baltas, 2003), but Thomsen, et al. found that advertising effectiveness is not related to program content involvement (Thomsen, 1996). Because of this, the study formulated the following hypothesis to explore whether web users' degree of involvement with web page content will affect advertising effectiveness given different types of ad presentation.

H₃: With the interference of “degree of involvement,” different types of ad presentation will produce different advertising effectiveness.

Media Preferences. Media is the brokered thing in the middle of the source and the receiver during the transmission process. Today, the Internet is no. 2 in the top favorite media of Internet users, second only to television (Yi, 1990). The Capital Strategy Council 2000 Internet Survey explored the media which Internet users come in contact with most often; in chronological order, they are: television, newspaper, and radio. In addition, as it is evident from the computer analyzed and media utilization and found that frequent users of computers are more dependent on printed media than the average person (Napoli and Ewing, 2001).

There have been many researches on media preferences (Napoli and Ewing, 2001); however, they had concentrated on surveying the media preferences of a specific group. This study has expanded the sampling subjects to explore the media preferences of Internet users, to see if this particular aspect also affects advertising effectiveness (communication results or sales results). Aside from investigating the situation of media preferences of Internet users; it is also looking into the interactive effects of media preferences and web page preferences, types of ad presentation on advertising effectiveness.

Different media characteristics may affect the consumer's cognition and attitude towards the advertisement (Bogart, 1990); the type of media as well as the medium's contact behavior may also affect advertising effectiveness (Chang, 2002). Consumers with different media preferences will also have different opportunities to notice or see an ad. For example, attention span for television commercials is 60%, magazines, 20%, newspapers, 17%, radio, 16% (Maddox and Mehta, 1997). In addition, the interference level of television commercial is higher than any medium. Radio is usually treated as background sound, so its interference level is also not high. If advertisements on newspapers and magazines are related to the contents, readers may have more interest in the ads; they will not consider the ad as a form of interference. From this, we can clearly see that the media preferences of consumers do affect advertising effectiveness. In the same principle, browsing through the World Wide Web, viewers may ignore or even think of ways of screening of ads if they thought these media usages practices were interfering with their reading of the content; this will affect advertising effectiveness in varying degrees (Norris and Colman, 1992). In other words, because of differences in the overall situation (like television programs or magazine articles), even if the same message were to be presented to the same consumers, they may produce different advertising effectiveness (Norris and Colman, 1992). In addition, Novak, et al. (2000) also pointed out that people with a lot of experience in using the Internet are less likely to be influenced by external messages. Combining the theories of the above academics, the study hopes that the hypothesis below may be supported.

H₄: With the interference of “media preferences,” different web page content forms will produce different advertising effectiveness.

Type of AD Presentation. To get consumers' attention and promote the product, site operators will usually produce several advertisements presented in different types in order to highlight product features or its unique benefits. This influencing of consumer attitude through advertising situations is achieved through the affect transfer process (Erevelles, 1998). Affect transfer initiates a positive attitude towards the product due to the influence of the advertising situation on the consumer. Like what Yi (1990) said, “If advertising situation can bring positive emotions to the consumers, then the consumer may look at the products in a positive light and be willing to buy.

For example, Hirschman (1986) found that there is a significant difference as to how the copy and illustration on print ads influence consumers. With products that are alike, print ads which are copy laden appeal to the rational and logical side of the consumer, while illustration laden print ads appeal to the emotional side and aesthetic sense of the consumers. One can see very clearly that different types of ad presentation affect advertising effectiveness. This is why the study believes that the next hypothesis will be supported.

H₅: Different types of ad presentation will result in different advertising effectiveness.

When a consumer is exposed to an advertising message in an Internet environment, whether the ad is presented in the form of banner ads, pop up windows, or watermark ads, he/she will be motivated to process advertising information (MacInnis and Jaworski, 1989; MacInnis, Moorman and Jaworski, 1991), which will affect the consumer's degree of involvement with the product.

In terms of product commercial, when consumers are highly involved with the product, it means that the consumer is answering his/her own needs or his/her code of values deems it necessary; he/she will process large volumes of information related to the product. At the same time, the emotional side will be more in control. Consequently, regarding the receipt of related messages, consumers with high product involvement will invest more attention and information processing abilities to process the information (Krugman, 1967). Compared to their low involvement counterparts, because more efforts have been spent on processing and analyzing advertising messages, consumers who are highly involved will have a deeper impression of the advertisement and this will be manifested in terms of advertising effectiveness (such as recall).

Varying degrees of involvement will initiate different ways in processing information (Paivio, 1986; Celuch and Slama, 1993). This is the main difference between Internet media and traditional media. The way Internet media presents its information usually interacts with the way that the consumers process information; it is also a very flexible relationship (Coupey, 1994). From this, we can clearly see that in terms of theme content and types of presentation, it

is easier for Internet media to form an interactive relationship. Consequently, under varying degrees of viewer involvement, the effects of various aspects of advertising or types of ad presentation on consumers are also different.

H₆: With the interference of “degree of involvement of web page content,” different types of ad presentation will produce different advertising effectiveness.

Media Preferences. The factors influencing advertising situations can be categorized in stimulus context and viewing context (Coulter and Punj, 1999). Stimulus context situations include all programs or literary contents associated to the advertisement. Viewing context situations refer to the situations in which the consumer experiences and evaluates the advertising information; these include: media preference, commands received during viewing the advertisement, and the venue where the consumer received the advertising stimulus (like types of ad presentation).

H₇: With the interference of “media preferences, different types of ad presentation will produce different advertising effectiveness.

3. Methodology

The study explores the interactive effects of the natures of web page content (including entertainment oriented and news oriented), the different types of ad presentation (banner ads, text based ads, animated ads, pop up windows, interstitial ads, and e-mail), as well as the four interference variables (web page involvement, and media preferences) on advertising effectiveness. The “often used” content based website or web portal analyzes the survey questionnaires. Because the research is conducted on an Internet media environment, the respondents are automatically those who have viewed the web page before to be able to measure advertising effectiveness. To be able

to accurately measure the experience and knowledge of viewers on Internet advertising, the study employs field survey.

In addition, in order to increase the study’s credibility (Wang, 2002), content and structural effectiveness of the contents, the study also went through revisions during the pretest (delete 7 lower reliability items) and pilot study (confirm that content validity and construct validity); then it conducted a large-scale survey among the Internet users.

Sample and Survey Produces. Past researches have found that personal income, age, and demographics do affect advertising effectiveness. For example, Korgaonkar and Wolin show that every major medium has its own unique characteristics and special viewer qualities (Goldsmith and Lafferty, 2002). For example, middle income, highly educated, and other family members are frequent television viewers (Arens, 1996). Older women like to watch television more than younger women. In order to reduce the inconsistent interference of these characteristics on the survey, the study uses convenient sampling and common variable principle to “control” extraneous variables such as gender, age, media preference, involvement, no. of years of using the Internet, and monthly income. This prevents overdependence on the assumption of “extraneous variables seen as similarities,” which may sacrifice external validity.

Convenient sampling was formally conducted on the consumers attending the 2002 Computer Taipei; survey questionnaires were given out twice a day at 10:30-12:00 and 2:30 – 4:30. Using convenient sampling, the researcher requested the attendees to fill out the questionnaire on the spot or to answer it at home and send it back. As an incentive, a pack of tissue paper was given to every respondent. Out of the 1000 questionnaires given out, 634 came back; deducting the incomplete forms, there were 587

Table 1. Sample Characteristic Description (N=688)

	N	%		N	%
Gender			Profession		
Female	363	52.9	Banking and Insurance	55	8.0
Male	325	47.1	Government	45	6.5
Age			Construction/Building	54	7.8
Below 20	116	16.8	Manufacturing/Supplier	67	9.7
21-30	454	66.1	Information	94	13.7
31-40	89	12.9	Service	74	10.8
Above 41	29	4.2	Self-employed	14	2.0
Length of Time of Internet Use			Student	250	36.3
Below one year	33	4.8	Others	35	5.1
1-2 years	61	8.8	Content preference		
2-3 years	180	26.4	News-oriented	463	67.6
3-4 years	171	24.8	Entertainment-oriented	113	16.1
4-5 years	82	11.9	Learning-oriented		
More than 5 years	161	23.3	Purchase frequencies made within the year		
Purchase made after seeing an Internet ad			None	464	67.9
Yes	264	38.2	1-5 times	149	21.5
No	424	61.8	6-10 times	53	7.6
			More than 11 times	22	3.1

valid forms. 275 were men and 312 were women; 183 preferred traditional media, while 404 preferred Internet media; overall descriptions of the samples are shown in Table 1. The two batches of samples did not show any significant difference, percentage-wise, in terms of individual characteristics like gender, age, media preference, involvement, no. of years of Internet use, and monthly income (χ^2 value has not reached significant standards). Consequently, we can say that the research samples can serve as representative samples and that the research design has external effectiveness.

Survey of Advertising Effectiveness. Currently Internet advertising has not come up with a recognized model to measure effectiveness. Consequently, Internet providers and advertisers usually use measurement models for traditional media or they design their own measurement table (Yoon, 2003).

The ways to measure the effectiveness of Internet advertising are very confusing for most people; however, they are commonly divided into two types: the first is a measurement method which uses Internet traffic as the basis; the second is using measurement methods meant for traditional media. The measurement indexes for Internet traffic include hits, traffic, visitor, user, etc. (Hoffman and Novak, 1997). (2) Measurement indexes during development include: a) exposure (ad views), ad impressions, and page views; b) interactive indexes, which are further subdivided into ad click/click-through, click through rate, viewing time, etc.

As what Novak and Hoffman said, aside from using the traditional measurement methods, the measurement of the effectiveness of Internet advertising, can be done through the communication result aspect and sales results aspect (Novak, Hoffman and Yung, 2000); information on user's viewing behavior (e.g. no. of purchases made) and frequented web sites may be gathered and followed up through opinion surveys.

In the absence of a third party to provide objective comparative values, the only thing advertisers or ad agencies can do is to assess whether advertising effectiveness has reached a certain standard using their experience. Currently, the only benchmark point recognized by majority of web sites within the industry is 2% (MIC Online AD'99 Plan, 1999). Reasonable CPM (cost per mile) and the unit acquisition cost of consumer information, and other values still await to be established.

Lavidge and Steiner formulated the "leveled model of advertising effectiveness." (Lavidge and Steiner, 1961). They believed that the buying behavior of consumers is carefully developed through a chain of reactions which included the three stages below:

- a. Cognitive Stage: which includes awareness and knowledge; it is a knowledge-based and rational state of mind.
- b. Affective Stage: includes liking and preference; it is a mood-based and emotional state of mind.
- c. Action Stage: which includes conviction and purchase; it is drive state of mind, allowing the individual to produce the final action.

The study explores the potential influences of web page contents form and type of ad presentation on the attention, knowledge, preference, and purchase behavior of Internet surfers, focusing on measuring instincts, attitude, and action. While measuring the results of these three stages, the study will categorize the five measurement variables (Bezjian-Avery, Calder and Iacobucci, 1998): (a) cognitive phase – recall impact; (b) attitude phase – attitude towards the advertisement and the ad endorser; and (c) action phase – advertising clicks and purchasing behavior (no. of times), based on the concept of levels (advertising effectiveness leveled model and ARF model).

Measurement Tools. This study uses revised Internet advertising effectiveness measurement table as its measuring tool; part of this measurement table has been revised as an open table (like Bezjian-Avery, et al.; 1998; Hoffman and Novak, 1998; Zeff and Aronson, 2000; Huang, 2003). Contents include: web page content form, web page involvement, types of ad presentation, and Internet advertising effectiveness. In addition, a part of the table consist of self-created questions, including media preferences, buying behavior, attitude towards online ad endorser, and others, as shown in Table 2. Each question on the advertising effectiveness measurement table uses Likert-5. The scoring method for each item is to measure how far the respondent agrees to the questions; the answers 1-5 which are interpreted as "totally disagree," "disagree," "indifference," "agree" and "totally agree, respectively." The measurement table has undergone pretest and pilot study before being completed. The Cronbach's alpha of each table is higher than 0.7. When the content effectiveness of the measurement table has been ensured, it will then be used to measure the cognition and experience of the respondents with regards to Internet advertising.

4. Analysis of Data

4.1 The Effect of the Web Page Content Forms on Advertising Effectiveness.

The study used the 2-way MANOVA to analyze the influence of web page content forms on advertising effectiveness and found that (Table 3):

- a. Overall, the nature of the web page content influences advertising effectiveness. Individually speaking, the difference in the web page content forms will affect advertising clicks, recall, and attitude towards the advertisement. However, it will not affect the viewers' attitude towards the ad endorser and buying behavior (no. of times).
- b. When the content of the web page is learning oriented, the results produced by Internet advertising are the most ideal among all the natures of web page contents. This is true, especially in the areas of advertising clicks, recall, attitude towards the advertisement, and others.

Table 2. Sources for Questionnaire Development

Measurement Table	Source
Media preferences	Self-designed table, based on the different media recognized by respondents (television, newspaper, Internet), scores of their characteristics (inside stories, level of entertainment, credibility and attraction). Uses non-hierarchy cluster analysis to categorize the public into traditional media preference group and Internet media preference group.
Form of web page contents	Extends the categorization of Huang (Yoon, 2003) to become: news oriented, entertainment/shopping oriented, and learning oriented.
Degree of involvement of web page content	Based on the survey questionnaire from Hoffman and Novak (1998) and revised to suit the research environment. Uses non-hierarchy cluster analysis to divided respondents into high involvement and low involvement groups.
Ad presentation types	Self-designed measurement table, extending the categorization techniques of Internet advertising by Zeff and Aronson (2000). It is divided into six major categories: banner ads, text based ads, animated ads, pop-out windows, interstitial ads, and e-mail.
Advertising effectiveness	The table revises the one from Bezjian-Avery, et al., (1998); there are a total of five indexes: 1. Advertising clicks 2. Recall effectiveness: recognizing the ad again (Wu, 1997) 3. Ordinary attitude towards advertising: includes whether ad is easy to understand or not, the diversification extent of ad information, does the message answer the needs of the consumers, is the ad attractive or not? 4. Attitude towards ad endorser: includes credibility, charisma, value perception of the endorsed product, whether the endorsement actually initiate desire to purchase, correlation between endorser and product. 5. Buying behavior: measures the number of times products have been purchased in the most recent year.

Table 3. Two-way MANOVA of Web Page Content Forms vis-à-vis Advertising Effectiveness

Variation source	Wilk's Λ	Advertising clicks	Impact of recall	Advertising attitude	Attitude towards ad endorser	Buying behavior
News oriented	0.942*	6.40	17.74	11.99	17.09	1.52
Entertainment oriented		6.85	16.38	10.98	16.48	1.74
Learning oriented		8.01	18.04	12.18	17.57	1.57
F value		6.54*	4.89*	4.37*	2.09	3.01
Scheffe post comparisons		3>1	(3,1)>2	(3,1)>2		

* $p < .05$

c. Looking at it from the level of advertising effectiveness, the web page content forms influences viewers the most during the cognitive stage (recall); it influence is limited (non-comprehensive) during the emotional (limited to attitude towards the advertisement) and behavioral stages (limited only to advertising clicks).

4.2 The Effect of the Web Page Content Forms and Ad Presentation Types on Advertising Effectiveness

For types of ad presentation, banner ads are currently, the most persuasive type, with the other types in the following order: electronic mail advertising, text based ads, animated ads, and interstitial ads. If multidimensional scaling is used to analyze the similarities of these six types of ad presentation, we will find that pop up windows and emails are largely similar; both are average in terms of advertising effectiveness. The communication results of banner ads are the best, while the advertising sales results of interstitial ads are the most ideal.

The study then uses two way MANOVA to analyze the five types of advertising effectiveness as a result of the

interactive effects of web page content forms and types of ad presentation. It found that only two types of advertising effectiveness: buying behavior and attitude toward ad endorser indicate interactive effects of web page content forms and types of ad presentation, as shown in Table 4. Consequently, the study continues to conduct simple main effect variation test and yielded the following results:

a. As for attitude towards the ad endorser, web pages that are entertainment/shopping oriented use the e-mail form of ad presentation for viewers to accept the online endorser and other advertising elements more readily ($F=6.91$, $p<.05$). From this, it is clear that in entertainment/shopping-oriented web sites, e-mail is a more effective form of Internet endorsement advertising.

In news and learning oriented websites ($F=1.55$, $p>.05$), the type of ad presentation ($F=2.05$, $p>.05$) does not affect the viewers' attitude toward the ad endorser. However, in entertainment/shopping-oriented websites, viewers may significant changes in their attitudes toward the ad endorser depending on the difference in type of ad presentation ($F=5.67$, $p<.05$).

Table 4. MANOVA of Web Page Content Forms and AD Presentation Type vis-à-vis Advertising Effectiveness

Variation Source	Wilk's Λ	Advertising clicks	Recall Impact	Attitude towards advertising	Attitude towards ad endorser	Buying behavior
Web page content forms (A)	0.94*	5.43*	0.34	0.19	0.09	10.13*
Ad presentation types (B)	0.86*	3.03*	3.83*	3.24*	3.91*	5.74*
Interaction (A×B)	0.86*	0.82	1.62	1.32	3.01*	4.01*

* $p < .05$

b. As for the purchase frequencies made online, viewers who prefer news oriented websites ($F=2.21$, $p > .05$) and learning oriented ($F=0.64$, $p > .05$) websites make purchases online regardless of the type of ad presentation, which is significantly different from viewers who prefer news oriented web sites ($F=7.14$, $p < .05$).

4.3 The effect of web page content forms and content's degree of web page involvement on advertising effectiveness

From the involvement viewpoint, viewers with high degree of involvement have significant advantage over viewers with low degree of involvement in terms of advertising clicks ($F=940.90$, $p < .05$), recall impact ($F=22.40$, $p < .05$), attitude towards advertising ($F=6.22$, $p < .05$), attitude towards ad endorser ($F=7.34$, $p < .05$), and buying behavior. This proves that the degree in which the consumer is involved with the Web page content is the major variable in the implementation of advertising strategies.

The study uses two way MANOVA to analyze the influence of web page content forms and degree of involve-

ment on advertising effectiveness. It found that the web page content forms and degree of involvement has an interactive effect only on online buying behavior, as shown in Table 5. Further cross-analysis yielded the following results:

a. For viewers with high degree of involvement, their number of online purchases on entertainment/shopping websites is higher than that on news oriented web sites ($F=4.27$, $p < .05$). In contrast, for viewers with low degree of involvement, viewing web sites of any nature does not affect buying behavior ($F=0.45$, $p > .05$); possible reason might be because people with lower degree of involvement to purchase less frequently online to begin with.

b. For news and learning oriented websites, viewers' actual

purchase frequencies made is not affected by the highness or lowness of involvement with web page contents. In entertainment/shopping oriented web sites, viewers with high degree of involvement actual purchase more products online than viewers with low degree of involvement ($F=13.14$, $p < .05$).

4.4 The Effect of Web Page Content Forms and Media Preferences on Advertising Effectiveness

Analysis of the data reveal that media preferences have an effect on all four facets of advertising effectiveness (Wilk's $\Lambda = 0.74$, $p < .05$). People who prefer Internet advertising have higher scores than people who prefer traditional advertising in terms of advertising clicks ($F=40.82$, $p < .05$), advertising recall effectiveness ($F=108.82$, $p < .05$), attitude towards the advertisement ($F=157.69$, $p < .05$), and attitude towards the ad endorser ($F=112.16$, $p < .05$). From this, we can see that media preferences do influence the cognitive, emotional, and behavioral stages of advertising effectiveness.

The study analyzed the interactive effects of web page content forms and media preferences on advertising effectiveness and found that web page content forms and media preferences have interactive effects on online buying behavior, as shown in Table 6. A simple main effect test is conducted and the results are as follows:

a. Viewers who prefer Internet media have higher online purchase rates in entertainment/shopping web sites than people who prefer traditional media ($F=18.16$, $p < .05$). However, there is no difference in the online purchase rates in learning oriented and news oriented websites by people with different media preferences

b. In entertainment/shopping oriented web sites, viewers who prefer using Internet media are more likely to make online purchases (no. of times) due to advertising than people who prefer traditional media (television, radio,

Table 5 MANOVA of Web Page Content Forms and Involvement vis-à-vis Advertising Effectiveness

Source	F value	Wilk's Λ	Advertising clicks	Recall Impact	Attitude on advertising	Attitude towards ad spokes-person	Buying behavior
web page content forms (A)		0.89*	6.67*	8.11*	4.64*	3.45*	1.41*
Degree of involvement of web page contents (B)		0.54*	715.25*	28.25*	13.73*	9.16*	8.56*
Interactions (A×B)		0.98*	2.39	2.01	2.56	2.02	4.24*

* $p < .05$

magazines, and newspaper) ($F=18.16$, $p<.05$). However, in news oriented web sites, the online purchase rates of viewers are not affected by any media preferences. In other words, the impact of advertisements (online purchase rates) posted news oriented and learning oriented websites is the same as that of ads shown on traditional media.

4.5 The Effect of Difference in Population Variables in Web Page Content Forms on Advertising Effectiveness

Using MANOVA, the study analyzed the interactive effects of differences in viewers' gender and age on advertising effectiveness and found that gender and web page content forms have no interactive effect on the overall advertising effectiveness. However, age and web page content forms have an interactive effect on advertising recall (Table 7). The study proceeds to do a simple main effect test and found that:

- a. Surfers below the age of 20 have better recall when viewing Internet advertising on news oriented websites than on entertainment/shopping websites ($F=10.89$, $p<.05$). However, it is opposite for surfers between ages of 31-40 ($F=6.52$, $p<.05$).

- b. In learning oriented and entertainment/shopping websites, surfers between ages of 21-40 have better advertising recall than surfers below 20 ($F=2.10$, $p<.05$) and above 41 ($F=5.44$, $p<.05$). On the other hand, in news oriented web sites, surfers below age 30 have better recall than surfers between ages of 31-40.

4.6 The Effect of AD Presentation Types on Advertising Effectiveness

The study uses one way MANOVA to analyze the effect of types of advertising presentation on advertising effectiveness and found that (Table 8):

- a. Viewers who prefer banner ads have the best recall impact and the highest number of advertising clicks. However, they did not do as well in terms of attitude towards advertising and buying behavior. This indicates that although banner ads are the best tools for recall and advertising, they neither improve attitude towards advertising nor enhance buying behavior.
- b. Viewers who prefer animated ads have better recall impact and attitude towards ad endorser than those who prefer interstitial ads, whose attitude towards the ad endorser is better than viewers who prefer banner ads and

Table 6. MANOVA of Web Page Content Forms and Media Preferences on Advertising Effectiveness

F value Variation Source	Wilk's Λ	Advertising clicks	Recall Impact	Attitude on Advertising	Attitude towards ad spokes-person	Buying behavior
Forms of web page contents (A)	0.95*	8.31*	3.08	1.67*	1.32*	1.46*
Media preferences (B)	0.79*	25.78*	73.92*	117.59*	83.81*	3.74*
Interactions (A×B)	0.97*	0.72	0.71	2.06	1.09	8.11*

* $p<.05$

Table 7. MANOVA for the Web Page Content Forms and Age vis-à-vis Recall Impact

F value Variation Source	Wilk's Λ	Advertising clicks	Recall Impact	Attitude toward advertisement	Attitude towards ad spokes-person	Buying behavior
Forms of web page contents (A)	0.97*	3.61*	1.28	1.31	0.40	1.52
Age (B)	0.93*	3.49*	3.92*	4.66*	5.09*	0.81
Interactions (A×B)	0.92*	1.59	4.01*	1.56	2.04	0.89

* $p<.05$

Table 8. MANOVA of AD Presentation Type vis-à-vis Advertising Effectiveness

Average Variation Source	Wilk's Λ	Advertising clicks	Recall Impact	Attitude towards Advertising	Attitude towards ad spokes-person	Buying behavior
1.Banner ad	0.84*	8.22	19.37	11.05	17.24	1.28
2.Text based ads		5.63	16.77	12.09	16.86	1.32
3.Animated ads		6.70	17.91	13.04	18.01	1.42
4.Pop up window		6.56	16.80	12.07	16.84	1.71
5.Interstitial ads		6.71	15.68	11.39	15.22	1.92
6.E-mail		6.58	17.04	11.04	16.75	1.71
F value		4.18*	4.87*	3.91*	3.28*	4.99*
Scheffe		1>2	(1,3)>5	3>(1,6)	3>5	5>(1,2,3)

* $p<.05$

email. Simply put, animated advertisements are more effective in terms of recall, attitude towards the advertisement and the ad's endorser. However, they do not help much in terms of buying behavior. It is very obvious that animated ads are attractive, but not persuasive.

- c. In terms of advertising clicks, the number of advertising clicks of banner ads is significantly higher than text based ads. In fact, banner ads are your best choice to guarantee advertising clicks.
- d. In terms of buying behavior, interstitial ads have the highest number of online purchases, higher than banner ads, text based ads, and animated ads. Consequently, interstitial ads are best used during the initial stage, followed by banner ads during the middle stage to the viewers' buying behavior.
- e. In terms of advertising effectiveness, banner ads and animated ads have the greatest influence during the cognition stage (recall); animated ads on the emotional stage (attitude towards advertisement and ad endorser); on the other hand, interstitial ads are most effective during the behavioral stage (buying behavior), contributing the most to online sales effectiveness.

4.7 The Effect of AD Presentation Types and the Degree of Involvement of Web Page Contents on Advertising Effectiveness

The study uses MANOVA to analyze the influence of type of advertising presentation and the degree of involvement of web page content and found that the interactive effect of type of advertising presentation and degree of involvement of the web page content does influence advertising effectiveness. From Table 9, we can see that type of advertising presentation and degree of involvement in web page content have interactive effects on advertising clicks and recall impact. Consequently, the study continued with single major impact variation analysis and found that:

- a. In terms of advertising clicks, there is a difference between surfers with high involvement and those with low involvement due to a difference in the type of advertising presentation. In the high involvement group, the number of viewers who look at banner ads, text based ads, and animated ads have more advertising clicks than those who view e-mail ads ($F=42.65$, $p<.05$). On the other hand, in the low involvement group, the numbers of viewers who look at interstitial ads have the highest advertising clicks, higher than viewers of e-mail, banner

ads, and text based ads ($F=39.85$, $p<.05$).

In addition, of the six types of ad presentation, there are also differences in advertising clicks due to the different degree of involvement of the viewers with the content of the web page ($\Lambda=0.54$, $p<.05$). For the six types of ad presentation, the number of advertising clicks of the highly involved viewers is higher than that of the low involvement group ($F=42.65$, $p<.05$). This result indicates that the effect of individual differences on Internet advertising effectiveness must not be ignored, especially one-to-one marketing.

- b. In terms of recall impact, interstitial ads are less effective than the other five types of advertising presentation. Looking at it more closely, one can see that highly involved viewers recall banner ($F=8.86$, $p<.05$) and animated ads ($F=25.30$, $p<.05$) better than interstitial ads. Low involvement groups, on the other hand, find it easier to recall e-mail ads than interstitial ads ($F=39.85$, $p<.05$).

4.8 The Effect of AD Presentation Types and Media Preferences on Advertising Effectiveness

The two-way MANOVA method was used to analyze the effect of type of advertising presentation and media preferences on advertising effectiveness. Results indicate that the interactive effect of type of advertising presentation and media usage practices does produce different advertising effectiveness; this is especially true in terms of attitude towards advertisement and buying behavior (Tables 10). Next, the study proceeded with analysis of the single major impact variation and found that:

- a. Overall, whatever type of advertising presentation the web site choose to use, the attitude of the viewers of Internet media will be better than the viewers of traditional media will be better ($\Lambda=0.80$, $p<.05$). What is worth noting is that viewers of traditional media display a more negative attitude towards e-mail ads than they do banner ads, text based ads, and pop up window ads ($F=8.44$, $p<.05$). In other words, the use of passive forms of advertising can better attract people who prefer traditional media. The more aggressive e-mail ads should not be used to avoid unnecessary nuisances.
- b. In terms of advertising broadcast effectiveness, interstitial ads have better persuasive effects and impact on the group that prefers Internet media during the action stage

Table 9. The MANOVA for Advertising Effectiveness in Terms of Advertising Presentation Type and Web Page's Degree of Involvement

Source	Variation	F value		Advertising clicks	Recall impact	Attitude towards advertising	Attitude towards ad spokes-person	Buying behavior
		Wilk's Λ						
Ad presentation type (A)		0.85*		2.75*	4.55*	3.99*	3.28*	4.55*
Content's degree of involvement (B)		0.54*		390.45*	1.81	0.29	3.54	5.95*
Interaction (A×B)		0.91*		4.08*	3.74*	1.89	1.67	2.44

* $p<.05$

(number of online purchases) ($F=24.87$, $p<.05$); e-mail ads and pop up window ads are secondary. On the other hand, for viewers of traditional media, it is more effective to use pop up window and e-mail ads than interstitial ads and ad to influence online buying behavior ($F=5.20$, $p<.05$).

4.9 Different Demographic Variables on Type of Advertising Presentation Have Different Effects on Advertising Effectiveness

This study finds that surfers of different age levels display significant differences in terms of their cognition of advertising effectiveness (recall impact), attitude (towards the advertisement as well as its endorser), and behavior (advertising clicks). Among these, surfers between the ages of 21 to 30 displayed the highest interest in terms of advertising clicks, recall impact, and attitude towards ad endorser; this means that the use of Internet advertising is most effective in this age group. On the other hand, surfers above the age of 41, displayed the lowest interest in terms of advertising clicks and recall impact. The attitude of the surfers between the ages of 31 to 40 to the advertisement is the most negative among all the age groups.

MANOVA was used to analyze the influence of the interactive effect of type of advertising presentation and

age on advertising effectiveness. The study found that the interactive effect of the two indexes has influences on recall impact, attitude towards advertisement, attitude toward ad endorser, and buying behavior (Table 11). Next, simple result tests are done; results from the cross comparison done on the linear graph indicates that:

- In the area of recall impact, surfers above the age of 41 found it easier to recall interstitial ads rather than e-mail ads ($F=3.28$, $p<.05$). On the other hand, banner ads have the highest recall impact among surfers below the age of 20 than in any age group ($F=8.87$, $p<.05$). For surfers between the ages of 21-40, there are significant differences between the various types of ad presentation.
- In the area of attitude towards advertising, surfers above the age of 41 displayed a more positive attitude towards interstitial ads (i.e. like attitude) and pop up window ads than they did towards e-mail ads ($F=2.63$, $p<.05$). On the other hand, surfers between the ages of 21-30 most frequently displayed a negative attitude towards e-mail ads ($F=6.06$, $p<.05$).
- In addition, surfers above the age of 41 and those below the age of 20 display the most positive attitude towards the ad's endorser in interstitial ads ($F=2.41$, $p<.05$) and banner ads ($F=7.78$, $p<.05$), respectively. Because of this, the use of online ad endorser is most effective on these two market segments.

Table 10. The MANOVA for Advertising Effectiveness in Terms of Advertising Presentation Type and Media Preferences

source	Wilk's Λ	Ad clicks	Recall impact	Attitude towards advertising	Attitude towards ad spokes-person	Buying behavior
Content presentation preferences (A)	0.87*	3.78*	3.94*	3.04*	2.68*	5.07*
Media preferences (B)	0.86*	21.49*	83.93*	119.26*	76.31*	1.54
Interaction (A×B)	0.91*	1.99	2.48	3.04*	2.01	6.08*

* $p<.05$

Table 11. MANOVA for Advertising Effectiveness in Terms of Advertising Presentation Type and Age

source	Variation	F value	Wilk's Λ	Ad clicks	Recall impact	Attitude toward advertisement	Attitude towards ad spokes-person	Buying behavior
Type of advertising presentation (A)			0.91*	1.92	1.61	0.66	0.89	4.86*
Age (B)			0.95*	1.61	3.79*	5.29*	4.83*	1.07
Interaction (A×B)			0.79*	1.88	5.06*	3.07*	4.05*	3.65*

* $p<.05$

Table 12. Test Results for the Hypotheses

Research Hypothesis	Test Results of Hypothesis
H ₁ : Form of web page content→advertising effectiveness	Relative support
H ₂ : Form of web page content× type of advertising presentation →advertising effectiveness	Relative support
H ₃ : Form of web page content×degree of involvement of web page content→advertising effectiveness	Minimal support
H ₄ : Form of web page content×media preferences→advertising effectiveness	Minimal support
H ₅ : Type of advertising presentation →advertising effectiveness	Total support
H ₆ : Advertising presentation preference×degree of involvement→advertising effectiveness	Relatively large support
H ₇ : Type of advertising presentation ×media preferences→advertising effectiveness	Relatively large support

- d. In the area of buying behavior, the number of online purchases made is highest among surfers above the age of 41 who look at pop up window ads ($F=4.82$, $p<.05$) and interstitial ads ($F=7.82$, $p<.05$) as well as surfers below the age of 20 who look at interstitial ads ($F=7.74$, $p<.05$). From this, we can conclude that, in order to get the surfers above the age of 41 to make more purchase, pop up window ads and interstitial ads should be used, while interstitial ads are the most ideal advertising strategy for surfers below 20. For surfers between the ages of 21-40, their online buying behavior is not influenced by any type of advertising presentation.

Seven Research Hypotheses Were Supported

The analytic results of the study found that nine research hypotheses gained support (see Table 12). These include: (1) "web page content form \rightarrow advertising effectiveness" and "type of advertising presentation \rightarrow advertising effectiveness;" these two causal models are supported. (2) Web page content forms has a significant effect on advertising clicks, recall impact and the average attitude towards advertisement. (3) The type of advertising presentation has the strongest influence on advertising effectiveness. (4) Interference variables such as involvement of web page content, media preferences, and age have interactive influences on the two causal models: "web page content forms \rightarrow advertising effectiveness" and "type of advertising presentation \rightarrow advertising effectiveness."

5. Conclusions and Recommendations

5.1 Conclusion

From an academic point of view, the study combines the viewpoints prevailing in the fields of information technology, marketing, and social psychology to explore the behavior of consumers in the multi-media computer interface environment. According to the results of the research, the following conclusions have been made:

- Difference in the web page content forms produces different advertising clicks, recall effects, attitude to advertising, and other advertising effects. However, it does not affect the attitude and buying behavior of the web visitor on the ad endorser.
- The tri-level model of ad persuasion is still applicable to web-based advertising and marketing.

The study expounds on the tri-level model of advertising persuasion from Lavidge and Steiner (1961); it found that the buying behavior of online consumers goes through various stages: cognition stage, emotional stage, and behavioral stage. This is especially true in the case of "web page content form," which has a stronger effect on the individual in terms of ad clicks, recall impact, attitude towards the ad, attitude towards the endorser, and buying behavior). In the advertising recall model of "priming \rightarrow intermediary process \rightarrow reaction," individual variables such as age, media preferences, and degree of involvement in web page contents are the major variables in

causal model.

In the last ten years, there are people in the marketing field who had used different samples or research designs to fine tune, even expand, Lavidge and Steiner's leveled model of advertising persuasion (Lavidge and Steiner, 1961). However, very few have actually applied the theory on the Internet situation; therefore the results of this study present major contributions and implications to the academic and business worlds.

- Banner advertising should be encouraged; animated advertising is only attractive, not persuasive.

The study finds that animated advertisements using gif, Flash, and virtual reality are considered by local Internet users as the "most attractive," while banner ads are the "persuasive" form of advertising. Animated advertising is very effective in terms of advertising recall, attitude toward the ad per se as well as its endorser. However, it does not help much in closing the online sale. In terms of advertising recall, banner ads are more effective than any type of advertising in terms of Internet clicks ($F=4.14$, $p<.05$), recall impact ($F=5.02$, $p<.05$), and attitude towards online representative ($F=4.08$, $p<.05$). Although banner ads lack initiative, they have a definite position on the web page; usually includes animated designs to attract consumers to enter the web page and persuade them to make the purchase.

Looking at the above results, the study finds that its viewpoint are very similar to the one espoused by psychologist Paivio (1986) that, when processed in large quantities, illustrations are easier and better remembered than words.

- Use different advertising strategies based on the different levels of involvement while viewing the web page.

From the viewpoint of involvement, people who are highly involved are better than their lesser involved counterparts in terms of advertising clicks ($F=736.72$, $p<.05$), recall impact ($F=31.8$, $p<.05$), attitude towards advertisement ($F=7.21$, $p<.05$), attitude towards ad endorser ($F=6.89$, $p<.05$), and number of online purchases made ($F=6.42$, $p<.05$). In the aspect of the interfering influence of web content involvement on recall impact. We also see that entertainment/shopping and learning oriented websites are more easily affected by the degree of involvement of web surfers than news oriented ones; this produces different advertising persuasion and sales results. Consequently, entertainment/shopping and learning oriented websites have more control over their users' degree of involvement than the news oriented websites

The above results indicate that, there is little difference between the way advertising information is handled by traditional consumers and Internet users. The involvement theory of traditional media may be used to interpret such component in the Internet purchasing environment (Petty and Cacioppo, 1981). When the degree of involvement of the consumer is low – this may because consumers tend to pay more attention to the components of the advertisement that are not product-related (charisma of the endorser, music, colors, ambience, etc.) – emotional advertising strategies may be used (emotion-based, warm

and soft) to appeal to the emotional side of the consumers.

The more the consumer is involved with the web content; he/she will pay more attention to the advertised attributes, functions, and other featured benefits of the product. It is at this stage that advertisers may use rational advertising strategies (unfeeling, cold, and hard; the advertising's main point is to provide information) to influence consumer cognition and behavior.

e. Be on top of consumer characteristics.

The characteristics of Web users (e.g. degree of involvement, age, web group, web content preferences, etc.) are worth noting, because, in understanding the individual characteristics of those who surf the Net, one may be able to come up with advertising strategies for potential consumers. The way to handle advertising information within the Internet environment is not only influenced by advertising situational factors of traditional marketing, but also, more importantly, by consumer characteristics. In other words, using the current information-gathering techniques (data mining, database marketing, and others) to acquire consumer's individual data (by browsing the log or purchase records) and do one-to-one marketing and relationship marketing has already become a major work goal of advertisers

5.2 Implications

a. Using different forms of strategies to present advertising.

People make different types of judgment because of differences in cognitive context (Herr, 1989). That is, after being primed by specific categories, the actions taken by the individual in later events may reflect inclinations toward using the attributes of the prior priming for assessment (Scrull and Wyer, 1980). Individual subconscious may affect the way consumers handle information; adding the influence of priming may lead to the "involvement" of later decisions or behavior (Yi, 1990). For example, educational websites, online chat rooms, online games, advertising that complement web page themes and contents, and other types of information presentation, are all tools that may be used for guiding purposes.

Consequently, for all practical purposes, to have websites with different natures of contents use different types of advertising presentation is the most effective way advertisers use to increase advertising effectiveness. For example, in entertainment websites, advertisers can put up or design ads, based on consumer characteristics that attract customers or encourage interaction. This strengthens the customers' recall and impressions of the product, which is especially important when it is a new product or when the advertiser hopes to build the brand's image. When web users look at news oriented web pages, they prefer not to be bothered by advertising, which may distract them from reading the news or thinking. In this instance, advertisers may enter into long-term arrangements with the website, incorporating ads into the content of the web page. This way, web users will not feel that there is ad interference and the advertiser can go on to build corporate image and gain favorable public recognition.

b. Everyone has a chance to take advantage of business opportunities on the Web.

AC Nielsen Taiwan, a market research company, did a comparison report on the number of web users and overall consumer media exposure from 1997 to 2000. The company found that aside from television exposure rate, the exposure of web users to newspapers, magazines, and radio are higher, which implies that web users use more diversified media than ordinary people; their interest in information is higher and in recent years, the exposure rates of web users are consistent with that of the public. Because the major source of revenues for web portals and web contents is primarily advertising, this study found that the various types of websites (learning oriented, entertainment oriented, and news oriented) where the ads are posted do not affect advertising effectiveness. This reflects the Internet market's scope of coverage and degree of tolerance; the business opportunities are endless; as long as one is committed to doing business on the Web, then the opportunities can be his for the taking.

Moreover, the study also found that the longer a person makes use of the Internet, the higher the number of advertising clicks ($F=7.52$, $p < .05$), the better the impact of recall ($F=3.61$, $p < .05$), attitude toward advertisement ($F=3.79$, $p < .05$), and online buying behavior ($F=7.74$, $p < .05$). Moreover, the longer Internet media is used, interest in Internet advertising is higher and attention span is longer; the purchase frequencies made over the Internet is also higher. These behaviors slowly become a continuous and strengthened stream of results. Simply put, the longer curve of Internet use, the larger the benefits are in terms of Internet clicks and product/brand popularity. These points prove the learning issue of the behaviorist group; the "stimulation" of advertising does "strengthen" buying behavior's "reaction."

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