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An Exploratory Investigation of Attitude Toward the Website and the Advertising Hierarchy of Effects

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Abstract

The paper discusses the findings of a study designed to increase the generalisability, validity and reliability of earlier studies concerning the relationships between attitude toward the ad and aspects of the advertising hierarchy of effects model in the online marketing context. The findings suggest that the traditional advertising hierarchy of effects model is relevant in the online marketing environment, and that investment in online marketing communication can be evaluated using this stable and reliable method. It is, however, suggested that further research is needed to improve the generalisability of the findings.

Introduction

Advertising, mass media advertising to be more precise, has played a major role in business to consumer marketing, and enabled companies to meet communication and other marketing objectives. Typically, advertising is used to inform, persuade, and remind consumers as well as to reinforce their attitudes and perceptions (Kotler et al. 2001). However, advertising is only one component in what is now termed integrated marketing communication (IMC), and which includes TCP/IP (transmission control protocol/Internet protocol) technologies. The inclusion of the Internet (Net), and specifically its present graphical face, the World Wide Web (Web) has progressed further in North America, Europe and Southeast Asian countries such as Korea and Singapore where broadband penetration is higher, than in Australia and New Zealand (Adam et al. 2001; Budde 2001; [HREF3]). Moreover, in the former countries there is generally a more developed integration of telecommunication, media and TCP/IP technologies (TMT).

Business use of the Internet is often commented upon in the context of transactions, or e-commerce, and more broadly in terms of such e-business activities as business intelligence, collaborative technologies, and business processes generally. Yet, marketing communication is the major use. KPMG (1999) found that the highest use of the Web was for marketing communication. Andersen Consulting (now Accenture) (1998) found similar results in their nine country review of e-commerce. So too did Adam and Deans [HREF4] in their multi-stage study of business use of the Internet in Australia and New Zealand–the WebQUAL Audit–finding that 84 per cent were using the Web to communicate organisational details or product information.
It is increasingly evident that direct response marketing practitioners have more successfully adopted the Web as a strategic tool than those Tapp (2000, p.10) sees practising 'general marketing'. This is because both direct marketing and use of the Web are more likely to mean that a database is employed, than is the case in mass media advertising (Adam 2001). In this direct and online marketing role, the Web features prominently in communicating with existing and potential customers – identifiable by name, with diverse needs, and representing differing levels of value to the marketing organisation over time (Peppers and Rogers 1999; Peppers, Rogers and Dorf 1999). The Web also occupies other roles for these marketers including customer fulfilment and the coordination of partners in marketing logistics networks, as well as facilitating customer relationship management (Adam et al. 2001).

The strategic marketing communication investment by business and government in the Web makes it necessary to study the ways that a return on this investment might be measured. Evaluation of Web use in terms of sales, earnings and dividends has to date reportedly benefited the computer industry in the United States (Hartcher 2000), but thus far we know little in terms of the Web’s efficacy in marketing communication generally, and in gaining a return on marketing investment specifically. This latter aspect was the motivation for the study we now report.

Effectiveness in online marketing communication

A number of concepts underlie the study of marketing communication (advertising) effectiveness. It is necessary to discuss these concepts, as they underpin the study we report. The following concepts are discussed in this section: hierarchy of effects model, attitude toward the Ad, and attitude toward the website.

Hierarchy of effects model

Most antecedent studies concerning the advertising hierarchy of effects model have involved traditional mass media advertising, and it is in this context that we begin our discussion. The advertising hierarchy of effects model was initially developed by attitude researchers in acknowledgement that individuals form attitudes toward objects other than the products it is hoped they will buy, such as the advertising they are effectively exposed to (Lavidge and Steiner 1961).

Franzen (1997) suggests that each advertising execution – TV, radio or print advertisement – must meet a number of criteria to be considered effective:

- It must be perceived with the senses;
- It must succeed in gaining and retaining our attention;
- It must succeed in getting us to register the brand well;
- It must be likeable and not irritating;
- It must contribute to the difference we perceive between the advertised brand and the alternatives;
- It must influence our choice in favour of the advertised brand; and
- Its central message must be stored in our memory.
The advertising hierarchy of effects model, is often used in the measurement of advertising effectiveness. The majority of Franzen’s (1997) advertising effectiveness criteria, are encompassed by this model. The advertising hierarchy of effects model depicted by Lavidge and Steiner (1961) (see Figure 1) illustrates the process by which advertising works and portrays consumers passing through a series of steps in sequential order from initial awareness (cognitive stage), to liking and preference (affective stage) and to actual purchase (behavioural stage). Behind this model is the premise that “advertising effects occur over time and advertising communication may not lead to immediate behavioural response or purchase, but rather, consumers must fulfil each step before (s)he can move to the next stage in the hierarchy” (Belch and Belch 1998, p. 146).

![Figure 1. Advertising Hierarchy of Effects Model](source: Lavidge and Steiner 1961, p.61.)

Attitudes are an important concept in marketing science and practice and an understanding of the influence of attitudes is necessary when organisations seek to develop effective marketing strategies. Attitudes may be described as a person's internal evaluation of an object such as an advertisement (Mitchell and Olson 1981). Attitude researchers initially developed the advertising hierarchy of effects model to explain how the three components of attitude presented in Figure 1 interact and are related to advertising outcomes. Advertising researchers consider consumer attitudes to be relatively stable and indicative of enduring predisposition to behaviour (Mitchell and Olson).

Thus, the advertising hierarchy of effects model is used to gauge consumers' attitude towards products, for consumers develop feelings towards products from the advertising they are exposed to—even though in many cases they may have no first-hand experience of the product or brand.

**Attitude toward the Ad**
Marketing communication may predispose individuals to respond positively or negatively toward a product or brand. Such elements as the execution of the ad, the mood created by the ad, the degree to which the viewer is aroused, and even the context within which the ad is received (e.g. television program or magazine) may affect their feelings about the ad, and in turn their feelings about the product or brand (Stern and Zaichkowsky 1991).

There is clear evidence that the emotions that advertising arouse do carry over to products and brands, and studies have often shown that attitude toward the ad is a strong mediator of advertising effectiveness (Mitchell and Olson, 1981; Batra and Ray, 1986; MacKenzie, Lutz and Belch, 1986; Bruner and Kumar, 2000; Stevenson et al. 2000). The majority of these studies have focused on the study of attitude toward the ad as a causal mediating variable in the process through which advertising influences brand attitudes and purchase intentions. Furthermore, these studies have often shown a strong positive relationship between attitude toward the ad and brand attitude, which in turn is positively related to purchase intention. These relationships are depicted in Figure 2. Brown and Stayman (1992) also report that their meta-analysis identified a direct relationship between attitude toward the ad and brand attitude. Although their results are much weaker than those found in almost all other investigations, their findings nevertheless support the results of antecedent studies.

![Figure 2. Attitude toward the Ad, Brand Attitude and Purchase Intention](image)


While there are conflicting results reported by a number of studies, the influence of likeability on advertising effectiveness cannot be discounted. Franzen (1997, p. 125) put it this way, "likeability is not a guarantee for persuasion, nor is it absolutely necessary or sufficient to achieve it, but likeability certainly can reinforce the effect of advertising". Reiterating the point, Brown and Stayman (1992) found that attitude toward the ad has a distinctive influence on brand cognition and brand attitude. Since likeability is a component often used to measure attitude toward the ad, (e.g. by Brown and Stayman), it is suggested that likeability influences advertising effectiveness.

**Attitude toward the website**

A review of the literature reveals only two studies that examine the advertising hierarchy of effects model where the Web is involved. Studies by Stevenson et al. (2000) and Bruner and Kumar (2000), tested aspects of the advertising hierarchy of effects model and websites, and report similar findings to those relating to traditional advertising. More specifically, the relationship between attitude toward the ad, brand attitude and purchase intention were found to hold in the Internet context, thus providing evidence that the model can be extended into research concerning the Web and marketing communication. Although more rigorous testing is needed to understand the relationships between these constructs in the online context, their
findings provide evidence that marketing organisations have a sound means of evaluating the effectiveness of their online advertisements.

A new measure called attitude toward the website has been suggested when conducting research into advertising effectiveness involving the Web (Chen and Wells, 1999; Bruner and Kumar, 2000; Stevenson et al., 2000). Studies by Stevenson et al. and Bruner and Kumar suggest that attitude toward the website can be used in conjunction with the advertising hierarchy of effects model to evaluate the effectiveness of online advertisements. Their findings suggest that attitude toward the website may influence the advertising hierarchy of effects, most notably attitude toward the ad shown from individual websites. That is, if a viewer likes the website, (s)he may be more receptive to advertisements played from within the website, and deeper processing of the advertisements may occur.

A related research study by Novak, Hoffman and Yung (2000) suggests that flow is an important construct that mediates a person's use of a computer. These authors conceptualise flow as a process that is enjoyable and see the concept as a seamless sequence of responses facilitated by machine interactivity. The interface experience may be so intense that users do not pay attention to events occurring in their surrounding physical environment (Hoffman and Novak, 1996; Novak et al., 2000). It is easy to see how this concept–which is related to such constructs as "telepresence, time distortion, and exploratory behaviour" (Novak, Hoffman and Yung 2000, p.30)–may have relevance where users are engaged in an online experiential activity such as gaming, particularly when they are still novice users. Rettie (2001) also explored the flow concept using focus groups rather than a survey approach, and noted that while flow can be experienced in many Web usage situations, it was more likely to be experienced when searching for information as a task rather than simply for enjoyment. However, there are no known studies relating such constructs to outcomes such as unit sales levels.

It does appear that in the case of commercial websites, if a website is well liked, some visitors to the website may be more receptive to the website's contents, including its advertisements. This proposition is further supported by studies conducted by Stevenson et al. (2000) and Bruner and Kumar (2000). Studies by the latter researchers provide evidence to suggest that the more a website is liked, the more positive the influence on the relationships suggested by the advertising hierarchy of effects model as graphically depicted in Figure 3.

![Figure 3. Attitude toward the website and the advertising hierarchy of effects](image)

**Sources:** Bruner and Kumar 2000; Stevenson *et al.* 2000.

It should be noted at this point that there are different versions of the attitude toward the website measure suggested by researchers. The measure used by Stevenson *et al.* (2000) and Bruner and Kumar (2000) encompasses a broader view and draws from previous studies on
the attitude toward the ad measure, such as using good vs. bad and like vs. dislike to measure affective responses to the website. The focus of the attitude toward the website measure used by Chen and Wells (1999) is narrower. They argue that a website can be good or bad in specific ways. Their pre-tests resulted in the measurements of variables such as likelihood to revisit website, service satisfaction and comfort-ness in visiting the website as operationalisations of their attitude toward the website measure. While the present study examined Chen and Wells' variables, this aspect is not reported in this paper.

### Hypotheses

The research question suggested by a review of the literature presented in the earlier section of the paper concerns the degree to which the advertising hierarchy of effects model might hold in the dynamic online marketing environment. Figure 4 models the relationships under investigation and reported in this paper. It is reiterated that the Chen and Wells (1999) dimensions indicated in Figure 4 have been included for completeness, but are not reported on in this paper.

![Figure 4. Model of relationships between website dimensions, Attitude toward the website and the advertising hierarchy of effects](image)


Hypotheses were developed from the model depicted in Figure 4 as they relate to the findings discussed in this paper:

- H1: Attitude toward the website (AWeb) is related to attention to the Ad (AttAd).
- H2: Attitude toward the website (AWeb) is related to attitude toward the Ad (AAd).
- H3: Attitude toward the website (AWeb) is related to brand attitude (ABrand).
- H4: Attitude toward the website (AWeb) is related to purchase intention (Pi).

### Methodology
This exploratory investigation of the relationships between attitude toward the website, and the advertising hierarchy of effects, involved two stages. Because the study also investigated background complexity effects, the first stage involved two focus groups to ascertain that three web pages of differing complexity were indeed each more complex than the other. The same streaming video commercial from World Vision was to be shown to a larger and different group of respondents, and it was necessary to ensure that respondents could discriminate between the websites as designed. Two focus groups were run on the basis that it may have been necessary to change the content of the three Web pages following the first focus group.

The second stage of the study entailed administration of an online questionnaire to those who had viewed the commercials from one of the three web pages of differing complexity. Each respondent saw one web page only, and viewed the streaming video once before proceeding to the online (form) questionnaire.

Sample

A convenience sample was used, comprising postgraduate students studying courses offered by Deakin University’s School of Computing and Mathematics. The sampling unit (i.e. a computer course unit from the School of Computing and Mathematics) was selected from a list of Deakin University’s School of Computing and Mathematics course units that used the computer labs in Geelong for their tutorials. The sampling unit was selected mainly of convenience, the high number of enrolled students in the unit (i.e. approximately 200 students) and also because the unit chair agreed to assist in the study.

A list of the sample unit’s tutorials (classes) was then obtained. In total, there were twelve classes involved that spread over a five day period. The classes were arranged according to the day and time of their conduct. Each class was assigned a number so that they could be assigned to different phases of the research.

The first two classes (i.e. numbers one and two) were selected for the pre-tests. The remaining 10 classes on the schedule list were assigned to the experiment phase of the study. In total, 162 out of approximately 200 students participated in the study. Students who did not participate were either absent from the classes or expressed no interest in participating in the research. Twenty-six students participated in the focus group pre-test and 136 students participated in the experiment phase of the study, involving at least 40 students for each background treatment. In this paper we are concerned with the aggregate responses to the online survey phase, regardless of which Web page treatment led them to the online questionnaire.

Experimental website pages

The experiment used the basic design of the World Vision page from which one of their streaming video commercials was presented to Web guests in September 2001. Three websites of differing complexity were designed, based on the World Vision Web page. Both this Web page and the streaming video commercial involved were used with the permission of World Vision. Because this aspect of the study is not discussed further, the Web pages are not presented.
A non-profit cause–World Vision–was chosen as a branded website because it might be considered gender neutral in its appeal. World Vision is seen to compete with similar organisations such as Care Australia for individual and organisational donations.

**Questionnaire design**

The online questionnaire employed in this study used several scaled response questions to measure, for example, the attitudes of the participants. Categorical scales provide the benefits of ease of understanding and flexibility; however they require careful design in their wording. This is why the scales used in the present study are derived from previous research primarily by Bruner and Kumar (2000). Consistent results from their studies support the validity and reliability of the items used in their questionnaire, meaning that the questions used had been pre-tested and served our research purpose. The design of their questionnaire was only marginally adapted for use in the present study; with the omission of several questions not relevant to this study. Additional questions were added concerning Web usage from a questionnaire developed by Fry *et al.* (1998).

Seven-point semantic differential scales were also used in the present study to measure attitudes and other constructs, such as task involvement, while categorical scales were used to measure Web usage. While semantic differential scales are not without possible faults, in that critics have long argued over the type of data that semantic differential scales produce (Zikmund, 1997), we have adopted the stance that semantic differential scales are metric scales (i.e. interval scales) and that this justifies our use of regression analysis. The full, but disabled, online questionnaire may be viewed at [HREF6].

**Data collection**

The testing of the three web pages involved the use of focus groups to confirm the relative complexity of the Web pages from which streaming video was to be viewed by the main sample via a Web browser.

The questionnaire was HTML coded and run from a secure Linux server running Apache Web server software. Respondents were given a username and password to access the directory containing the form questionnaire. A PERL script (BFormMail) [HREF7] was used to parse responses to a flat database file which was then imported to SPSS for data analysis.

Participants in the online survey phase were given a set of instructions, which included the URL for a dummy rendition of World Vision's actual home page. They were then asked to explore the website. Next, they were asked to click on the link that read “View Commercial”, which lead to one of the three background treatments which had been assigned to them. After viewing the Web commercial, the participants were asked to click on the link that read, “Please click here after the commercial ends”. This led participants to the online questionnaire. After completing the questionnaire, respondents were then required to press the “Submit” button. This both emailed the data to the researcher and entered the data into a flat, '|' delimited file. Respondents were also advised to send a request email should they wish to receive an actionable summary report. They were then thanked and dismissed.

**Findings and discussion**
In this section, we present the findings and discussion relating to the general research question and hypotheses presented earlier in the paper.

**The advertising hierarchy of effects model and attitude toward the website**

To test the hypotheses relating to attitude toward the website, an examination of the correlations between attitude toward the website, components of the advertising hierarchy of effects model, and attention to the commercial was conducted. The results are presented in Table 1. As shown, all the results are positive and significant \( (p < 0.05) \) and support hypotheses H1, H2, H3, and H4.

The correlation matrix indicates that attitude toward the website is significantly and positively correlated with all the variables tested in the model. The strong and significant correlation between attitude toward the website and attitude toward the ad is especially noteworthy. The findings, therefore, suggest that the more a website is liked, the more effective the advertisement, in terms of attitudes, purchase intentions, and attention to the commercial. Table 1 also suggests that if an advertisement is liked, attention to it also increases. However, brand attitude and purchase intention are not found to be related to attention to the commercial \( (p > 0.05) \).

The participants’ attitude toward the ad was found to be positively correlated with brand attitude and purchase intention. This supports the findings of previous studies (Mitchell and Olson, 1981; Bruner and Kumar, 2000; Stevenson et al. 2000). Given that there are currently many methods of evaluating online advertising effectiveness, results from the present study suggest that the traditional advertising hierarchy of effects model can be extended for use with marketing communication employing the Web. As a consequence, marketing organisations have an additional tool for evaluating the return on their online marketing investment.

The findings also suggest that participants’ attitude toward the website can influence the advertising effectiveness of an online commercial. In this regard, these findings support those of Stevenson et al. (2000) and Bruner and Kumar (2000), that attitude toward the website is positively correlated with components of the advertising hierarchy of effects model. The present study’s findings support previous research, which found that the context in which an advertisement is displayed has an influence on the advertisement’s effectiveness. Similarly, the findings also indicate that there is a positive relationship between attitude toward the website and the attention paid to the commercial. Intuitively, this can be explained in that a website that is liked will elicit a deeper processing of its contents. Online marketing organisations must, therefore, realise that the design of their website may influence the effectiveness of their online advertisements.
Online marketing organisations should be cognisant that their websites are acting as a brand carrier. We suggest this in view of the positive relationship between attitude toward the website and brand attitude. Efforts should, therefore, be made to consider the influences on the marketing organisation's brand when designing websites. Given the dynamic nature of the Internet, online marketing organisations have many tools at their disposal to make websites more attractive and likeable. This in turn may improve consumers' attitudes toward websites and subsequently influence the effectiveness of website advertisements and marketing the organisation's brand.

Future research

As is often the case, time and money may bring about weaknesses in the design and operationalisation of such studies as this. The use of a convenience sample limits the extent to which the findings may be generalised beyond the sample involved. Moreover, factors beyond the control of the researchers may have influenced the research findings. It is important to note that with only half the households in Australia having access to the Web, and less than 10 per cent of the population having purchased online, it is safe to say that not everyone has the same level of experience with the Web in the commercial context. The matter of user experience and its relationship with other variables within the advertising hierarchy of effects model has been examined in such studies as the World Wide Web (WWW) user surveys conducted by the GVU (Graphic, Visualization and Usability Center). They found that Web experience may influence Web users' behaviour. We do not

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### Table 1. Correlations between attitude toward the website A(Web), attitude toward the ad A(Ad), brand attitude A(Brand), purchase intention P(i) and attention to the ad Att(Ad) (commercial)

<table>
<thead>
<tr>
<th></th>
<th>attitude towards website</th>
<th>attitude towards Ad</th>
<th>brand attitude</th>
<th>purchase intention</th>
<th>attention to commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation Coefficient</td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A(Web)</td>
<td>1.00</td>
<td>.442**</td>
<td>.20**</td>
<td>.398**</td>
<td>.290**</td>
</tr>
<tr>
<td></td>
<td>130</td>
<td>130</td>
<td>135</td>
<td>136</td>
<td>136</td>
</tr>
<tr>
<td>A(Ad)</td>
<td>.442**</td>
<td>1.00</td>
<td>.38**</td>
<td>.422**</td>
<td>.253**</td>
</tr>
<tr>
<td></td>
<td>130</td>
<td>130</td>
<td>135</td>
<td>136</td>
<td>136</td>
</tr>
<tr>
<td>A(Brand)</td>
<td>.20**</td>
<td>.38**</td>
<td>1.00</td>
<td>.349**</td>
<td>.391**</td>
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<td></td>
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<td>135</td>
<td>136</td>
<td>136</td>
</tr>
<tr>
<td>P(i)</td>
<td>.399**</td>
<td>.422**</td>
<td>.349**</td>
<td>1.00</td>
<td>.132</td>
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<td>130</td>
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<td>136</td>
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<td>Att(Ad)</td>
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<td>135</td>
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<td>136</td>
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</tr>
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</table>

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).
report our own findings in this regard, but simply point out that this is a matter that must be considered in any future study.

Design aspects such as television aspect ratio Web pages versus scrollable pages and the use of Web page background colour also need to be controlled for in any future studies. Although precautions were taken to make sure that the file size of the video commercial used in this study was relatively small and that download speed would be as fast as practicable, this still may not have overcome network congestion, with unintended consequences. The responses and thus the research findings may have been affected by these and other technological issues relating to the Web that were beyond our control.

While the present study employs a Web commercial, future studies might replicate the present study using banner ads and interstitials. Future studies might also use a more subtle means of measuring attention paid to the commercial. The attention to the commercial measure used in the current study may not be appropriate, as participants may feel awkward admitting that they did not pay any attention to the commercial, or they may not state their true position.

In concluding the paper, we would like to reiterate that the traditional advertising hierarchy of effects model remains relevant in evaluating the return on investment in mass media marketing communication and that our findings suggest that this use can be extended to the online marketing environment. We acknowledge that use of the Web is more aligned to direct response marketing where fulfilment is often the sought outcome, and evaluation of the investment made involves lifetime value of individual customers rather than shorter term measures such as purchase intentions.

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HREF1  
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HREF2  

HREF3  

HREF4  

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HREF9  

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