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CHAPTER 4. RESEARCH MODEL AND HYPOTHESES

4.1 Introduction

Despite the growing interest in WMC among marketing researchers and practitioners (e.g., Dholakia and Rego, 1998; Stevenson *et al*., 2000; Loiacono, Watson and Goodhue, 2002), we still have much to learn about this medium. An initial priority is to develop a comprehensive method for understanding and assessing WMC. The importance of this has been reinforced in a study by Bush, Bush, and Harris (1998) which revealed that marketing practitioners often build, develop and maintain their corporate Web sites without adequate Web-related knowledge and competencies. Exacerbating this trend is that currently very little is known about what contributes to Web site effectiveness, or even about how marketers interact with consumers via the Web. Contributing to this knowledge gap, this chapter presents a new conceptual model, the "Web Acceptance Model (WAM)", for understanding and measuring consumer acceptance and use of corporate Web sites.

This chapter is composed of two sections: Research model and hypotheses. First of all, this chapter commences with general description of the model structure. Given that conventional advertising evaluation models are not suited to WMC, the WAM model put an emphasis on social interaction and the active participation of Web users. The WAM includes four groups of variables: predictor, mediator, moderator and criterion variables. This chapter explains the role of each variable. Finally, the hypotheses

derived from the model are discussed. The hypotheses will be empirically tested through an experiment, as well be discussed in Chapter 6.

4.2 The Web Acceptance Model (WAM)

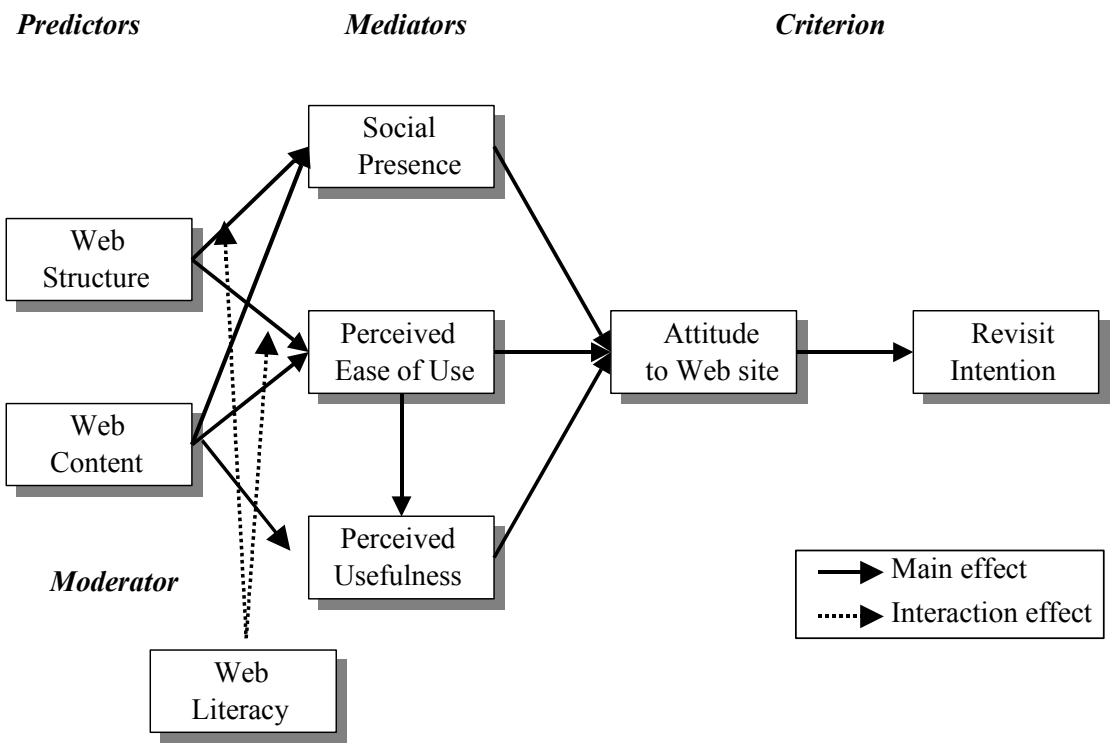
4.2.1 Model Overview

Recently, there have been many attempts at assessing corporate Web sites as tools for marketing communication. Much of the research on Web site marketing effectiveness to date has focused on the Web as an advertising medium and so has adopted conventional advertising evaluation models (e.g., Bruner and Kumar, 2000; Choi *et al*., 2001; Luo, 2002; Goldsmith and Lafferty, 2002). A fundamental shortcoming of this approach is that it does not adequately address the reciprocal social interaction provided by Web-mediated communication (Suh, Couchman, and Park, 2003). Neither does it adequately address the active role that users play in interacting with this medium. It is argued that, as Web sites are new interactive media very different from traditional marketing communication media, new approaches to their assessment should be employed.

To address the limitations of previous studies, a new theoretical model, the "Web Acceptance Model (WAM)," was developed to explain consumer responses to corporate Web sites. As noted previously, this model is premised on two central phenomena of WMC: social interaction between a Web site and users, and the active participation of users. In the model, the phenomenon of social interaction is captured by mediating variables, and the active participation of users by the inclusion of a moderating variable.

Two dimensions of social interaction, emotional and task-related, are invoked to explain why a particular type of Web site causes a certain type of outcome. In other words, emotional and task-related interaction can help explain "why" a specific type of Web site is likely to be more effective. But it is unlikely that a particular type of Web site (e.g., one which has high information intensity and full hypermedia content) will be effective all of the time. For example, under certain conditions with particular types of users, a simple type of Web site may well be more effective. Therefore, this study developed a conceptual framework that seeks to explain "when" a Web site is more likely to be effective. Introducing individual user differences as a moderator can help explain "who does what" (Baron and Kenny, 1986), and reflects the active role of customers in WMC systems. On the basis of this contingency approach, this study examines the moderating role of individual differences to identify the conditions under which a Web site is more effective. Finally, the model addresses all three elements of consumer attitudes, i.e., affective, cognitive, and conative. In the model, Web site acceptance is conceptualised not only in terms of behavioural (i.e., behavioural intention) and cognitive (i.e., perceptual) dimensions, but also in terms of the affective (e.g., feeling or emotional) element of consumer attitudes. The Web Acceptance Model is depicted in Figure 4.1 below.

Figure 4.1 The Proposed Web Acceptance Model (WAM)



As can be seen in the figure, the predictor (independent) variables in the model are Web site content (i.e., the range of functions supported) and Web site structure (i.e., the presentation media used). Both of these are measured in terms of dichotomies. For Web site structure, the two levels are "hypermedia" (the Web site has multi-media, including moving images, sounds, pop-ups, etc.) and "static image" (the Web site has only text and static images). For Web site content, the levels are "integrated communication" (all marketing functions are supported by the Web site, including advertising, company/product information, sales promotion, online sales, etc.) and "basic information" (only basic information is provided by the Web site, about the company and its products, as well as contact details). In the model, the communication effects achieved by a Web site (i.e., the criterion variables) are measured in terms of overall

attitude towards the Web site and the intention to revisit it. But the model also has three mediators between the predictor and criterion variables. Thus, social presence serves as an affective bridge, while perceived ease of use and perceived usefulness serve as cognitive bridges between the predictor and criterion variables. Finally, a moderator affects the direction or strength of the relationships between the predictors and mediators, and this study postulates that degree of social interaction will vary according to the levels of Web literacy (which is the moderating variable in the model).

In brief, the Web Acceptance Model proposes that Web site structure and Web site content, together determine users' affective responses to a Web site and their ability to perform tasks using it (e.g., access required information). Affective responses to a Web site are captured in the model through the construct of "social presence" (Short *et al*., 1976), the feeling that a user is communicating via the Web site with other human beings. This study postulates that corporate Web sites with hypermedia and integrated communication will have a higher social presence. Task-related interaction in the model is assessed according to two inter-related constructs: perceived ease of use and perceived usefulness. This study postulates that static image Web sites will be easier to use than those with hypermedia, and that integrated communication Web sites will be seen as more useful than those which provide basic information only. According to the model, the greater the social presence of a Web site, the easier it is to use and the greater its perceived usefulness, the more positive the attitude of users towards it will be. In turn, the more positive the attitude toward the Web site, the greater will be the revisit intention. Web literacy will moderate the relationships between the predictor and mediating variables, for example users who are more Web experienced will see integrated communication Web sites to be higher in social presence than Web sites with

basic information only; conversely, inexperienced users will see basic information Web sites as having a higher social presence.

4.2.2 Predictor Variables: The Web Site Typology

Content and structure are the basic units for the analysis of communication messages. Simply speaking, content refers to what is communicated and structure to how it is communicated. Two major differences of the Web compared to traditional advertising media are its multi-functional content and its multi-modal structure (Suh, Couchman, and Lee, 2002a and b). Content is important in marketing because different types of content have different purposes and aim at different target audiences. The content of corporate Web sites can be very diverse, and reach beyond the basic communication of information. Also with Web sites, various structural features such as animation, graphics, and sound can elicit different consumer responses. To date, there has been no study that considers both the content and structure of Web sites, and the model seeks to address this knowledge gap. Furthermore, the model adopts an holistic rather than an atomistic approach. Most Web studies to date have been based on an atomistic approach, in that they focus on the presence or absence of particular elements of a Web site (e.g., Bezjian-Avery *et al.*, 1998; Dholakia and Rego, 1998; Li and Bukovac, 1999). A major shortcoming of the atomistic or mechanical view is that it ignores interaction effects between the individual elements. On the other hand, an holistic approach treats a Web site as an organised whole (Zanden, 1984), and is therefore centrally concerned with relationships among elements.

Structure refers to the combination or organisation of the executable elements of a Web site, encompassing text, graphics, audio, video and hyperlinks. There have been only a few studies on the overall organisation of Web sites (e.g., Chen and Wells, 1999), and these do not clearly define what "organisation" is, how it is classified, and how marketers can organise the elements to create good Web sites. Although previous studies on the individual elements of a Web site can partially explain the effects achieved, they cannot provide comprehensive guidelines for good Web site design. As reported in the previous chapter, to address this issue, an analysis of existing corporate Web sites was conducted. On the basis of this study, Web site structure was classified into two types: "hypermedia" and the "static image". The hypermedia type deployed all multimedia elements (such as graphics, audio, and video) as well as internal links (such as a site map or search function). By contrast, the static image type was restricted to descriptive text and some static images. Both types commonly included external links to other Web sites.

Content refers to the information or message presented in a medium. One way of classifying Web site content is the functional approach, which focuses on the different activities of companies (McQuail, 1989). In the analysis of corporate Web sites, five distinctive functions performed by a site were identified: advertising, public relations, sales promotion, online selling, and customer service. Usually, a corporate Web site does not serve a single function, rather it is intended to perform multiple functions. Hence, the traditional method of grouping message content based on the presence or absence of specific elements may fail to provide a rich understanding of the complex characteristics of Web site content. For the model, this study reduced corporate Web site content to two main types: "integrated communication" and "basic information".

These categories were determined by the range of functions supported by a site. For example, the integrated communication type included more extensive content serving all five functions, while the basic information type provided only minimal information for advertising and customer service (e.g., product descriptions, company news, financial information, a company profile, and contact information).

4.2.3 Moderator Variables: The "When" of Web Site Effectiveness

Only a few empirical studies of Web site effectiveness to date have taken into account individual user differences (e.g., Bruner and Kumar, 2000; Palmquist and Kim, 2000; Raman and Leckenby, 1998). A review of the information technology literature (e.g., Abdul-Gader, 1996; Agarwal and Prasad, 1999; Raman and Leckenby, 1998; Bruner and Kumar, 2000; Palmquist and Kim, 2000; Venkatesh and Davis, 2000) confirmed that previous experience and skills are critical factors influencing Web interaction performance. The Web, as a hypermedia tool, provides an enormous amount of user control (e.g., Horton, 1990; Nielsen 1993). It is generally considered that if users have high levels of control, they can achieve a great deal of interaction with a Web site, and in turn they will be able to derive a high level of satisfaction. But the degree of a user's Web literacy, the ability to actively explore and obtain information from the Web (December 1996), will influence the experience of interaction and so will affect the direction or strength of the relationship between the type of Web site and its perceived effectiveness.

4.2.4 Mediator Variables: The "Why" of Web Site Effectiveness

Almost all marketing studies of Web site effectiveness to date have examined the relationship between specific Web site features and measures of advertising effect such as attitude toward the ad, attitude toward a brand, or purchase intention (among the few exceptions are Choi, 2000, Choi *et al*., 2001). But while this type of study can tell us "what" type of Web site is more effective in terms of affective or behavioural responses, they cannot explain "why" a specific type of Web site is more effective than other types. To answer this question, the nature of attitudes needs to be examined more closely. From a social psychological point of view, attitudes have three dimensions: cognitive, affective, and conative. While the three dimensions of attitudes are not separable, it is generally accepted that there is a need to distinguish between them to gain a better understanding of a particular attitude (e.g., Eagly and Chaiken, 1993; Vygotsky, 1962). The conative dimension is related to the behavioural propensity or action associated with an attitude object, and it can only be explained in terms of the cognitive and affective dimensions. So, without understanding the cognitive and affective dimensions of an attitude, we cannot fully understand the behaviour associated with it. Furthermore, as Morris, Woo, Geason, and Kim (2002) have emphasised, rather than simply measure an overall affective response, such as attitude toward the ad, more specific affective responses need to be examined in order to gain a better understanding of behavioural intentions.

Suh, Hasan, and Couchman (2003) have argued that two dimensions of social interaction, task-related (a cognitive dimension) and emotional (an affective dimension), are key indicators for consumer attitudes towards a company or brand. These two

dimensions are incorporated as mediating variables in the model, and they help explain the "why" of the relationship between Web site characteristics and consumer responses to them (i.e., why a given feature is associated with a particular response). The specific constructs that are deployed in the model to represent these two dimensions, and hence play a mediating role, are the social presence of a Web site (affective dimension), as well as a Web site's perceived usefulness and perceived ease of use (cognitive dimension). A widely used measure of affective interaction is social presence, which can be defined as "a user's feeling that she or he is interacting with others" (Champness, 1973a; Short *et al*., 1976), so this construct was incorporated. Both perceived usefulness and perceived ease of use of a Web site are popular measures of task-related interaction. Perceived usefulness is defined as "the degree to which a user believes that using a particular Web site would increase task performance" (Davis, 1989). Perceived ease of use is defined as "the degree to which a user believes that using a particular Web site would be free of effort" (Davis, 1989).

4.2.5 Criterion Variables: Communication Effects

As typical brand advertising usually aims at delivering messages to persuade potential customers to choose a specific brand, the communication effects of attitude toward the ad, attitude toward the brand, and purchase intention, the communication effects, have been utilised as the main measures of advertising effectiveness (Kalwani and Silk, 1982; MacKenzie *et al.*, 1986; Heath and Gaeth, 1994). However, as has been noted, a corporate Web site differs from traditional advertising media in its multi-functionality. Corporate Web sites can perform multiple functions, including advertising, public relations, sales promotion, customer service, and even online selling for more specific

target audiences. Accordingly, the purpose of a corporate Web site can extend beyond the creation of a favourable brand attitude or the facilitation of on-line purchasing to the building and maintenance of relationships with customers.

Reflecting this potential, two main measures of communication effect have been adopted for this new marketing medium. For example, attitude toward the Web site has been widely adopted as a useful indicator of Web site effectiveness (e.g., Bruner and Kumar, 2000; Chen and Wells, 1999; Choi, 2000; Yoo and Donthu, 2001; Luo 2002). Attitude toward the Web site can be defined as "a learned predisposition to respond to the attitude object in a consistently favourable or unfavourable way", which represents a Web user's overall feelings toward the Web site (Belch and Belch, 1999). Complementing this has been a behavioural measure, revisit intention, which is also widely regarded as a further criterion of Web site effectiveness (the more the positive response to a Web site, and the more it is seen as useful and easy to use, the more likely a user will be to revisit it). In the model both attitude toward the Web site and revisit intention have been adopted as criterion variables, equivalent to the communication effects arising from more traditional media. Many advertising evaluation studies have found a consistent pattern that follows a path of attitude towards an advertisement determines the attitude towards a brand, which, in turn determines purchase intention, and a similar pattern of cause and effect has been found in Web site effectiveness studies (e.g., Bruner and Kumar; 2000; Choi, 2000; Choi *et al.*, 2001). Thus, in this model it is postulated that the attitude toward the Web site will precede a behavioural decision, revisit intention, about it.

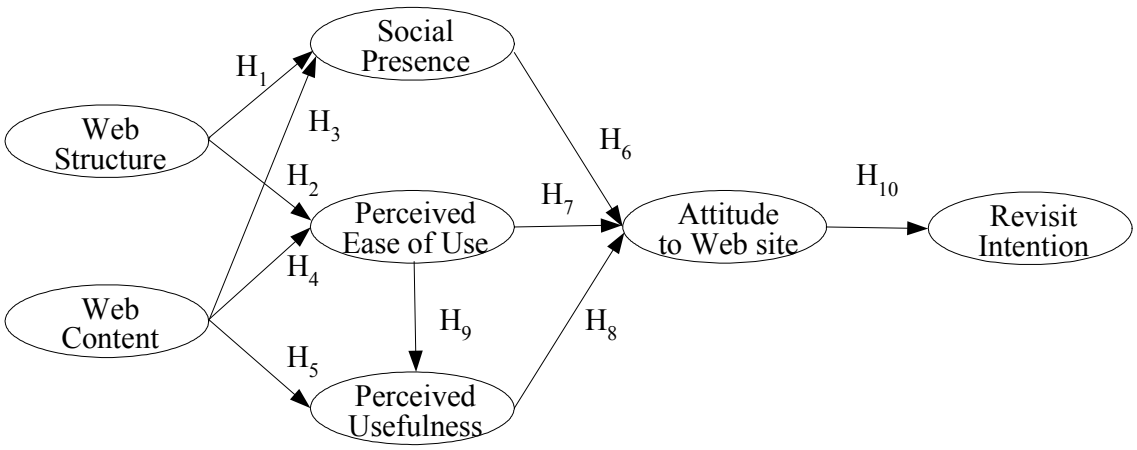
In sum, this chapter proposes the Web Acceptance Model (WAM) as a conceptual framework for understanding consumer acceptance and use of a corporate Web site, and which includes predictor, criterion, mediator, and moderator variables. Like a traditional advertising study, the Web site typology serves as a predictor and communication effects are criterion variables. Meanwhile, individual differences, as moderators, explain "when" the effectiveness of a Web site is different. Finally, both affective and cognitive dimensions of social interaction, as mediators, describe "why" certain behaviour occurs. It is argued that, using this framework, marketers will be able to better understand the relevant consumer attitudes and so assess Web site effectiveness from a user perspective.

4.3 Hypotheses

4.3.1 Main Effects and Associated Hypotheses

Figure 4.2 illustrates the effects of the Web site typology (e.g., Web site structure and content) on communication effects through social interaction. As specific affective and cognitive responses to the Web site typology, the social interaction constructs (e.g., social presence, perceived ease of use, and perceived usefulness) play a diagnostic role in explaining "why", that is the reasons behind communication effects. Accordingly, hypotheses derived from these relationships reflect the research question, "What satisfies Web users and make them revisit a corporate Web site?"

Figure 4.2 Main Effects and Associated Hypotheses



(1) Web Site Typology and Social Interaction

Generally, it is argued that Web site structure and content are closely related to social interaction. More specifically, the types of Web site structure and content have an effect on consumers' interaction with Web sites via affective and cognitive responses.

Previous research has argued that Web site structure influences feelings of social presence (e.g., Heeter, 1995; Ijsselsteijn, Ridder, Freeman, and Avons, 2000; Kubey and Larson, 1990; Lombard and Ditton, 1997). Web site structure can enhance the level of social presence through its multimedia capability allowing for the more realistic presentation of marketing information. For example, the combined use of various multimedia elements such as sound, video and graphic images can enhance the sensory quality of information provided on a Web site, which will ultimately create a rich sense of social presence (e.g., Reeves, Detenber, and Steuer, 1993; Bocker and Muhlbach, 1993; Lombard, 1995; Lombard and Ditton, 1997). By comparison, the limited use of

dynamic elements on a Web site results in comparatively poor sensory quality. Furthermore, multimedia techniques can also create profound emotional experiences through bodily and physical expressions such as facial, vocal, gestural and postural cues. In other words, the use of full range of multimedia elements can deliver more social context cues, which increase social presence (e.g., Choi *et al*., 2001).

The use of hypermedia implies not merely multi-modal representation of information, but also interactivity. Although there is no uniform definition, feedback and control are generally considered as two essential elements of interactivity. When consumers are in control of their communication environments and can exchange feedback with each other through the hyperlink facility of the communication media, they feel a sense of online community (e.g., Choi *et al*., 2001; Suh, Hasan, and Couchman, 2003).

Therefore, through interactivity and realistic representation, the use of hypermedia elements can enhance a higher level of social presence (e.g., Choi *et al*., 2001; Schubert, Friedmann, and Regenbrecht, 2001; Suh, Hasan, and Couchman, 2003). Recent studies support this proposition. De Greef and Ijsselsteijn (2000) found that the inclusion of video and audio in a communication channel created higher social presence than an audio-only environment. Similarly, Choi (2000) and Choi *et al*., (2001) revealed that a Web site with a voice-activated animated character generated a higher level of presence than a Web site without a character.

Thus, it is expected that:

$H1_1$: The "hypermedia" type of Web site will have higher social presence than the "static image" type.

Web site structure also has an effect on consumers' cognitive responses, notably on perceived ease of use. While the use of dynamic multimedia (e.g., audio, animation and video) facilitates realistic presentation of marketing information, it usually takes more time to download, which can cause a negative effect on consumer attitudes (Chen and Ford, 1997). Another negative effect comes from the concepts of interactivity and user control. As a Web site is inherently an interactive medium, users need basic skills to control the medium. When full hypermedia elements are adopted, users can get distracted or lost in cyberspace.

As a result, the following hypothesis is also proposed:

H_2: The "static image" type of Web site will have higher perceived ease of use than the "hypermedia" type.

The primary function of Web site content is to fulfil users' needs (Hallahan, 2001). Different content serves different needs. Therefore, it is expected that consumers' attitudes toward the Web site will depend on the content a Web site provides. However, no attempts have yet been made to identify the influence of Web site content on social interaction. Nevertheless there are some indications that it plays an important role in affecting social presence. Bone and Ellen (1993, p. 94) argue that "the more available

the information is at the time of the judgement, the stronger will be its effect on attitudes and behavioural estimates." For instance, Singh, Balasubramanian, and Chakraborty (2000) found that a hybrid form of marketing communication and direct experience is more effective than a conventional advertising format. More specifically, they compared three dimensions of communication content: advertising, "infomercials" (or informational commercials), and direct experience. The infomercial was defined as a long commercial message (15 and 30 minute) that contains a detailed description and demonstration of a particular product like television program content. Direct experience was defined as the "trial use of exercise equipment on display at a store while considering its purchase" (p. 59). For direct experience, product messages were provided to respondents in audio and text formats. The results showed that infomercials and direct experiences were more effective in television commercials.

The inclusion of sales promotion (e.g., trial and demonstration) and public relations functions (e.g., corporate/product news) can enhance Web site effectiveness. One of the advantages of a Web site is the ability to deliver a variety of marketing information through one communication channel. This means that a Web site provides more opportunities for consumers to access information to meet their needs. A Web site also allows more detailed messages to be provided for users. These features of Web site marketing communication can create an impression of more support by marketers or sales representatives and the information can be seen as more useful. Given these features, it is expected that more integrated information on a Web site results in higher social presence and perceived ease of use. On the other hand, if more information is provided on a Web site, it may become harder for users to manage.

Thus, it is hypothesised that:

H_3: The "integrated communication" type of Web site will have higher social presence than the "basic information" type.

H_4: The "basic information" type of Web site will have higher perceived ease of use than the "integrated communication" type.

H_5: The "integrated communication" type of Web site will have higher perceived usefulness than the "basic information" type.

(2) Social Interaction and Communication Effects

Before the advent of the Web, many researchers asserted that consumer interaction with communication media (e.g., imagery, vividness, presence, etc.) had a tendency to increase positive attitudes and behavioural intentions (e.g., Bone and Ellen, 1992; Huang, 1999; Kim and Biocca, 1997). For example, Bone and Ellen (1992) argued that when consumers had more vivid images after exposure to an advertisement, they would have a more positive attitude toward the ad and behavioural intention to purchase the advertised product.

The study of the relationship between social presence and communication effects of a Web site is an underdeveloped area. To date, only a few studies have been conducted and they have revealed that social presence has a positive influence on attitudes toward a Web site and revisit intention (e.g., Choi, 2000; Choi *et al*., 2001). Some studies have

also shown that consumers' cognitive responses to a Web site have a positive impact on their attitudes (e.g., Agarwal and Prasad, 1999; Davis, Bagozzi, and Warshaw, 1989; Hong, Thong, Wong, and Tam, 2001-2002; Hu, Chau, Sheng, and Tam, 1999). For instance, Gefen and Straub (2000) found that the more people perceived a Web site as useful, the greater their purchase intention was. Pavlou (2003) identified a positive relationship between user's perception of a Web site (in terms of perceived usefulness and perceived ease of use) and intention to conduct transactions online. Moon and Kim (2001) also have supported this finding; that is, when consumers perceive the Web to be more useful and easier to use, their attitudes and intentions to use are correspondingly high.

In terms of the relationship between the cognitive responses of perceived usefulness and ease of use, almost all studies have suggested a positive association (e.g., Hong *et al*., 2001-2002; Moon and Kim, 2001; Pavlou, 2003). In other words, if people perceive a Web site to be easy to use, they also perceive it as useful.

Given the findings discussed above, it is posited that:

H_6: The more positive the social presence of a Web site is, the more positive the attitude toward the Web site will be.

H_7: The more positive the perceived ease of use of a Web site is, the more positive the attitude toward the Web site will be.

H_8: The more positive the perceived usefulness of a Web site is, the more positive the attitude toward the Web site will be.

H_9: The more positive the perceived ease of use of a Web site is, the greater the perceived usefulness will be.

Advertising studies have found a positive relationship between the attitude toward the ad and purchase intention. Similarly, Web advertising studies have revealed a similar effect (e.g., Bruner and Kumar, 2000; Choi, 2000; Choi *et al*., 2001; Stevenson *et al*., 2000). In particular, Bruner and his colleagues (Bruner and Kumar, 2000; Stevenson *et al*., 2000) found that people who had a positive attitude toward the Web site showed a high level of intention to purchase the advertised product. Choi and his colleagues (Choi, 2000; Choi *et al*., 2001) also discovered that when users' attitudes toward a Web site was high, the intention to revisit the Web site was also high.

Consequently, the following hypothesis is proposed:

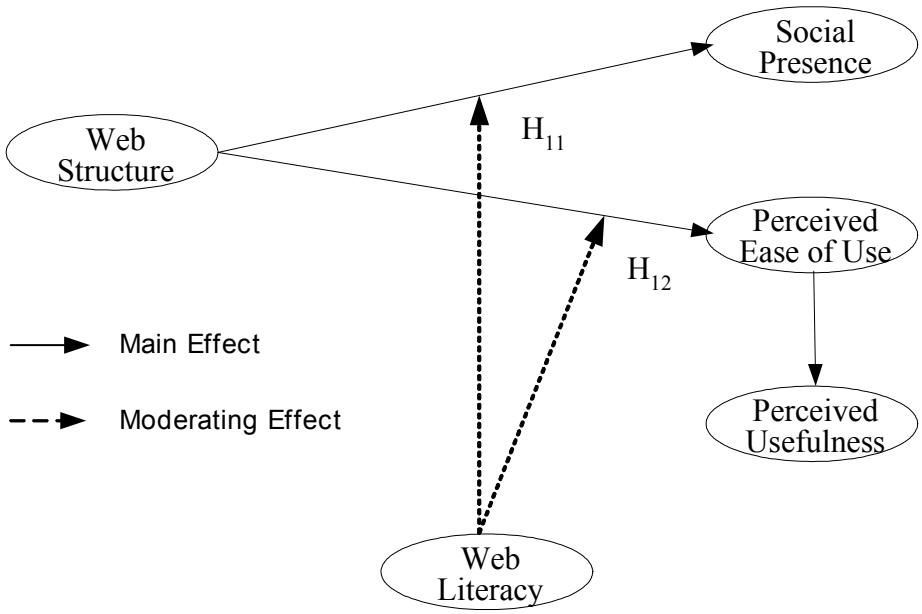
H_{10}: The more positive the attitude toward the Web site is, the higher the revisit intention will be.

4.3.2 Moderating Effects and Associated Hypotheses

The research model includes Web literacy, one of the key differences among individual users, as a moderating variable (See Figure 4.3).

As discussed before, the hypermedia structure of the Web provides an enormous mount of user control. If users with a high ability to control information on a Web site can achieve a great deal of interaction with a Web site, in turn, they will have high level of satisfaction with the Web site. However, a lack of control will have a negative effect on their affective and cognitive judgments. Thus, Web site effectiveness depends upon user ability to deal with hypermedia navigation (e.g., Chen and Ford, 1997; Heeter, 1995; Ijsselsteijn *et al*., 2000; Kubey and Larson, 1990; Lombard and Ditton, 1997; Wood, 1982). Web literacy represents a users' ability to control their interaction with the Web, which encompasses a complex set of experience, confidence, and familiarity with the Web, its constituent sites and the means available for "navigating" it.

Figure 4.3 Moderating Effects and Associated Hypotheses



Although many researchers assert that individual differences such as Web literacy should be included in any study of Web site effectiveness, at present only a few studies have been conducted (e.g., Bruner and Kumar, 2000; Raman and Leckenby, 1998). Given the limited numbers of studies to date, this study has only addressed the role of Web literacy in the formation of attitudes towards the Web site. First of all, in terms of social presence, Bruner and Kumar (2000) identified that users' Web experiences have a positive influence on communication effects. Similarly, Steinfield (1986) found that prior experience with electronic E-mail was positively associated with the social uses of E-mail. From the results of these studies it can be concluded that unfamiliarity with hypermedia frustrates novices and discourages a sense of social presence. Conversely, for experts who are familiar with hypermedia, the new technology will encourage a sense of social presence (e.g., Bone and Ellen, 1992; Lombard and Ditton, 1997).

Based on these findings, it is hypothesised that:

H_{11a}: People with high Web literacy will feel the "hypermedia" type of Web site to be higher in social presence than the "static image" type.

H_{11b}: People with low Web literacy will feel the "static image" type of Web site to be higher in social presence than the "hypermedia" type.

Consistent with previous findings, recent studies on the relationship between Web literacy and search performance revealed that people with high Web literacy spent less time to navigate a Web site, whereas people with low literacy surf a longer time on a Web site (Lazonder *et al*., 2000; Raman and Leckenby, 1998). One possible reason for

this is that the lack of prior experience or knowledge might cause navigation problems so it took more time for beginners to meet their needs (McDonald and Stevenson, 1998). Accordingly it is assumed that people with low literacy will consider a simple Web site to be easier to use than are with a complex hypermedia format. On the other hand, users with high literacy will not face as many difficulties in searching any type of Web site because they are familiar with hypermedia features.

Consequently, the following hypotheses are proposed:

H_{12a}: People with high Web literacy will perceive no difference in ease of use between the "hypermedia" type and the "static image" type of Web site.

H_{12b}: People with low Web literacy will perceive the "static image" type of Web site to be easier to use than the "hypermedia" type.