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**An Exploratory Investigation of Web Usage: Consumer Behavior, Information  
Search, and the Effects on Traditional Media Consumption**

Wendy Elana Borsuk

A Thesis

in

The Faculty

of

Commerce and Administration

Presented in Partial Fulfillment of the Requirements  
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# **Abstract**

## **An Exploratory Investigation of Web Usage: Consumer Behavior, Information Search, and the Effects on Traditional Media Consumption**

**Wendy Elana Borsuk**

The purpose of this research was to conduct an exploratory investigation into how individuals use the World Wide Web (also known as the “Web”). Specifically, the study examined Web users’ information search behavior; their motivations behind using the Web and their preferences for certain Web sites; as well as the effects of the Web on their consumption of traditional media.

In order to investigate the above issues, the study draws upon theoretical research in such areas as external memory and hotlists (Coupey, 1996; Hoffman and Novak, 1996); consideration sets (Schmidt and Spreng, 1996); the consumer information search process (Punj and Staelin, 1983); instrumental and ritualized media orientations (Rubin, 1984; 1993); and the Web’s effects on the use of traditional media (Georgia Tech Research Corporation, 1996a; 1996b).

To conduct this qualitative analysis of Web use, behaviors, and motivations, relationships were proposed and telephone interviews were used to solicit responses. The interview transcripts were studied in detail, respondents’ comments, feelings, and opinions were gathered, while tables and matrices were developed to systematically analyze the data.

Findings indicated that some relationships investigated were found to exist. Specifically, Web users tend to add a site to their hotlists when they expect to return to the site and when the site serves their specific interest(s). Results also showed that a negative relationship exists between Web use and the traditional media vehicles investigated, namely, television, newspapers, and magazines.

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## **Introduction**

In the past, individuals had to rely on traditional media that were non-interactive to learn about products and services. Companies could communicate and market their goods and services to consumers through such media vehicles as television, newspapers, and magazines. On the other hand, consumers could not communicate with these companies through the same means nor did they have control over what they heard or read.

Now, a new and interactive medium has been developed which negates some of the disadvantages of traditional forms of media. This revolutionary, non-traditional form of media is known as the World Wide Web (hereafter, the “Web”). Specifically, the Web allows consumers to interact with companies, post their own Web pages and personal information, and obtain control over what they choose to read and when they choose to read it (Hoffman and Novak, 1996).

This form of media has become increasingly popular among businesses and consumers for marketing, selling and communication purposes (Ducoffe, 1996; Hoffman and Novak, 1996; Thieme, 1996; Wehling, 1996). The growth of the Web is predicted to increase at a rapid rate, as companies and consumers strive to have their presence known all over the world. There are great marketing opportunities here because of the fact that the Web represents a new way that companies can communicate with their customers and market their products and services (*The Economist*, 1995).

Even though the Web is increasing in popularity, there has been a lack of systematic research on the subject (Berthon, Pitt, and Watson, 1996a; 1996b). Most studies that have been conducted are survey-based (Strauss, 1996) and are thus limited in the amount of data that can be collected. Therefore, up until now, researchers have not been able to fully investigate how individuals use the Web as well as their motivations and reasons for using the Web as an information source.

The current study aims to fill this need by examining Web usage in an exploratory and qualitative manner. Specifically, telephone interviews are used to investigate Web users' perceptions, feelings, views, and comments about their Web use as well as their motivations behind using the Web as a source of information. The study also uses respondents' comments to investigate the effects of the Web on their current consumption of non-interactive media vehicles, namely, television, newspapers, and magazines.

## **Significance of the Study**

The Web is a new and interactive medium for consumers, marketers and advertisers, quite different than the traditional forms of media such as television, magazines, newspapers, and radio (Ducoffe, 1996; Hoffman and Novak, 1996; Strauss, 1996; Wehling, 1996). Since its development in 1993, the Web has achieved widespread growth and the number of Web sites is expected to keep on growing (*The Economist*, 1995; Wehling, 1996). Over the past few years, much research has been conducted about the Web and about its users.

However, according to Berthon, Pitt, and Watson (1996a; 1996b), there is a lack of systematic research with respect to the Web. Most studies conducted have not fully investigated how people feel about the Web and how the Web has affected consumer behavior. It is therefore of utmost importance to conduct a study that not only examines what the Web is and who is using it, but that concentrates on how the Web has affected people's behaviors with respect to such issues as the search for information and media habits.

Given the need for new studies, a qualitative study has been developed that examines consumer behavior, information search, and decision making process on the Web. By conducting interviews and probing into Web users' behaviors, the current research will go beyond what has been conducted in the past to investigate these issues to a fuller extent.

Moreover, the study is important and very useful to the marketing, advertising, and communication areas. It is hoped that the results of the study will help marketers and



advertisers to better understand consumer behavior on the Web. Not only is it hoped that the research will help marketing and advertising practitioners, but it is also anticipated that the study will add to the existing descriptive literature and will be used a building block, as a basis for future studies conducted in this area.

The current research will focus on Web users' search behavior, their motivations for using the Web, as well as the effects of their Web use on their traditional media usage. The study will investigate other Web-related issues as well. It is important to examine the factors that attract Web users to Web sites and the reasons why they are not interested in others. Moreover, companies have been increasingly promoting their Web sites in traditional media such as television and print (Berthon, Pitt, and Watson, 1996a; *The Economist*, 1995). It is therefore important to investigate the sources that are used to find new Web sites as well as the reasons why they are popular or unpopular methods.

## Literature Review

### *The Growth of the Web*

According to *The Economist* (1995), the biggest market for the Internet is in the areas of advertising and marketing. The Web presents many great marketing opportunities because it is a new form of marketing, one that is interactive (*The Economist*, 1995). All this comes at a time when the Web continues to grow at a fast rate. According to *The Economist* (1995), the number of Web sites doubles every 53 days or really 50% per month. Moreover, *The Economist* (1995) reports that Internet use has been doubling in size since 1988 and reaches about 5 million host computers. "At the same time the Web grew almost 20-fold; in just 18 months users created more than 3 million multimedia pages of information, entertainment and advertising" (*The Economist*, 1995).

In fact, there has also been a rise in the number of businesses set up online as companies and consumers interact and increasingly use the Web to market and sell their goods and services (Ducoffe, 1996; Hoffman and Novak, 1996; Thieme, 1996; Wehling, 1996). *Inc. Technology* (1996), in a study conducted by O'Reilly & Associates Inc., reports that 21.5% of small businesses have Web sites, 21.1% of midsize companies have Web sites, while 34.5% of large companies have Web sites.

### *Efforts Made to Attract Users*

Companies, marketers, and advertisers are spending much effort, time, and money in developing Web sites in the hopes of catching Web users' attention, creating consumer awareness, enticing them to access the sites time and again, and perhaps even stimulating trial (Berthon, Pitt, and Watson, 1996a; Wehling, 1996). Because consumers strive to make more informed consumption decisions, Web sites increasingly contain value-added information (Wehling, 1996). For example, Procter & Gamble has come out with the Tide Stain Detective to give solutions on how consumers can remove various types of stains. Moreover, Chrysler has developed the Chrysler Technology Center, whereby users can get information about the company and can look at cars in the showroom (Wehling, 1996).

Other examples of Web sites that offer a little extra to the consumer include Federal Express, which offers its customers a way to track the status of their packages as well as hotel chains, such as Holiday Inn, which allow customers to book their reservations in advance (*The Economist*, 1995).

As mentioned before, it is very important for companies to make their Web sites known and to increase awareness of their sites among consumers (Berthon, Pitt, and Watson, 1996a). In fact, one reason why some people prefer certain sites over others which has received little attention is due to their lack of familiarity or awareness of the existence of other related and relevant sites. As a result, users continue to return to the same sites time after time. For example, a user whose interests lie in knitting may keep on returning to the

same sites over and over again because he is not aware of other knitting sites available on the Web.

One study, however, does examine this awareness factor and demonstrates its importance in marketing products and services on the Web. Specifically, Berthon, Pitt, and Watson (1996a) have developed an awareness efficiency index that measures how effectively a company is able to make consumers aware of its site (Berthon, Pitt, and Watson, 1996a). Thus, companies should not only want consumers to be aware of their Web site, but they should create a Web site that grabs users' attention and "captures the personality of the company and presents such useful information and services that consumers not only visit but return again and again" (Wehling, 1996).

Attracting new consumers can be accomplished by developing easy-to-remember Web site names, by using links, and by using sponsored search engines that are linked to the Web site (Berthon, Pitt, and Watson, 1996a).

Past research has found the determinants of Web site preferences to include how enjoyable the user found the experience, the ease of finding information, the site's layout, content that is interesting and useful, easy to read, and has appealing visual effects (Berthon, Pitt, and Watson, 1996a; Rice, 1997; Wehling, 1996). In fact, according to Rice (1997) and Wehling (1996), the most important factor in getting people to return to a Web site is content. And, according to the Georgia Tech Research Corporation (1996a), Web sites

whose content is updated on a daily basis are becoming more popular than those that do not.

Other ways marketers can ensure users revisit Web sites are to regularly update the Web site, to ensure the site is different from all others that offer similar information, products, or services, ask for Web and purchase feedback, and regularly update the transaction database so as to better inform users of any upcoming events and of the need to repurchase/reorder (Berthon, Pitt, and Watson, 1996a; Rice, 1997).

With the knowledge of the reasons why users visit a site in the first place and why they continue to revisit it, marketers are better informed on the factors that make for a successful Web site and can then take the necessary steps to ensure users come back to their sites. In this way, they can construct sites to contain elements that are perceived as having value and importance to their target market(s).

### ***External Memory and Consideration Sets***

On reviewing the consumer behavior literature, it appears that two streams of literature are relevant to the formation and use of hotlists: external memory and consideration sets. These two concepts will now be reviewed.

## **External Memory and Memory Aids - A Review**

There has been much research conducted on memory and its importance as a necessary component in the consumer information search and decision making process (Bettman, 1979; Biehal and Chakravarti, 1986; Lynch and Srull, 1982). This is because “consumers use information held in memory in the process of perceiving and interpreting incoming stimuli. In addition, information stored in memory is constantly being examined by the consumer in the course of making choices” (Bettman, 1979).

According to Bettman (1979), there are four major information sources that are stored in memory: “prior purchase experiences (including previous acquisition activities, word-of-mouth, etc.), previous low involvement learning, previous learning about the environment (“latent learning”), and the degree to which one uses internal (one’s own memory) as opposed to external (packages or lists) memory.”

This paper will mainly concentrate on external memory and its effects on the consumer information search process. The current study is limited to this area due to the fact that past research has shown the importance of external memories in computer-mediated environments (Coupey, 1996; Hoffman and Novak, 1996). For example, in their research, Hoffman and Novak (1996) include an external memory factor in their model of navigation of a computer-mediated environment. In addition, Coupey (1996) explains that external memory changes the way consumers find information and make decisions.

One reason why Hoffman and Novak (1996) have included external memory in their model is that research has also given support to the notion that computers provide the opportunity for consumers to have their own external memory files. Specifically, Coupey (1996) and Hoffman and Novak (1996) have found that hotlists are used as a form of external memory by Web users. External memory therefore plays an important role in the way consumers search for information on the Web.

### *External and Internal Memory*

According to Bettman (1979), external memory “is information available without needing to be stored in the consumer’s own memory” and is important in the consumer decision making process because it serves “to reduce the burden on the consumer’s internal memory.” Examples of items found in external memories include package information, buying guides, and shopping lists (Bettman, 1979).

The external memories which hotlists create “may influence not only consumer decision making across sites, but also the content and structure of site information in memory” (Coupey, 1996). In other words, hotlists are important in the information search process because they help change the way consumers find and use information to make consumption decisions. In addition, they affect the amount of external memory to which individual users have access (Coupey, 1996). External memory, therefore, has the capacity to affect the consumer search process and consumer decision making with respect to purchase or any other behavior.

### *Internal and External Memory Aids*

As part of the memory concept, research has also examined the issue of memory aids. According to Intons-Peterson and Fournier (1986), memory aids are “devices or strategies that are deliberately used to enhance memory.” There are two types of memory aids: external and internal memory aids (Harris, 1978; 1980). Internal memory aids involve “only internal, mental manipulation” (Harris, 1980). Similarly, Schils and Van der Linden (1991) define internal memory aids as “mental manipulation of the information, either by organizing the material to be memorized in such a way as to facilitate a later recovery, or by operating various strategies destined to store information in memory.” Examples of internal memory aids include stories, rhymes, face-name associations, mental rehearsing, and alphabet searching (Harris, 1978; 1980; Intons-Peterson and Fournier, 1986).

On the other hand, external memory aids involve the external/physical manipulation of the environment (Harris, 1980; Schils and Van der Linden, 1991). These type of aids also consist of “physical aids external to the person” (Intons-Peterson and Fournier, 1986). Examples of external aids include shopping lists and notes, diaries, asking someone to remind you, and calendars (Cavanaugh, Grady, and Perlmutter, 1983; Harris, 1978; 1980; Intons-Peterson and Fournier, 1986; Schils and Van der Linden, 1991).

According to Harris (1978), external memory aids can be divided into two categories. The first group of external memory aids are those whose role is the external storage of information, while the second category of external aids includes aids “that act as cues for action” (Harris, 1978). In light of the above classification, a set of hotlists falls into the



first category, as it acts as an external store of information (Coupey, 1996; Hoffman and Novak, 1996).

### *Internal and External Search*

According to Bettman (1979) and Schmidt and Spreng (1996), information search can be divided into two categories: information obtained from memory (internal search) and information obtained through sources external to an individual's memory (external search). According to Bettman (1979) and Schmidt and Spreng (1996), internal search occurs when individuals acquire information that is already available in memory. On the other hand, "external search involves seeking information from the environment because the required information was not previously acquired or is unable to be recalled from memory" (Schmidt and Spreng, 1996). Similarly, Bettman (1979) defines external search as "the acquisition of information from sources other than memory." Examples include friends, advertisements, and product packaging.

### **Consideration Sets - A Review**

Past research has shown that consideration sets are an important concept in consumer behavior and external information search activity (Brisoux and Laroche, 1980; Brown and Wildt, 1992; Darmon, Laroche, and Petrof, 1989; Kindra, Laroche, and Muller, 1989; Roberts and Lattin, 1991; Schmidt and Spreng, 1996).

Past literature has used the terms evoked set and consideration set interchangeably (Brown and Wildt, 1992; Roberts, 1989; Roberts and Lattin, 1991). The evoked set was

originally coined by Howard and Sheth (1969). They defined an evoked set as a set of "... brands that the buyer considers acceptable for his next purchase." Similarly, a consideration set is defined as "the brands that a consumer would consider buying in the near future" (Roberts and Lattin, 1991).

Following the research of Brown and Wildt (1992) and Roberts and Lattin (1991), the current research will also use the term consideration set in the remainder of the paper, unless a specific study uses the term evoked set. The term consideration set was chosen due to "the ambiguity surrounding evoked sets" (Roberts and Lattin, 1991) and the fact that the term consideration set is more widely used in the literature than is evoked set (Brown and Wildt, 1992).

The consideration set is a vital component to consumer decision making and consumer choice because it is from these sets that consumers choose the brands that they will purchase (Brown and Wildt, 1992; Hauser and Wernerfelt, 1990; Roberts, 1989). Consumers are faced with many alternatives in making a consumption decision. Consideration sets allow them to narrow down all possible brands, thus decreasing the search time of all available options and helping them make easier and quicker purchase decisions (Crowley and Williams, 1991; Roberts and Nedungadi, 1995; Sambandam and Lord, 1995). Moreover, in their study, Sambandam and Lord (1995) found that consideration sets have a very important "role in a consumer's decision to switch or repurchase the same brand acquired on the previous purchase occasion."

Past research has stated that consideration sets are dynamic, that they evolve during the information search process, and that they are influenced by external forces, such as advertising and new competing brands (Brown and Wildt, 1992; Hauser and Wernerfelt, 1990; Roberts, 1989; Roberts and Nedungadi, 1995). Consideration sets are also known to vary by consumer, by time, by product, and by choice situation (Brown and Wildt, 1992).

Schmidt and Spreng (1996) propose a relationship between evoked sets and external consumer information search. According to the authors, “the evoked set size is expected to influence the perceived benefits of information search positively because there is potentially more useful information available where there are more brands in the evoked set.” Also, “more information may be needed to make a choice from a larger evoked set” (Schmidt and Spreng, 1996). The authors therefore propose that “larger evoked sets increase the perceived benefits of external information search activity.” Indeed, Schmidt and Spreng base their proposition on past research that has found that the size of the evoked set is positively associated with the amount of external search activity (Newman and Staelin, 1972; Srinivasan and Ratchford, 1991).

In addition, Schmidt and Spreng (1996) also propose that “larger evoked sets increase the perceived cost of external information search.” The authors believe that larger consideration sets should increase the costs of external information search because “larger evoked set sizes imply greater cognitive costs in evaluating alternatives and greater time costs in this processing.”

### *Consideration Sets and Awareness Sets*

Another concept that has been shown to affect consideration sets is the awareness set. Awareness sets represent the sets of brands that the consumer is aware of (Brown and Wildt, 1992). Research has shown that awareness set size may affect consideration set size. For example, Brown and Wildt (1992) found that consideration set size is positively associated with awareness set size. Therefore, the more brands a consumer is aware of, the more brands are in the consideration set. On the other hand, a small awareness set may lead to a small consideration set (Brown and Wildt, 1992).

This has important marketing implications because when consumers have small consideration sets, it is more difficult for marketers to move their brands into these small sets (Brown and Wildt, 1992). It is therefore quite important for a company to be the first one in an individual's consideration set. This is because after a certain number of brands are in a consumer's consideration set, marketers have difficulty in getting their products and services in the set.

It can also be inferred that when there are few brands in a consumer's consideration set, he may not be willing to examine the potential inclusion of other brands in into his consideration set. In this case, marketers must ensure that consumers are aware of their brands because it is only when consumers are aware of their products and services that they can be considered in future purchases. Marketers must also make sure that consumers perceive their products and services in a positive way and that they put these brands in their consideration sets (Crowley and Williams, 1991).

### *Consideration Sets and Pioneer Brands*

One stream of literature that seems quite relevant here appears to be the literature on pioneer brands and pioneer or first-mover advantages. Companies want their brands to be in consumers' consideration sets because these sets contain the brands that they will consider purchasing in the future. It is also important for companies to create new brands before their competitors. As will be discussed, pioneers often obtain advantages for being the first in the market. Thus, in order to increase the probability of being included in a consideration set, it is important for a brand or a company to be the first one or the pioneer in a product or service category.

Golder and Tellis (1993) define a product pioneer as "the first firm to develop a working model or sample in a new product category." They also define a market pioneer as "the first firm to sell in a new product category." Meanwhile, Lieberman and Montgomery (1988) "define first-mover advantages in terms of the ability of pioneering firms to earn positive economic profits ..."

Moreover, pioneers or first-movers are brands that entered early in a new product category and are known to have large market shares (Carpenter and Nakamoto, 1989; Golder and Tellis, 1993; Robinson, 1988). In fact, some researchers have stated that these type of brands become market leaders (Golder and Tellis, 1993). Also, Robinson (1988) found that "by being first, pioneers in industrial markets frequently have the opportunity to develop sustainable competitive advantages."

According to Alpert and Kamins (1994), “Understanding the underpinnings of PBA (pioneer brand advantage) is extremely important because, by definition, PBA is unique and cannot be imitated, unlike, say, a low price, which often can be matched by new entrants. Thus PBA can be a cornerstone of effective strategy in today’s highly competitive markets.”

Moreover, as Kardes and Kalyanaram (1992) found, “ because the features of the pioneer brands are novel and attention-drawing, they are weighed heavily in judgment ... Because more is learned about the pioneering brand than about later entrants, evaluations of the pioneering brand are more extreme and tend to be held with greater confidence ... consequently, the pioneer was strongly preferred over later entrants.” These beliefs about the pioneering brand are so strong and so persistent over time that the brand is able to resist its competition (Kardes and Kalyanaram, 1992).

In addition, research has also found that “the pioneer strongly biases category preferences through prior exposure and successful outcomes” (Carpenter and Nakamoto, 1989). Thus, the pioneer sets the stage for future competitors and creates a standard from which consumers can judge the brand against later entrants.

Given the above, it can be seen that brands or companies which are pioneers in the market can gain many advantages over later entrants. In order for a brand to be positioned as number one in a consumer’s consideration set, it must have many advantages over its

competition. One major benefit of being a pioneer is the high probability that the brand will be first in a consumer's consideration set.

## *Hotlists*<sup>1</sup>

### **Hotlists - A Review**

Hotlists are a very important tool used by Web users. A hotlist is composed of a list of Web sites which users frequently access. These sites are most likely to be users' favorite Web sites or sites of interest (Coupey, 1996; Hoffman and Novak, 1996). Those users who access the Web through Netscape refer to this list of sites as their 'bookmarks'. On the other hand, Web users who access the Web through Internet Explorer refer to this list as their 'favorites'. The option of creating hotlists is available to users the first time they access the Web.

The process of creating hotlists is rather simple. While on a site, users simply have to click on the "bookmarks" or "favorites" icon that appears at the top of the screen and scroll down until they reach the command that will add the site to their "bookmarks" or "favorites." Once they click on this command, the site is automatically added to their hotlists. A site can also be deleted from hotlists by clicking on the bookmark icon at the

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<sup>1</sup> Please note that, except when quoting from past research or from a participant in the interviews, the term "hotlist" is used (following Catledge and Pitkow, 1995) to refer to "bookmarks," used by Netscape and "favorites," developed by Microsoft.

top of the screen, then by clicking on 'Go To Bookmarks,' followed by clicking on the site that you want to delete, and then by hitting the delete key.

Depending on the browser and the version that is being used, sites may be added to a user's hotlists automatically in alphabetical order. If a user does not have a program that contains this function, then he can alphabetize them himself. Moreover, sites that are found in hotlists can be further organized according to categories. Creating these folders allows users to easily find a specific area that they may be looking for. For example, a user may have divided his hotlists according to the following categories: research, entertainment, news, and gardening.

It is very easy for users to use their hotlists. They simply have to click on the "bookmarks" or "favorites" icon that appears at the top of the screen, and, if they do not have their hotlists organized according to categories, they scroll down until they find the site that they are looking for. On the other hand, if they do have categories, then they must go through the category titles to find the appropriate one. Once they have found the category that contains the site they are looking for, they click on the title and obtain a list of sites. In either of the two cases above, once users reach the site that they need, they simply have to click on the name and they are automatically linked to the site.

Thus, the process of using hotlists or of clicking on a certain site (or item) that appears in a user's hotlists, is an easy way for users to return to sites that they have previously visited (Coupey, 1996). Due to the reasons above, hotlists also decrease Web users' access and



transaction costs. Because Web users have control over the number and type of items in their hotlists, marketers must try to ensure not only that consumers are aware of their Web sites, but that they designate the sites as items in their hotlists.

However, researchers are just beginning to investigate how Web users use hotlists and the number of items they have stored (Georgia Tech Research Corporation, 1996b). For example, the Georgia Tech Research Corporation (1996b) reported that 37.6% of users have 11-50 items in their hotlists, while 77.3% have over 11 items, and 18.7% have over 100 items.

#### *Consideration Sets, Awareness Sets, External Memory, and Hotlists*

As previously stated, the concepts of consideration sets, awareness sets, and external memory are important to the investigation of Web users' formation and use of hotlists. As such, there is a need to further examine these issues in relation to the creation and use of hotlists.

#### Consideration Sets and Hotlists

Hotlists contain items or sites, while consideration sets consist of brands. It is believed that the sites that are found in hotlists are like the brands that are found in consideration sets, even though research until now has examined consideration sets in the context of brands and has yet to investigate these issues in the context of Web sites. More specifically, the items in hotlists often are brands of different kinds: media brands (such as *CNN*, *The Wall Street Journal*, and *The Globe and Mail*); store brands (such as IGA for groceries, Barnes

and Noble for books); non-store retailing brands (such as Land's End); or product brands (such as Saturn, Fidelity, and Molson).

Thus, consumers may access Web sites (or different types of brands) in their hotlists depending on their purpose for using the Web (such as for purchasing, looking for information, or finding out a Web site address). For example, Hoffman, Novak, and Chatterjee (1995) have developed a classification of commercial Web sites which identifies two major categories of sites: "Destination Sites" and "Web Traffic Control Sites." Destination Sites are those which "... comprise the ultimate "destinations" competing for consumers' share of visits on the Web" (Hoffman, Novak, and Chatterjee, 1995). Examples of Destination Sites include online storefronts (give consumers the opportunity to purchase a product or service, such as buying from a Land's End catalogue); Internet presence sites (provide information or create a brand image and try to build a relationship with the consumer, such as Federal Express and *The Late Show with David Letterman* on the CBS Web site); and content sites (consumers pay for access or advertisers pay to be included in a database).

Meanwhile, Web Traffic Control Sites "... function to direct consumers to these various Destination Sites" (Hoffman, Novak, and Chatterjee, 1995). They include malls (a group of online storefronts, such as eMall); incentive sites (contain advertising that entices consumers to a site); and search agents (also known as search engines, such as Yahoo, Lycos, and Infoseek).

One reason why it is believed that the items in hotlists are similar to the brands that are found in consideration sets is that like items in hotlists, consumers can add or delete brands from their consideration sets (Hauser and Wernerfelt, 1990). The process of consideration set formation is a major factor in consumer brand switching “because a decision to switch is not likely without first considering the availability and attractiveness of one or more alternatives” (Sambandam and Lord, 1995). Lapersonne, Laurent, and Le Goff (1995) argue that when a consumer builds a consideration set, he “will decide to stop if a further search for possible solutions is not perceived to be potentially cost-effective.” Under this cost-benefit approach, “consumers weigh the costs of evaluating a brand for membership in the consideration set against the benefits of adding (or dropping) the brand” (Roberts and Nedungadi, 1995).

Furthermore, a “brand will be added to the consideration set if its expected incremental value for consumption occasions exceeds the cost of deciding among considered brands at consumption occasions” (Hauser and Wernerfelt, 1990). A brand will be dropped from the consideration set if the utility of the brand changes to a point where the consumer does not see the value in having the brand in his consideration set. This can be due to changes in an individual’s needs, changes in the product or service or changes in advertising (Hauser and Wernerfelt, 1990).

Moreover, sites are added to and deleted from hotlists in a manner that is similar to the addition and deletion of brands from consideration sets. A user will add a site to his

hotlists when he feels it can benefit him. On the other hand, when he finds that he does not need a Web site or that it is no longer of value to him, he will delete it.

Another reason why items in hotlists are like brands is that they both represent and refer to products and/or services that are available on the market. Consumers can identify a certain product or service through its brand name or its Web site, can search for more information about it, and can generate attitudes towards the product or service.

There is a difference, though, in how sites and brands are classified. Specifically, sites consist of specific addresses, while brands are specific brand names of products and services. Thus, brand names may be easier to remember than Web site addresses. Web users, however, who use hotlists, do not have to worry about trying to remember these sometimes long and complicated addresses because they are saved in their hotlists.

Another similarity between hotlists and consideration sets is that they both represent a group of alternatives, be it Web sites or brands, from which a consumer chooses to either access or think about purchasing. An item found in an individual's hotlists or consideration set has an advantage over those which are not. An item is placed in such a group because the person is thinking about using it some time in the future. Thus, it seems that an item found in a consumer's hotlists or consideration set has a greater probability of being chosen than those items which are not.

Hotlists and consideration sets are also similar with respect to the type of items they contain. In order to add a site to his hotlists, a Web user must first be aware of the site. Similarly, an individual cannot have brands in his consideration set without being aware of them. Thus, awareness is a major criteria for the inclusion of a site in a user's hotlists and of a brand in a consumer's consideration set.

Another reason why hotlists and consideration sets as similar is that they both evolve over time and vary by individual. Hotlists change over time because Web users add sites to and delete sites from their hotlists, while consideration sets are dynamic because they vary with uncontrollable factors, such as advertising, price, and competition (Brown and Wildt, 1992; Hauser and Wernerfelt, 1990; Roberts, 1989; Roberts and Nedungadi, 1995).

Moreover, another similarity between hotlists and consideration sets is the amount of time they save consumers in their information search process. Specifically, hotlists and consideration sets decrease the search time of available alternatives and help individuals make easier and quicker purchase decisions (Crowley and Williams, 1991; Roberts and Nedungadi, 1995; Sambandam and Lord, 1995).

However, one way hotlists differ from consideration sets is in the number of items that these lists can contain. Due to their characteristics, hotlists have the potential to store more items with greater ease and in a more efficient manner than do consideration sets. Since consideration sets deal with specific brands, consumers can have different consideration sets for various product categories (laundry detergent and electronic goods,

for example). Thus, individuals may have many consideration sets with few brands in each. Consumers can also have a few consideration sets with many brands in each.

On the other hand, Web users have one major area where they can store their favorite or frequently visited sites. They can also, however, alphabetize and organize the items in their hotlists into categories and sub-categories, so that a certain item is easier to find. Even though users can have different classifications for different product and/or service categories in their hotlists (similar to consideration sets), it is believed that the number of items in a user's hotlists can outnumber the number of brands in a consideration set. An individual who makes a list of brands that he may purchase in the future must exert effort in writing them down and then trying to avoid losing the list. On the other hand, adding a site to one's hotlists does not require much effort and because one simply has to click on the "add to bookmarks" or "add to favorites" icon. As opposed to the brands in consideration sets, the items in a user's hotlists are stored in a computer. Thus, there is no fear of losing these favorite or frequently visited sites.

It has become increasingly difficult for managers to get their brands into consumers' consideration sets and increase their market share. This is because of the high proliferation of brands available in the market (Roberts, 1989; Roberts and Nedungadi, 1995). However, companies can gain large market shares by having their brands in more consumers' consideration sets than their competition (Roberts and Lattin, 1991).

On the other hand, it is also important for marketers to find out the reasons why their products and services may not be in most consumers' consideration sets. In his research, Roberts (1989) provides a framework to why people do not consider products and services in their future purchase decisions. For example, if consumers perceive the brand as unacceptable, marketers can check their perceptions of the brand and they can also change an attribute that is not positively viewed.

It is important to mention the relationships proposed by Schmidt and Spreng (1996) which were previously discussed. These proposed associations do not directly apply to this study. Schmidt and Spreng examined consideration sets, focusing only on brands which are considered for future purchase. In fact, past studies have only examined consideration sets in the context of durable goods, packaged goods, and industrial products (Roberts, 1989; Roberts and Lattin, 1991). Moreover, there is no research on consideration sets which has gone beyond brands to examine hotlists and external memory. Thus, this study will substitute brands with hotlists and external memory in the context of consideration sets in order to examine how these concepts aid in the consumer information search and decision making process.

#### Awareness Sets and Hotlists

Hotlists can also be considered as awareness sets under certain circumstances (even though it is believed that hotlists are more like consideration sets). As previously stated, an awareness set represents the set of brands that the consumer is aware of (Brown and Wildt, 1992). As such, these brands have the potential to enter an individual's

consideration set. Hotlists, on other hand, represent sites that are frequently visited, favorites, or of interest to the individual (Coupey, 1996; Hoffman and Novak, 1996). In order for an item to be added to an user's hotlists, the user has to be aware of it. Thus, hotlists are like awareness sets because they contain sites which the individual is aware of.

Not only do hotlists contain sites that the user is aware of, but they also have sites that the individual will access at one point or another. Thus, hotlists are often more than awareness sets because they may go beyond the awareness stage and contain sites that consumers actually access.

Another way hotlists and awareness sets differ is the number of items that a consumer is aware of. An awareness set contains all the brands which an individual is aware of. However, "the awareness set might be too large for consumers to process due to the natural limit of their cognitive capacity. Consequently, it can be assumed that consumers can completely process only a subset of the awareness set" (Darmon, Laroche, and Petrof, 1989). Thus, individuals do not have the potential to be aware of all the brands that exist.

However, the situation is different for hotlists. Because hotlists represent a form of external memory, individuals are not limited by their cognitive capacities. They can add as many items as they wish to their hotlists without much mental processing. Not only do hotlists allow users to easily store Web sites that they are aware of, but there is a possibility that a user will not have all the sites that he is aware of in his hotlists. The reason for this is that just because an individual is aware of certain sites, does not mean



that he will add them to his hotlists. He may use other methods besides hotlists to access sites, such as typing in the address.

It is very important for companies, however, to try and get their products and services into consumers' awareness sets. Lavidge and Steiner (1961) have designed one of the hierarchy of effects models which explains the stages consumers go through from the time they are first exposed to the product or service to the actual purchase (Kindra, Laroche, and Muller, 1989). According to the Lavidge and Steiner Model (1961), awareness represents the first stage out of six that consumers go through after having seeing a product, service, or advertisement. Thus, it is only after people are aware of a product or service that they can proceed to gain knowledge, liking, preference, conviction, and actually purchase the item (Lavidge and Steiner, 1961).

### ***The Consumer Information Search Process***

Another stream of research that has been found to be an important concept in Web users' behaviors is the consumer information search process. This section will examine this concept in further detail.

Consumers may seek various types of information sources in their search for information on a specific product or service and in their quest for new Web sites. Punj and Staelin (1983) have identified the Amount of External Information Search as one of the major constructs of the model of information search. External search involves interpersonal sources, such as friends and product owners as well as the media, such as the number of

hours spent reading magazines, reading newspapers, listening to the radio, and watching television (Furse, Punj, and Stewart, 1984; Kiel and Layton, 1981; Punj and Staelin, 1983).

Also, consumers are constantly searching for information on products and services in order to make more efficient purchase decisions (Punj and Staelin, 1983). Past studies on information search behavior have determined that time and cost factors are important dimensions to consider when searching for information (Hauser, Urban, and Weinberg, 1993; Kiel and Layton, 1981; Punj and Staelin, 1983; Schmidt and Spreng, 1996). Specifically, research has shown that the information search process is positively related to the benefits of search (cost savings), while search has been found to be negatively associated with the costs of search (Punj and Staelin, 1983). In other words, consumers who feel that their searches require too much time and money will tend to decrease their amount of search. On the other hand, people who feel that they can benefit from the cost savings of their searches will tend to increase their information search.

The amount of information that is acquired and processed depends on the complexity and the frequency of the decisions (Bettman, 1979). For example, for non-routine decisions as opposed to more frequently made decisions, consumers may have to decide how to gather the information, they will have to choose the sources from which to acquire the information, as well as the type and amount of information to gather (Bettman, 1979).

### *Sources of New Web Sites*

Past research has also investigated the sources that people use to find new Web sites. Links, word-of-mouth, media, search engines, and typing in addresses, are among those sources that Web users consult to find new Web sites (Berthon, Pitt, and Watson, 1996a; Georgia Tech Research Corporation, 1996b; *The Economist*, 1995).

#### Links

Links are a very important tool used in attracting consumers to Web sites as well as a popular source of new Web sites (Berthon, Pitt, and Watson, 1996a). It is for this reason that companies wish to have links to their site on other companies' Web sites. Users often use links as a source of new Web sites because they provide them with sites that are relevant and related to the original site (Berthon, Pitt, and Watson, 1996a). In fact, according to the Georgia Tech Research Corporation (1996b), 86.92% of respondents use links as a source of new Web sites, while 64.16% use links from page to page as a way of browsing.

#### Word-of-Mouth

There is a lack of research conducted on the use of word-of-mouth in finding new Web sites. How popular are friends, family, co-workers, and opinion leaders as sources of new Web sites? One study conducted by the Georgia Tech Research Corporation (1996b) determined that 56.66% of respondents found out about Web sites through their friends. However, research is needed to examine the other possible influences that can affect users' knowledge of new Web sites.

## Media Sources

Additionally, many companies have started including the addresses of their Web sites in their television and print advertising (Berthon, Pitt, and Watson, 1996a; *The Economist*, 1995). Because the media have increasingly become popular listings for Web sites, it is important for marketing and advertising researchers to better understand how and under what circumstances people turn to traditional media for Web sites. Web site addresses are appearing in television shows (for example, Dateline NBC, CTV Sports, and CBC News) and in television ads (for example, Toyota, Apple Macintosh Computers, and Bell Canada); in radio shows (for example, Q92 and Mix 96) and in radio ads (for example, Pinkerton Flowers and BelAir Insurance); in magazine articles (for example, *Nature* and *Science*) and magazine ads (for example, Hewlett Packard, Bacardi Rum, and Pontiac); as well as in newspaper ads (for example, Compaq and Canada RRSP Bonds). In fact, the Georgia Tech Research Corporation (1996b) recently reported 67.95% of respondents used print media as a source of new Web sites, while 35.54% used television.

Not only are companies starting to advertise their Web sites, but according to a study conducted on Web site addresses, Maddox, Mehta, and Daubek (1997) found that “consumers are quickly coming to expect that advertisers will include URL’s (their Web addresses) in ads. Therefore, an advertiser who does not include one, even within six months, could expect that its image be tainted.”

Moreover, Maddox, Mehta, and Daubek (1997) found that out of a total of 410 respondents (non-Web users and Web users), 60% mentioned that they saw ads with a

Web address on television. Another 20% noticed Web addresses in magazines, 17% noticed them in newspapers, while 16% heard them on the radio. Web addresses were seen in direct mail by 10% of respondents, while 9% and 6% of the sample noticed Web addresses in brochures and billboards, respectively.

### Search Engines

In addition, it is very useful to investigate the use of search engines among Web users. This is because search engines represent a very important tool when searching for specific Web sites. In fact, search engines are used as a way of attracting consumers to specific Web sites (Berthon, Pitt, and Watson, 1996a). The popularity of search engines is shown by the fact that 87.71% of respondents chose this method as a source of new Web sites, while 78.10% use search engines like Lycos and another 59.45% use larger search engines like Yahoo (Georgia Tech Research Corporation, 1996b).

### Typing in Addresses

Typing in Web addresses is another way by which Web users can access sites. This method has not received as much attention as those previously discussed and thus lacks research. However, a couple of studies have been done that investigated this issue. For example, the Georgia Tech Research Corporation (1996b) found that 69.44% of users will type in addresses when browsing the Web.

Yet another study examined the effects of Web addresses in traditional media (Maddox, Mehta, and Daubek, 1997). The researchers found that of the respondents who

remembered seeing the Web site address in a traditional media vehicle, only one out of eight actually visited the site. Thus, in contrast to the survey conducted by the Georgia Tech Research Corporation (1996b), this study seems to indicate that individuals very infrequently type in addresses. The research, however, did not examine the percentage of time Web users type in addresses in their daily Web use.

#### Other Methods to Find New Web Sites

Other possible methods that marketers and advertisers can use to promote their Web site addresses are through product packaging, as well as other types of communications, such as letterheads and business cards (Berthon, Pitt, and Watson, 1996a). In addition, the Georgia Tech Research Corporation (1996b) found that 34.25% of respondents use Usenet Newsgroups as a source of new Web sites.

#### ***Instrumental and Ritualized Media Use***

There has been much research conducted on the types of media orientations that individuals use in how they consume media. Greenberg (1974) and Rubin (1979) identified several television viewing motivations: to learn, and as a habit/to pass time, for arousal, for companionship, to relax, and to forget/escape. Later, Rubin (1984) identified these television viewing motivations as instrumental and ritualized, respectively.

### **Instrumental Media Orientation - A Review**

An instrumental media orientation refers to a selective, involved, intentional, and goal-directed use of media, with emphasis on seeking information and learning (Perse, 1990; Rubin, 1981; 1983; 1984; 1985a; 1985b; 1993; 1994; Rubin and Perse, 1987a; 1987b; Rubin and Rubin, 1982). Instrumental users tend to have a greater exposure to news and informational content (Rubin 1994). Contrary to Rubin (1983; 1984; 1985b), research has also found that this type of media use is also entertaining and exciting (Perse, 1990; Rubin, 1981).

### **Ritualized Media Orientation - A Review**

On the other hand, a ritualized media orientation is more frequent exposure to the medium rather than the content itself, is less selective, and is based on habit, companionship, relaxation, escapism, relieving boredom, excitement/arousal, distractions, passing time, and entertainment (Perse, 1990; Rubin, 1981; 1983; 1984; 1985a; 1985b; 1993; 1994; Rubin and Perse, 1987a; 1987b; Rubin and Rubin 1982).

### *Media Vehicles and Their Media Orientations*

A certain medium can have different media orientations for different people or for the same individuals depending upon the situation and/or the program aired, in the case of television (Rubin, 1984). Rubin (1984) found that television can be used with a ritualized orientation, where people watch for entertainment, companionship, relaxation, out of habit, for arousal, and to pass time. In addition, Rubin (1984) also found proof of instrumental television use, where individuals watch television to learn about events, to

learn about certain topics that can be used in future conversations, and as a form of behavioral guidance.

Research has also been conducted on radio listenership and its functions. Mendelsohn (1964) found that radio is used to gain information, to be entertained, to fill time, and to decrease boredom. He also found that radio can relax listeners and act as a companion for people who are lonely.

### **Uses and Gratifications Approach - A Review**

Past studies conducted on instrumental and ritualized media orientations have based users' motivations on the uses and gratifications approach. Basically, this approach "looks to the audience to understand media uses and effects because people are seen as active in choosing and using media and their content" (Perse, 1990). Among the assumptions of the uses and gratification approach are that the audience is active and goal-directed and that people are capable of reporting their motivations in response to different media (Katz, Blumler, and Gurevitch, 1974). Therefore, this approach to communication tries to understand the circumstances under which people use media and their motivations to their exposure to the different media vehicles.

### **The Importance of User Motivations**

Most of the literature available on users' motivations have focused on the television medium, with some research conducted on radio. Within the last couple of years, there has been an increase in the number of studies on Web users' motivations and perceptions of



different types of Web sites (Berton, Pitt, and Watson, 1996b; Ducoffe, 1996; Eighmey, forthcoming; Eighmey and McCord, forthcoming). Results have shown that some of the types of gratifications that can be found in traditional media can also be applied to the Web (Eighmey and McCord, forthcoming).

The importance of media orientations is also shown in the work conducted by Hoffman and Novak (1996). They have included these dimensions as part of their network navigation model in a hypermedia computer-mediated environment. People using the Web for a specific purpose experience use the Web instrumentally, while those individuals who surf the Web to find interesting sites take on a ritualized orientation (Hoffman and Novak, 1996).

In addition, Berton, Pitt, and Watson (1996b) show the importance of determining the motivations behind using the Web by examining the concept in their model on the perspectives of re-surfing the buyer. According to the authors, this model contains a psychological/motivational perspective that deals with such issues as the reasons why the buyer is using the Web. Does the individual look to the Web for entertainment, to gain information, to meet people or to purchase?

Ducoffe (1996) found that informativeness and entertainment are important factors in predicting the value of Web advertising and overall Web attitudes. Respondents more strongly felt that the Web is a source of relevant and timely information than that it is entertaining, enjoyable, and exciting.

Similarly, Eighmey (forthcoming) and Eighmey and McCord (forthcoming) have investigated how Web users perceive different types of Web sites and their motivations behind searching and browsing through them. Results from both studies showed that users find that information and entertainment are important features of Web sites. Furthermore, Eighmey and McCord (forthcoming) examined new uses and gratifications dimensions related to the Web: Personal Involvement (how personal the Web site is) and Continuing Relationship (how much the user would like to visit the site again). These two new dimensions emerged as important factors in users' perceptions of Web sites.

The above literature demonstrates that researchers are beginning to investigate how the uses and gratifications approach applies to the Web. Nevertheless, instrumental and ritualized media use have yet to be fully examined in the context of this new medium. Indeed, a study conducted by the Georgia Tech Research Corporation (1996b) has examined the purposes of using the Web. The research found that the most common Web activities are: browsing (77.08%), entertainment (63.79%), education (53.29%), work (50.9%), and shopping (18.83%). However, these two media orientations are currently not clearly understood with respect to the Web as most studies have been conducted with the television medium.

### **Media Vehicles and Their Motivations**

Among the different media vehicles used, television is the highest source used for entertainment, followed by radio, magazines, and newspapers (Larkin, 1979). Television is also the most popular medium that people turn to for world and national news, followed

by newspapers, radio, and magazines (Larkin, 1979). Newspapers are most often the first choice for shopping information (Larkin, 1979). Another study found that people are more satisfied with the informational value of magazines than television (Soley and Reid, 1983). According to Larkin (1979) and Soley and Reid (1983), newspaper ads were found to be most informative compared to television, radio, and magazine ads.

### **Browsing Strategies**

Research has investigated user strategies in computer-mediated environments (Catledge and Pitkow, 1995; Cove and Walsh, 1988). Most of the literature differentiates between two strategies: browsing and searching (Catledge and Pitkow, 1995). In their study, Catledge and Pitkow (1995) use the three browsing strategies discussed by Cove and Walsh (1988). These browsing strategies are: "Search browsing; directed search, where the goal is known; General purpose browsing; consulting sources that have a high likelihood of items of interest; and Serendipitous browsing; purely random" (Catledge and Pitkow, 1995).

Moreover, Catledge and Pitkow (1995) go on to state that "This continuum provides a nice middle ground to distinguish between browsing as a method of completing a task and open ended browsing with no particular goal in mind."

Closely related to the type of browsing strategy a user takes on is the amount of Web use. If the user wishes to gain information (instrumental use), then he will spend less time browsing on the Web compared to an individual who is surfing through interesting Web

sites to waste time (ritualized use). In addition, Catledge and Pitkow (1995) propose “that browsers spend less time on pages and within sites than searchers.”

Thus, ritualized users are browsers because they have been found to browse through Web sites without any specific purpose in mind (Hoffman and Novak, 1996). It has also been concluded that ritualized users tend to chat on the Web more than instrumental users (Hoffman and Novak, 1995). On the other hand, instrumental users are classified as searchers because they tend to perform goal-oriented activities, such as searching for information and shopping online (Hoffman and Novak, 1996).

It is therefore believed that ritualized users are serendipitous browsers and use the open ended browsing strategy. On the other hand, instrumental users are search browsers and use the task oriented method of browsing.

### ***The Web's Effects on the Consumption of Traditional Media***

#### **The Web's Effects on Television Viewership**

Past research has shown that Web/Internet use results in less time spent watching television (Georgia Tech Research Corporation, 1996a; 1996b; Satran, 1996). The Georgia Tech Research Corporation (1996b) reported that almost 37% of respondents say that they use the Web instead of watching television. (The Georgia Tech Research Corporation, 1996a reported a similar figure of 36%.)

However, Coffey and Stipp (1997) report that the Web is not negatively affecting television viewership levels as once first thought. Their study found that computers have not replaced television and that Web users have neither given up nor have dramatically reduced the length of time they spend watching television.

### **The Effects of Web Use on Other Media Vehicles**

There is a lack of research examining how the Web has affected the consumption of the other forms of traditional media, such as radio, magazines, and newspapers. However, in a study done by Coopers & Lybrand (an accounting and consulting company), it was found that people who spend time online have increased the number of computer related magazines they read (Satran, 1996). Nonetheless, it does seem unclear how these traditional forms of media will be affected by the Web. Therefore, research needs to be conducted on this subject matter.

### **Characteristics of The Typical Television Viewer**

Nevertheless, past research has examined the characteristics of the typical television, radio, newspaper, magazine, and Web user. Becker and Connor (1981) discovered that television viewership was unrelated to gender, but that television use increased with age and decreased with more education. Similarly, Waldrop (1993), in a study conducted by the A.C. Nielsen Company, reported that older adults watch more television than younger adults. In contrast to Becker and Connor (1981), Nielsen found that more women watch more television men (Waldrop, 1993).

### **The Characteristics of The Typical Radio Listener**

In his study, Peterson (1972) found that people who are heavy radio listeners are female (66%), are young (average age is 24.8), and have low incomes (average income is \$6,700).

### **The Characteristics of The Typical Newspaper and Magazine Reader**

With respect to newspapers, Becker and Connor (1981) found that more females, older individuals, and more educated people read this type of medium. Similarly, according to Schwartz and Exter (1991) who analyzed data from Mediamark Research, newspaper readership increases with age and education. The people most likely to read newspapers are aged 35 to 54 (Schwartz and Exter, 1991). Moreover, Reina (1995), in a survey conducted by Yankelovick Partners, Inc., stated that those people reading newspapers the most are college graduates (72%), have higher incomes (\$50,000 or more), and are 50 years old or more.

Becker and Connor (1981) found that magazine usage was unrelated to gender, but that heavy magazine readers tend to be better educated and older than light magazine users. In fact, Becker and Connor (1981) found that there exists a weak, but positive association between newspaper and magazine readership.

### **The Characteristics of The Typical Web User**

Gimein (1995), in a study conducted by Arbitron New Media, stated that online subscribers are wealthier and more educated than other consumer groups. According to

the Georgia Tech Research Corporation (1996b), the average age of Web users is 34.9, 68.6% are male users, while the average income is \$60,800. Also, according to this study, 18.8% have incomes under \$29,000, 23% earn between \$30,000 and \$50,000, while 41.1% have incomes above \$50,000. Similarly, in his study, Ducoffe (1996), found that Web users' average age is 32, 71% of Web users are male, the average income of users is \$60,000, while 79% of users have at least an undergraduate degree.

## **Relationships Investigated**

Due to the fact that this research is exploratory in nature, relationships were proposed rather than hypotheses. The following section outlines and explains the relationships investigated in this study. These relationships are organized into three categories: Web Users' Use of Hotlists, Instrumental and Ritualized Media Use, and The Web's Effects on the Consumption of Traditional Media. Refer to Figure #1 for the pre-interview network that illustrates these proposed relationships.

### ***Web Users' Use of Hotlists***

The existence of external memory is an important issue to consider when investigating how consumers search the Web for information. This is due to the fact that the Web contains vast amounts of information on thousands of topics and has a seemingly endless number of Web sites. External memory aids help in the consumer information search process because they allow consumers quick and easy access to information. In fact, external memory aids are preferred by consumers over internal memory aids (Intons-Peterson and Fournier, 1986).

Moreover, Coupey (1996) states that by making notes, people create external memories. Thus, by generating hotlists, Web users effectively create external memories which they use in their information searches. Hotlists can be considered similar to such external memory aids as shopping lists and notes. Each of these aids gives the user easy access to information that would be more difficult to obtain through other means.



However, a major difference of accessibility does exist between hotlists and lists/notes. A consumer can forget a shopping list at home or lose it on the way to the retail outlet and must therefore try to remember the items that were on the list. On the other hand, a consumer cannot forget or lose his/her hotlists as they are retrievable through the computer.

Past research has also found that external memory aids are used more frequently than are internal aids (Cavanaugh, Grady, and Perlmutter, 1983; Harris, 1980; Intons-Peterson and Fournier, 1986; Schils and Van der Linden, 1991). In addition, research has also determined that external memory aids are more dependable, easier to use, and more accurate than internal aids (Intons-Peterson and Fournier, 1986).

As previously explained in the literature review, it is important to examine how hotlists differ from the concept of consideration sets. One major difference between hotlists and consideration sets is that the items found in hotlists are names of sites (which can include brands), while the items in notes or other types of lists are names of brands. It is difficult to compare names of sites in hotlists with brand names found in consideration sets. This is because people may tend to remember brand names easier than actual Web site addresses. Web users may be able to more easily list the brands in a consideration set than the Web site addresses that are found in their hotlists. Even though they may forget the exact address of a site, users may be able to list the brands that are found in their hotlists.

Moreover, another difference between hotlists and consideration sets is that hotlists are more like external memory aids than are consideration sets. As previously explained, hotlists represent an easy and efficient way to access frequently visited sites. This is because users do not have to remember a specific site's address. Thus, hotlists aid in the consumer memory process. On the other hand, the use of consideration sets often involves the need to refer to one's internal memory thereby making the memory process a more difficult one for the Web user.

**R<sub>1a</sub>: The number of items in Web users' hotlists is related to the level of satisfaction with the Web.**

Web users have the potential to simplify their searches by using hotlists to access Web sites. In fact, some users may not search outside their hotlists. They may only look at what they currently have stored in memory and may not search other sources to find a Web site.

As previously stated, researchers have found that hotlists are used a form of external memory (Coupey, 1996; Hoffman and Novak, 1996). Thus, the more items users have listed in their hotlists, the greater the external memory and use of external memory aids, the faster the retrieval of information on specific interests, products, and services, and the lower the search costs (Coupey, 1996). Users will therefore find what they are looking for in a quick manner, thus eliminating the time required in using other method to find new Web sites.

Another factor that needs to be considered is the amount of external memory that exists among Web users. Because the number of items classified in hotlists varies with each individual user, Web users' external memories vary as well. Thus, they will experience different levels of Web satisfaction. Specifically, it is proposed that the number of items Web users keep in their hotlists is related to the level of satisfaction with the Web.

In addition, and as previously stated, items in hotlists are users' most frequently visited sites, their favorite sites, or their sites of interest (Coupey, 1996; Hoffman and Novak, 1996). Among the reasons why a user will frequently visit a site is that he finds that it is interesting, it has good content, and he has found the visit to be enjoyable (Rice, 1997; Wehling, 1996). Another possible reason is that the site meets his specific needs, be it for information and/or entertainment (Rice, 1997). He will not often visit sites that do not meet his needs and that are unappealing to him. He will therefore be satisfied with the sites he does access through his hotlists. For example, if a user keeps going back to the same set of sites, then he has found sites that he likes. He will therefore be satisfied with the Web and with the information he receives.

Another reason why it is believed that the number of items in hotlists and the level of Web satisfaction are related is that with more items, users have greater external memories and thus increase the probability of not having to look elsewhere for a certain site. In other words, users' search costs, in terms of time spent on the Web and money needed to connect to the Web are lower. This is because they do not have to use other methods such as links and search engines to find a Web site.

**R<sub>1b</sub>: The number of items in Web users' hotlists is related to the level of cognitive effort required to use the Web.**

This relationship states that the creation external memories, namely, hotlists, is related to the level of cognitive effort required on the part of Web users. It is believed this is especially true when compared to the development of a consideration set that requires more mental effort. Depending on their level of involvement (Richins and Bloch, 1986), consumers spend time thinking about the brands that they may purchase in the near future, and must try to remember them using their internal memories.

For example, a consumer would spend more time thinking about car models than different brands of chewing gum. On the other hand, the creation of hotlists does not require much cognitive effort on the part of Web users, as the listed items are organized for them and saved automatically by an external device, namely a computer. There is no need to remember specific Web site addresses because with one touch of the mouse, a user automatically gets transferred to the requested site. Hotlists therefore represent an easy and efficient way for consumers to gain access to their most frequently accessed sites.

**R<sub>1c</sub>: The number of items in Web users' hotlists is related to the level of usage of hotlists.**

It is believed that there is a relationship between the number of items users keep in their hotlists and the percentage of time they access their hotlists. However, there may be

differences between the number of items an individual keeps in his hotlists and the number of items he regularly accesses. Some Web users may have more items than the average, but they may only frequently access a portion of them. On the other hand, other users may have fewer items, but access them all.

**R<sub>2a</sub>: Users will add an item to their hotlists when the site is new, when they expect to return to the site, when the content/information is timely, when the site serves their specific interests, and when the visit was enjoyable.**

From a marketing perspective, it is very important for researchers to consider the reasons why people will consider certain brands over others. Considering such factors and strategies will allow for a greater understanding of the circumstances under which Web users add items to and delete items from their hotlists. With this knowledge, marketers are able to take the appropriate steps to ensure that their Web sites are successful.

It is believed that users will add an item to their hotlists when the site is new, when they expect to return to the site, when the content/information is timely, when the site serves their specific interests, and when the visit was enjoyable (Rice, 1997).

In their study of uses and gratifications and how they apply to Web sites, Eighmey and McCord (forthcoming) found a new uses and gratifications factor that affects the way Web users feel about Web sites, "Continuing Relationship." This factor deals with the degree to which a user wants to visit a site again and the reasons why a user would like to

revisit it. For example, among the different types of Web sites that Eighmey and McCord (forthcoming) used in their study was a television network Web site. At this site, “timely and frequently up-dated information about program schedules and program content apparently led to greater visitor interest in repeat visits” (Eighmey and McCord, forthcoming). Thus, one factor that would lead to users’ wanting to revisit sites and their adding of the sites to their hotlists is the timely and updated information that is available on the sites.

**R<sub>2b</sub>: Users will delete an item from their hotlists when the site is not updated on a regular basis, when users have not accessed the site regularly, and after storing a site on behalf of other people.**

It is also proposed that users will delete an item from their hotlists when the site is not updated on a regular basis, when the site is not as superior as the others, when users have not accessed the site regularly, and after storing the site on behalf of other people. By considering these factors and taking the appropriate action, marketers can try to prevent users from deleting their sites from their hotlists and ensure that those users who do not yet have their Web sites as hotlists will add them.

However, it remains difficult for marketers to attract new users. Even though marketers may produce high quality Web sites, with much information, graphics, and visual effects, they may not be successful in attracting new users and may not be able to convince consumers to add their Web sites to their hotlists. It must not be forgotten that because

users may not prefer to have extremely large and unwieldy hotlists, they may have to delete an existing item in order to add a new one. To delete an item and add a new one, users would have to see that the new Web site provides them with more value.

### ***Instrumental and Ritualized Media Use***

As mentioned in the literature review, television has been the most often used medium to discuss instrumental and ritualized media orientations. Past research has yet to examine user motivations and how they related to the Web. Even though television is a traditional medium, it is believed that instrumental and ritualized media orientations can just as well be applied to the Web, a new and interactive medium. In fact, research has already reported that the Web has similar types of uses and gratifications as do traditional media (Eighmey and McCord, forthcoming).

However, it has already been mentioned that the same individual can have different media orientations toward the same medium, depending on the circumstances (Rubin, 1984). Thus, it is predicted that Web users may not clearly have an instrumental or a ritualized media orientation. Indeed, some users may have a combination of both orientations.

**R<sub>3</sub>: Ritualized and instrumental users differ in the percentage of time they use links, access their hotlists, use search engines, and type in addresses in their daily Web use.**

This relationship examines the differences that might exist between instrumental and ritualized users in their frequency of use of hotlists, search engines, links, and of typing in Web addresses.

First, it is believed that ritualized and instrumental users differ in the amount of time they spend using links. This is because ritualized users are Web surfers or browsers, while instrumental users are Web searchers (Hoffman and Novak, 1996). By clicking on links, they can easily go from site to site and thus find the interesting sites that they are looking for (Hoffman and Novak, 1996).

It is also believed that ritualized and instrumental users differ in the percentage of time they spend accessing their hotlists, using search engines, and typing in Web site addresses more often than ritualized users. This is because these three methods of accessing Web sites allow users to find the specific sites that they are looking for.

Therefore, browsing strategies take on more of a ritualistic orientation, while searching strategies take on an instrumental orientation. In fact, Catledge and Pitkow (1995) state that there is a need to develop searching methods which would help people who have goal-oriented purposes in their searches. "As a response to this, certain WWW servers are



completely searchable and there are World-Wide Web search engines available” (Catledge and Pitkow, 1995).

**R<sub>4a</sub>: Ritualized and instrumental users differ in the number of items they keep in their hotlists.**

It is important to examine if and how the type of media orientation affects the number of items users keep in their hotlists or store in external memory. With this knowledge, marketers would be better informed of Web user characteristics. This would help them to more efficiently target these users. For example, do ritualized users have more items in their hotlists than do instrumental users? Results from questions like this one can give researchers further insights into the characterization of people who have many items in their hotlists and those who have fewer items in their hotlists.

It is believed that ritualized and instrumental users differ in the number of items they have in their hotlists and thus differ in the amount of information they retrieve from their external memories. This is because of the different purposes with which they use the Web. As previously stated, instrumental users use the Web for specific purposes, while ritualized users surf the Web to find interesting sites (Hoffman and Novak, 1996).

In R<sub>1c</sub>, it was proposed that the number of items in Web users' hotlists would be related to the level of usage of hotlists. It was also stated that just because users have more items in their hotlists does not mean that they regularly access them all. Moreover, some other

users may have a smaller number of items but may frequently access them all. Relating these concepts to the two different types of media orientations, it would also be interesting to see how instrumental and ritualized users are classified. For example, do instrumental users have fewer items and frequently access them all as opposed to ritualized users who have many items but do not regularly access them?

**R<sub>4b</sub>: Ritualized and instrumental users differ in the number of additions and/or deletions of hotlist items.**

Not only does the number of items kept in hotlists vary with each individual user, but so does the frequency of the addition and deletion of items from hotlists. It is proposed that there are differences in the number of additions and deletions of hotlist items between instrumental and ritualized users. For example, do ritualized users add more items? Do instrumental users delete more items? In addition, the conditions under which a user adds and deletes an item from his hotlist must be examined (see R<sub>2a</sub> and R<sub>2b</sub>). Examining these differences will further allow researchers to better understand how the type of media orientation affects the rate at which users add and/or delete items from their hotlists.

The issue of the frequency of the addition and deletion of sites (a concept that occurs with brands in consideration sets) has important marketing implications. If new sites are added infrequently to hotlists after a certain number of items are stored, effectively limiting the amount of external memory, marketers then have the difficult task of ensuring that their Web sites form part of this finite set. Therefore, because marketers want users to

frequently access their Web sites, it is vital for them to get their Web sites into users' hotlists as early as possible, before other competing and non-competing companies (Berthon, Pitt, and Watson, 1996b). This is to say that marketers not only compete for a space in hotlists with their competition, but also with marketers in unrelated products and services.

Issues are being raised that have yet to be investigated. Indeed, research has yet to examine how the type of media orientation affects the use of hotlists and the number of items found in hotlists. As previously mentioned, past research has only characterized behaviors that are instrumental or ritualized. For example, one activity that has been identified as instrumental is online shopping (Hoffman and Novak, 1996).

### ***The Web's Effects on the Consumption of Traditional Media***

**R<sub>5a</sub>: There is a negative relationship between Web use and television viewership.**

As previously stated in the literature review, past studies have shown that there has been a decrease in Web users' television viewership (Georgia Tech Research Corporation, 1996a; 1996b; Satran, 1996). Moreover, as it was found in the literature review, the profiles of Web users and television viewers are dissimilar. Thus, it is expected that Web users in the sample will spend less time watching television and dedicate more time to Web-related activities.

**R<sub>5b</sub>: Web use affects newspaper readership levels.**

As stated in the literature review, there is a lack of research on how and if the Web effects individuals' newspaper readership levels. Also, it was determined that Web users and newspaper readers have similar ages and education and income levels (Becker and Connor, 1981; Ducoffe, 1996; Georgia Tech Research Corporation, 1996b; Gimein, 1995; Reina, 1995).

Moreover, Coffey and Stipp (1997) believe that there may be a relationship between PC use and newspaper readership. As there is the possibility that the Web may be having an affect on different forms of traditional media, it is proposed that Web use affects the time users spend reading newspapers.

**R<sub>5c</sub>: Web use affects magazine readership levels.**

As was stated in the literature review, there is a lack of research conducted on the Web's effects on magazine readership levels. However, one study conducted by Coopers & Lybrand stated that people who spend time online are reading more magazines that are computer-related (Satran, 1996).

As was also mentioned, the profiles of Web users and magazine readers are similar with respect to such demographic factors as age, education, and income (Becker and Connor, 1981; Ducoffe, 1996; Georgia Tech Research Corporation, 1996b; Gimein, 1995).

In addition, Coffey and Stipp (1997) stated that there may be some interactions between magazine readership and PC use. Thus, it is proposed that Web use will affect magazine readership levels of individuals.

## **Methodology**

### ***Sampling Design***

#### **Nonprobability sampling**

A nonprobability sample is a “sampling technique in which the selection of sample items is not determined by chance, but rather by personal convenience, expert judgment, or any type of conscious researcher selection” (Darmon, Laroche, and McGown, 1989). Nonprobabilistic sampling was used because “the probability of selecting population elements is unknown” (Cooper and Emory, 1995), or, in other words, the total population of Web users is not available for study.

Because this sampling method does not ensure that sampling items are randomly selected, “it is difficult then to guarantee that certain portions of the population were not excluded from the sample since elements do not have an equal chance of being selected” (Georgia Tech Research Corporation, 1996b). Therefore, using a subjective method like nonprobability sampling may bias the selection process of respondents (Cooper and Emory, 1995). In addition, this method does not give the researcher the opportunity to calculate the sampling error nor does it allow for any estimation of the range where the population parameter is supposed to fall (Cooper and Emory, 1995). It is for the reasons given above that the results of a nonprobabilistic study should be considered as not generalizable to the population.

In order to conduct telephone interviews, a convenience sample of 43 participants was selected. Convenience sampling consists of “nonprobability samples that are unrestricted” (Cooper and Emory, 1995). This type of sampling method was chosen because of its low cost and ease with which the sample is drawn.

However, past studies have used other nonprobability methods besides the convenience sampling technique. For example, the purposive (non-random) sampling method has been used in research to select sample members (Hirschman and Thompson, 1997; Tepper, 1994). For example, in his survey of people’s feelings toward Web advertising, Ducoffe (1996) used the criterion that respondents be familiar with Web advertising in order to respond to the questionnaire. Furthermore, Thompson (1996) used purposive sampling in order to select participants for interviews that explored consumption experiences for women.

In order to examine the type of sample that would best suit the current study’s objectives, an informal survey was conducted prior to the interviews which examined both undergraduate and graduate students’ use of the Web. Results showed that even though they do have access to the Web, their access is often constrained by long waiting lines and the limited number of browser-capable computers available. Thus, a sample of students would likely provide very broad responses based on cursory Web access, exacerbating the usual problems of extending research findings from a student population to a more general one. It was also found that students with access to the Web are light users and would

therefore not be an appropriate sample because they might not represent the population of Web users.

Moreover, the researcher also tried to obtain a sample of respondents with a range of occupations so as to minimize the potential bias of the results. For example, it was important not to select too many academics or too many individuals who work in computer-related areas. In order to further minimize bias, homemakers and full-time students were not selected as part of the sample.

Given the above, the criterion for the current study upon which respondents were selected was that each participant be employed full-time. Respondents could also be studying part-time, but working full-time. As such, all respondents were employed full time, while a majority were professionals.

There were two groups of participants in the study. Some participants were people that were familiar to the interviewer, such as friends, family, and acquaintances. Following Thompson (1996), part of the sample was obtained through personal referrals. Respondents were chosen by this method because of the difficulty of finding Web users. Some of the people referred to the interviewer were familiar to the researcher, while others were not.

It was somewhat of a difficult task to recruit respondents because Web users represent a small segment of the population. The author also had to ensure that all respondents



presently use the Web. Thus, following Ducoffe (1996) and before each interview was conducted, participants were asked a qualifying question, "Do you use the Web?" If they did not, they were asked if they knew anyone who uses the Web. They were then thanked.

### **The Demographics of Respondents**

Please refer to Exhibit #1 for a listing of all demographic variables. Demographics studied include gender, age, income, education, occupation, and marital status. The sample size is 43 for each of these demographic factors, unless otherwise specified.

#### *Gender of Respondents*

In the study, 29 respondents or 67.44% were male, while 14 individuals or 32.56% were female. These percentages are very similar to the ones found by the Georgia Tech Research Corporation (1996b) in its sixth survey of Web users. Results from this survey showed that 68.6% of users are male, while 31.4% of users are female. The figures are also similar to those found by Ducoffe (1996). In his study of Web users' feelings towards Web advertising, 71% of the sample were male, while 29% were female. Thus, the current study, along with others has shown that there is a predominance of male Web users.

#### *Age of Respondents*

The distribution of age among respondents is as follows:

- 53.49% are between 25 and 34
- 20.93% are between 35 and 44
- 25.58% are between 45 and 54

### *Income Levels of Respondents*

81.4% of respondents, or 35 people answered the income question.

The income distribution among respondents is as follows:

- 2.86% have incomes between \$10,000 and \$19,999
- 22.86% have incomes between \$20,000 and \$29,999
- 20.00% have incomes between \$30,000 and \$39,999
- 2.86% have incomes between \$40,000 and \$49,999
- 31.43% have incomes between \$50,000 and \$74,999
- 8.57% have incomes between \$75,000 and \$99,999
- 11.43% have incomes of \$100,000 and above

### *Education Levels of Respondents*

The education distribution among respondents is as follows:

- 4.65% have a high school diploma
- 37.21% have an undergraduate degree
- 44.19% have a graduate degree
- 13.95% have a doctorate degree

There were no respondents whose highest education completed was CEGEP/college.

### *Marital Status of Respondents*

The distribution for the marital status among respondents is as follows:

- 30.23% are single
- 62.80% are married
- 2.33% are separated
- 2.33% are divorced
- 2.33% are living with another person

### *Occupations of Respondents*

The distribution for the type of occupation among respondents is as follows:

- 48.84% are professionals
- 16.28% have management positions
- 13.95% have occupations that are computer-related
- 13.95% are educators
- 6.98% have administrative positions

## ***Research Design***

### **Qualitative Study**

The method of data collection was through telephone interviews, each lasting 20-30 minutes in length. This length of time is similar to the 20-45 minute semistructured interviews conducted by Tepper (1994). A qualitative study was chosen because the area of study is still relatively new and marketing studies have yet to address many issues. For

example, how does the number of hotlist items affect the type of sources used to search for information? Can Web use be divided into two media orientations (instrumental and ritualized)? How do instrumental and ritualized users differ with respect to their use of the Web, the sources they use to find new Web sites as well as their use of hotlists?

### **Causal Study**

This is also a causal study because the research is concerned about explaining relationships among different variables. For example, the purpose of the research include finding out how Web use has affected people's media habits, how the number of items in hotlists affects users' satisfaction with the Web, as well as the relationship between instrumental and ritualized users and their use hotlists as well as their Web use.

### **Cross-Sectional Study**

Moreover, this study is cross-sectional, as it was just carried out once, for specific purposes. In the future, it might be interesting to do a longitudinal study in which the researcher is able to capture changes of Web use, information search, and consumer decision making over time. For example, one would be able to track changes in Web use patterns and feelings towards the Web.

### **Reasons For Using Telephone Interviews**

Telephone interviews were chosen as the method of collecting data for many reasons. First, it was felt that interviews would be the most appropriate method of collecting data, given that the research area is still new and much systematic and qualitative research needs

to be done with respect to consumer behavior on the Web (Berthon, Pitt, and Watson, 1996a; 1996b). Conducting interviews would allow for personal contact between interviewer and respondent as well as for the questioning and the probing of participants which could not be done with a survey. Interviews also allow for the minimization of errors and inaccuracies caused by a respondent's answers because the interviewer can ensure that the respondent understands the question (Darmon, Laroche, and McGown, 1989). In addition, interviews were conducted due to the limited number Web users. This is because it is difficult to find Web users and interviews do not require as big a sample as do surveys.

#### *Telephone Interviews vs. Personal interviews*

##### Advantages to Telephone Interviews

The telephone method was chosen over personal interviews for a few reasons. First, the study faced limited resources of time and money. Telephone interviews were selected because they incur lower costs than personal interviews and of all the methods, they take the shortest time to complete (Cooper and Emory, 1995; Darmon, Laroche, and McGown, 1989). Second, some people prefer to answer questions over the telephone than in person so as to remain more anonymous.

Also, telephone interviews are more appropriate for shorter, 20-30 minute interviews than are personal interviews (Darmon, Laroche, and McGown, 1989). Moreover, conducting telephone interviews is convenient for both the interviewer and the participant. It is especially more convenient for the interviewer who saves time in travel and money. In

addition, telephone interviews are more appropriate when the researcher is dealing with respondents that are hard to reach (Cooper and Emory, 1995). In this case, the interviewer can easily call them back at another time.

#### Disadvantages to Telephone Interviews

However, there are also some disadvantages to using telephone interviews. Illustrations, complex questions or complex scales cannot be used in the interview (Cooper and Emory, 1995; Darmon, Laroche, and McGown, 1989). This limits the type of questions that could be asked by the interviewer. Another disadvantage is that respondents might get annoyed at being disturbed at home or at work (Darmon, Laroche, and McGown, 1989), and may therefore postpone or cancel the interview altogether. Also, participants may be unwilling to give personal data (such as income) over the telephone to someone they do not know (Darmon, Laroche, and McGown, 1989). Another drawback is that there is a chance that the respondent will refuse to participate if the interview is too long (Darmon, Laroche, and McGown, 1989).

#### Advantages to Personal Interviews

Personal interviews also have advantages. With personal interviews, “the greatest value lies in the depth and detail of information that can be secured” (Cooper and Emory, 1995). This method secures and gathers better quality information than telephone interviews or mail surveys (Cooper and Emory, 1995; Darmon, Laroche, and McGown, 1989). Another advantage is that interviewers can use visual materials to demonstrate a point (Cooper and Emory, 1995) and can also ask more complex questions. In addition, respondents may

have a more positive outlook in answering questions because they come into personal contact with the interviewer.

One option that was ruled out as a method of data collection was the mail survey. This is because it requires longer data collection periods and the data needed to be collected very quickly. Also, this type of method does not allow for control over the returns by the researcher and has low response rates (Cooper and Emory, 1995; Darmon, Laroche, and McGown, 1989).

The main reason, however, why the researcher did not chose to use the mail survey is due to its lack of flexibility. Because this method does not allow for any personal interaction between the researcher and the respondent, the researcher does not have the opportunity to help clarify certain questions that the respondent may have. Thus, it can lead to inaccuracies in responses (Darmon, Laroche, and McGown, 1989).

Moreover, the type of responses obtained in a mail survey would not meet the current study's objectives. Since the research is of a qualitative nature, open-ended questions need to be posed in order to probe for and elicit respondents' feelings and opinions about the issues at hand. As opposed to interviews which allow for the interaction between the interviewer and the participant, whereby participants get to talk and discuss their views with another individual, mail surveys are impersonal and require written, usually closed-ended responses from respondents.

Another alternative considered was to interview individuals who access the Web through Internet cafés. After having visited several Internet cafés around Montréal, such as Café I.N.C., Digiscape, and Cybermind, it was determined that there was a limited number of individuals accessing the Web from this type of location. This method was therefore eliminated from further consideration as it was assumed that it would not generate enough usable responses for the research purposes.

### *Electronic Survey*

Alternatively, data could have been gathered through an electronic survey. Specifically, this technique involves disseminating the survey over the Web. In fact, this method of survey research is becoming a popular way of collecting data. Much research about Web users and Web use is being conducted through online surveys (Strauss, 1996). As such, this was the method that was originally selected to conduct the research. However, this method was ruled when it was realized that there is a lack of qualitative and systematic studies (Berthon, Pitt, and Watson, 1996a; 1996b) and that the study would likely suffer from a very biased sample. Due to the lack of research on Web-related issues, it was decided not to administer the Web survey and not to develop hypotheses. Instead, an exploratory study to investigate proposed relationships through telephone interviews was conducted.

### *Methods Used by Past Studies*

In fact, studies conducted about Web use have used methods besides interviews. For example, Ducoffe (1996) used an intercept survey to examine how Web users feel about



advertising on the Web. Other studies, such as those conducted by the Georgia Tech Research Corporation, have tried to understand Web users and the impact of the Web on the marketing area using on-line survey methods (Strauss, 1996). Another study used data on home PC use and the PC Meter (a measurement of PC activity) to examine how the use of PC's as well as the Web has affected people's television viewership (Coffey and Stipp, 1997).

Yet another study that investigated the effects of Web addresses in advertising conducted three focus groups and a telephone survey (Maddox, Mehta, and Daubek, 1997). Still other studies have simply discussed the Web without collecting data (Berthon, Pitt, and Watson, 1996a; 1996b). It was therefore necessary to conduct a study based on interviews because of the lack of research conducted through this method.

### ***Data Collection***

As this study is a qualitative analysis of consumer behavior on the Web, interviews were used to obtain the data. The sample consists of 43 respondents. Following Hirschman and Thompson (1997) and Tepper (1994), semi-structured interviews were conducted by the author in the Summer of 1997. Respondents were all living in the Montreal area. 41 of these were telephone interviews, while two were face-to-face (due to convenience). The interviews lasted between 20-30 minutes each and were conducted from the researcher's home. Even though ten minutes is often the maximum length of time for a telephone interview, "interviews of 20 minutes or more are not uncommon" (Cooper and Emory, 1995).

### **Contacting Respondents**

Each respondent was contacted first by telephone (either at home or at work). Callbacks were made if the potential respondent was not available the first time. If, at the first telephone call, the potential interviewee answered, two events could happen. Either the interview was conducted right away, or if it was not convenient for the respondent to do the interview, an appointment was made to conduct the interview at a later date and possibly at another location. For example, if a respondent was contacted at work, but preferred to do the interview at home, then he was either called back at home or he would call back the interviewer from that location. In this way, respondents could schedule a time and a place that was convenient for them. This was an important factor to consider given the fact that all respondents are working full time and have to take time out of their day to conduct the interview.

In fact, in conducting the telephone interviews, two rejections were received from potential respondents. They both said that they were not interested in the Web and therefore did not want to take the time to participate in the interviews.

### **Interview Pretests**

The interview questionnaire was pretested on six individuals to ensure that the questions had no major flaws and that there were no weaknesses in the design and instrumentation of questionnaire (Cooper and Emory, 1995). Because Web users represent a small portion of the population, pilot testing too many people may result in using up possible respondents. Therefore, caution was used in pretesting too many individuals. The pretests

showed that there were no major problems with the questionnaire, but they lead us to make minor changes in a couple of the questions.

### **The Interview Questionnaire**

Refer to Exhibit #2 for the interview questionnaire. As can be seen, the introduction of the interview explained the purposes of the study, the length of the interview, and respondent confidentiality. Following Hirschman and Thompson (1997), Tepper (1994), Thompson (1996), and Thompson and Haytko (1997), respondent anonymity was explained and guaranteed. After these issues were addressed and before the actual questioning period began, participants were told that the interview would be audiotaped (Tepper, 1994), so as to get all responses and not miss out on anything that they said. Participants were also told that the interviews would be transcribed into a computer for later analysis. Except for one interview, where the respondent was not asked permission to record the conversation and no recording was conducted, all other participants were asked if the interview could be recorded. Out of 42 respondents, two participants were uncomfortable being taped. All interviews were conducted and transcribed in private by the author.

At the end of the interview and after thanking the participants in having answered the questions, they were asked if it was possible to call them back in the future if the interviewer had any questions about their responses. All participants agreed that it would be no problem to contact them in the future for any clarifications.

### **Location of Interviews**

Participants in the study were either at home, at work, or at a client's location during the interview. It was preferred to interview respondents from the place which they primarily access the Web. In fact, a question asked respondents "Are you at the computer where you primarily use the Web?" It was hoped to get as many responses as possible from this location because a later question asked participants the number of items they keep in their hotlists (from the computer which they primarily access the Web). Interviewing respondents from the location which they primarily use the Web would eliminate any possible call-backs with respect to the above question about their hotlists.

However, it was not always possible to contact them from the primary location which they access the Web (be it at work or at home). As a result, callbacks were made by the participant or by the interviewer (whichever was decided upon during the interview) so as to give the respondent the time to check the number of items in his hotlists.

### ***Data Analysis***

It is important to mention that most, but not all questions that were asked during the interviews were analyzed. Some questions which did not measure the proposed relationships in the study were included in the interview in case they would be needed in further analyses.

In order to examine the proposed relationships, causal networks and matrices were developed and correlation analysis was conducted. The following describes how these three methods were used.

### **Causal Networks**

There are two types of approaches to building causal networks: inductive and deductive strategies (Miles and Huberman, 1994). With the inductive approach, “the researcher discovers recurrent phenomena in the stream of local experience and finds recurrent relations among them. These working hypotheses are modified and refined progressively in the next fieldwork pass” (Miles and Huberman, 1994).

On the other hand, in the deductive approach, “the researcher has some orienting constructs and propositions to test or observe in the field” (Miles and Huberman, 1994). The major difference between the two methods is that “the deductive researcher *starts* with a preliminary causal network, and the inductive researcher *ends up* with one” (Miles and Huberman, 1994). As opposed to studies which have used analytic induction (see for example Taylor, Hoy, and Haley, 1996; Tepper, 1994), this research is based on deductive analysis. Instead of “developing concepts and constructs from the data” (Spiggle, 1994), proposed relationships were constructed and examined. This process of creating these type of relationships or propositions and analyzing and interpreting the data is called refutation (Spiggle, 1994).

The study contains two causal networks. One network was created to illustrate the proposed relationships (pre-interviews), while a second network was constructed after interviews were conducted to portray the results of the relationships that were investigated (post-interviews).

### **Matrices**

According to Spiggle (1994), it is important to “proceed systematically” when analyzing qualitative data. Thus, matrices were developed to organize and analyze the data in a systematic fashion. Since this study is exploratory in nature, the goal is to examine what respondents have said and how they reacted during the interviews. The research is essentially looking at their opinions and feelings about the Web, their search patterns, and their Web use. Thus, in order to examine each proposed relationship, and following the research conducted by Hirschman and Thompson (1997), Tepper (1994), Thompson (1996), Thompson and Haytko (1997), interviews were first transcribed from the audiotaped interviews.

However, the data on these transcripts are very difficult to analyze, because “extended, unreduced text alone is a weak and cumbersome form of display. It is hard on analysts because it is *dispersed* over many pages and is not easy to see as a whole. It is *sequential* rather than simultaneous, making it difficult to look at two or three variables at once. It is usually *poorly ordered*, and it can get very *bulky*, monotonously overloading. Comparing several extended texts carefully is very difficult” (Miles and Huberman, 1994).

“Valid analysis requires, and is driven by, displays that are focused enough to permit a viewing of a full data set in the same location, and are arranged systematically to answer the research questions at hand” (Miles and Huberman, 1994).

Following Creswell (1994), Miles and Huberman (1994) and Tepper (1994), matrices (charts) were developed from the transcripts for each proposed relationship. Each matrix contains an abbreviated form of respondents’ feelings and answers to the issues involved in the relationship at hand. Specifically, these matrices include paraphrases of respondents’ comments and direct quotes. Thus, it was easier to analyze respondents’ opinions and feelings towards different Web-related topics.

### **Correlation Analysis**

Lastly, even though most of the data that were collected were qualitative, some questions that were asked were based on quantitative data. For example, respondents were asked how many times a week and how many hours a week they access the Web. They were also asked how often (in percent) they access Web sites through their hotlists, through links, through search engines, as well as through typing in Web site addresses. In order to analyze the above quantitative data, correlation analyses were conducted.

It is important to note that correlation analysis was administered for purely illustrative purposes as many statistical assumptions are violated. For example, the study has a very small sample and the constructs of the research are undefined. Also, there were no tests conducted for linearity and for normality (Cooper and Emory, 1995).

## **Findings**

Based on interview transcripts and proposed relationships, a post-interview network was developed. Refer to Figure #2 for the post-interview network. Comparing this diagram with the pre-interview chart that is based on past literature (Figure #1) allows for the discussion of how the two networks differ. Specifically, some relationships that were originally proposed were found to be unclear, while others were partially supported by the data. At the same time, different relationships that were not expected were found to exist. For example, the study expected that five factors were involved in the addition of a site to hotlists. However, results indicate that only two factors were frequently reported and three unexpected conditions were also given.

### ***Demographics, Web Use, and Media Usage Matrix***

Refer to Exhibit #3 for the Demographics, Web Use, and Media Usage Matrix for the quantitative data that was received from the interviews. The demographics of the sample were previously examined in the methodology section. To recap, 67.44% of the sample are male; 53.49% are between the ages of 25 and 34; 31.43% have incomes between \$50,000 and \$74,999; 44.19% have a graduate degree; 62.80% are married; and 48.84% have professional occupations.

The matrix examines other quantitative data as well. Included in the matrix is the number of years respondents have had access to the Web; the locations from which they have Web access and the percentage of time they access the Web from these locations; the number of



times they access the Web on a weekly basis; the number of hours in a week (on average) they spend on the Web; the percentage of time respondents access Web sites through search engines; the percentage of time they access sites through links; the percentage of time they access sites through typing in the Web site address; the percentage of time they access sites through their hotlists; the number of sites they have in their hotlists; the number of hours in a week (on average) respondents spend watching television; the number of newspapers they subscribe to and the number they buy per month; and the number of magazines/professional journals they subscribe to and the number they purchase per month.

Except for two of the categories listed above, the sample size is 43 respondents. Specifically, the number of years of Web access and the number of magazines/professional journals purchased per month have 42 respondents each.

**Upon Examination of the All of the Above Categories, the Following was Found:**

*1. The Number of Years That Respondents Have Had Access to the Web*

Results showed that 19.05% have had Web access for one year or less and 47.62% have had access for over one year and up to two years. Another 16.67% have had access for over two years and up to three years, while the remaining 16.67% have had Web access for over three years.

## *2. The Locations From Which Respondents Have Web Access and the Percentage of Time They Access the Web From These Locations*

The majority of the time respondents most often access the Web either from home or from work. On the other hand, a very small percentage of Web access comes from other locations (remote locations, where, for example, a user is doing a business presentation).

30.23% of respondents access the Web from work only, while 13.95% have Web access only from home. For 4.65% of respondents, their work is at home and they access the Web 100% from this location. Besides accessing the Web from only one location, there are also other respondents who primarily access the Web from home or work. A user who primarily accesses the Web from one location is defined as one that accesses the Web 60% to 99% (inclusive) of the time from that location. 27.91% of respondents were found to primarily access the Web from work, while 18.60% primarily access the Web from home. Results also show that 4.65% of respondents equally access the Web from home and from work (in terms of percentage). Specifically, these users access the Web 50% from home and 50% from work.

*3. The Number of Times Respondents Access the Web (on a Weekly Basis)*

Refer to the following table for the amount of times users access the Web.

**Table #1: The Number of Web Accesses per Week**

Times Accessed the Web (per Week)	Number of Users	% of Users	Times Accessed the Web (per Week)	Number of Users	% of Users
<1	3	6.98	7	3	6.98
1	3	6.98	7-15	1	2.33
1-2	1	2.33	10	2	4.65
2-3	5	11.63	10-15	2	4.65
2-5	1	2.33	14	1	2.33
3	1	2.33	14-21	1	2.33
3.5	1	2.33	15-20	2	4.65
3-4	1	2.33	20	1	2.33
5	6	13.95	21	1	2.33
5-6	1	2.33	25	1	2.33
5-7.5	1	2.33	40	1	2.33
5-10	2	4.65	44	1	2.33

From the above table, it can be seen that the number of times the Web is accessed per week varies greatly among respondents. For example, there are a few respondents who access the Web once a week or less. Six respondents access the Web five times a week, while there are a few individuals who access the Web quite frequently.

*4. The Number of Hours in a Week (on Average) Respondents Spend on the Web*

All respondents were classified into one of three possible categories: light, medium, or heavy Web use. It was also done to ensure that each category has roughly the same number of respondents. Light Web users spend two hours or less on the Web per week;

the sample contained 17 light users or 39.53%. Moderate Web users spend over two hours up until, but not including, six hours: 13 respondents or 30.24% fit into this category. Heavy Web users spend six hours and more on the Web per week; 13 respondents or 30.24% were classified as heavy Web users.

##### *5. The Percentage of Time Respondents Access Web Sites Through Search Engines*

Search engines represent one the many ways that Web users can access Web sites. 4.65% of respondents do not access Web sites through search engines. 23.26% use search engines 1-10% of the time, while 27.91% access Web sites through this method 11-20% of the time. In addition, another 27.91% use search engines 21-40% of the time to access Web sites, while 11.63% of respondents use this method 41-60% of the time. Moreover, the remaining 4.65% use search engines 61-100% of the time. There are no respondents who spend 100% of their time accessing sites through search engines. In fact, the highest percentage of time respondents spend accessing Web sites through search engines is 80%.

Many users will begin a search with a search engine. For example, respondents 41 and 22, who do not have hotlists, and respondents 6 and 24, who do have hotlists, will start off a search using search engines and will then use links to go from site to site. By typing in keywords in a search engine, a user gets a list of references. From here, the user can click on any of the entries to get to the site where he would like to visit. Thus, Web users click on links from a search engine to get to other sites.

For example, respondent 37 will not go from one site to the next through links, but he will click on different sites through search engines. Similarly, respondent 43 will most often use links from a search engine than links from site to site:

“As I’m scrolling through the results of the search engine, I’ll go off on tangents because I’ll see something interesting. I’ll then click on the site. When I’m finished with the site, I will not link to another site, but will go back to the search engine and will continue searching through the results.”

In conducting the interviews, a specific question was not asked about search engines. However, in answering certain questions, some respondents did bring up the topic themselves and mentioned specific search engines that they use. In fact, 44.19% of respondents (19 out of 43) mentioned one or more search engine(s) that they use. The most popular search engine is Yahoo: 13 out of 19, or 68.42% say they use Yahoo. Infoseek is the second most popular search engine: four out of 19, or 21.05% say they search using Infoseek. The next most often used search engines are Excite and AltaVista: Three out of 19 respondents, or 15.79% say they use those search engines. The next most popular search engine is Medline (a science search engine): Two out of 19 respondents, or 10.53% say they use this search engine. Lastly, other search engines mentioned include Lycos, WebCrawler, SuperSearch, and Entrez (a molecular biology search engine).

All of the search engines that were mentioned by respondents were part of their frequently visited sites. However, not all search engines were items in respondents’ hotlists. For

example, respondent 6 has WebCrawler in his hotlists, but does not have Yahoo in his hotlists because when he logs onto Netscape, a menu appears and he just has to click on the Yahoo icon. Respondent 37 has Infoseek in his hotlists, but not Yahoo. Respondent 15 mentioned that she used Infoseek, but it is not clear if the search engine is in her hotlists.

#### *6. The Percentage of Time Respondents Access Sites Through Links*

Links are another method by which users access sites. Results show that 6.98% of respondents do not access Web sites through links. 58.14% use links 1-10% of the time, while 13.95% access Web sites through this method 11-20% of the time. In addition, another 6.98% use links 21-40% of the time to access Web sites, while 9.30% of respondents use this method 41-60% of the time. Moreover, the remaining 4.65% use links 61-100% of the time. There are no respondents who spend 100% of their time accessing sites through links. In fact, the highest percentage of time respondents spend accessing Web sites through links is 75%.

Respondents have interpreted this question in two different ways. First, they can click on the links that are given when they conduct a search on a search engine. An example of using links from search engines is shown in respondent 39's Web use. He mostly uses links from search engines and rarely uses links from site to site. "When I go to a search engine and get a response from it, I'll click on every link that might be relevant to my search."

Second, Web users can also go from site to site by clicking on links. As respondent 4 said, “I use a lot of links. This is because I’ll go to a site with an idea in mind and it is usually the best way to find the next site I’m looking for.”

In fact, it was difficult for respondent 18 to give the percentage of sites that she accesses through links because she said “sometimes I don’t even notice whether or not I hit on links to get to another site.” Respondent 22 will use search engines once and will also type in a Web site address once. “After that, it’s all links.”

#### *7. The Percentage of Time Respondents Access Sites Through Typing in the Web Site Address*

Another way by which Web users can access sites is through typing in the site address. 13.95% of respondents do not access Web sites through typing in the Web site address. 37.21% type in addresses 1-10% of the time, while 20.93% access Web sites through this method 11-20% of the time. In addition, another 18.60% type in addresses 21-40% of the time to access Web sites, while 9.30% of respondents use this method 41-60% of the time. There are no respondents who spend more than 60% of their time accessing sites through typing in addresses.

There are a couple of respondents who like to type in Web addresses. For example, respondent 11 said that “I rarely search now. Usually I’m looking for a particular company Web site. Sometimes I will just take a guess at a site’s address and type it in (www.....). Usually, I’m right ...”. Similarly, respondent 22 stated that “if there is a company or place

that I want to be, I'll type in the address that I think it might be (I guess a it), and most of the time I'm right." Another example comes from respondent 2, who tests out names of companies by trying to guess their Web site addresses. He also knows many addresses by heart. "For example, if you're looking for CHOM, you would probably try www.chom.ca."

Respondent 42, who does not have hotlists, will most often start off by typing in the addresses. In fact, by looking at a list of addresses, she will type in the addresses for the sites that she frequently visits.

#### *8. The Percentage of Time Respondents Access Sites Through Their Hotlists*

Finally, Web users can also access sites through their hotlists. 13.95% of respondents do not access Web sites through their hotlists. This percentage includes those five respondents who do not use hotlists as well as one other Web user who has two items in his hotlists, but does not use them. 11.63% use their hotlists to access a Web site 1-10% of the time, while 11.63% access Web sites through this method 11-20% of the time. In addition, another 11.63% use their hotlists 21-40% of the time to access Web sites, while 20.93% of respondents use this method 41-60% of the time. Moreover, the remaining 30.23% of respondents spend 61-100% of their time accessing sites through their hotlists. In fact, one respondent accesses her hotlists 100% of the time (she has only two sites in her hotlists).



As previously stated, hotlists represent a popular way to access sites, as 88.37% of the sample have sites that they keep in their hotlists. In fact, of those who have hotlists, 94.74% of respondents find that hotlists make the Web a lot easier to use and/or that they simplify Web use. Respondents said that hotlists allow for quick, easy, and convenient access to frequently accessed sites. As such, people who use hotlists save time in their searches.

Also, by using hotlists, Web users avoid the need to type in the Web site addresses (the chance of misspelling them/correcting their mistakes) and the need to remember them. Respondent 7 even stated that "It's like having a little organizer," while respondent 34 said that "if you have a well-organized bookmark, it's easier to use the Web." Respondent 36 stated that "it's like finding a book in the library. If you knew exactly where it was and you wanted to go get it, then of course you would go and get it."

Respondent 32 feels that hotlists make the Web a lot easier to use, but she also feels that she could be missing some information. "I always need to look again to make sure that there is nothing new or nothing better than what I already have (for different topics). So, I will often try to see if there is anything new out there, to refresh."

However, three respondents did not have such a positive attitude towards hotlists. Respondent 15 says that hotlists do not make the Web easier to use because she only has four items in her hotlists. "I can easily type in a word in a search engine and get the same site." Moreover, respondent 19 feels that hotlists only make the Web faster to use, but not

easier because they do not affect her searches. “So, if I’m searching for something that I don’t have a bookmark for, it does not make a big difference to me ... they don’t help much in the process of searching for new Web sites.”

Respondent 20 does not think that hotlists make the Web a lot easier to use. He uses hotlists “as a tool, a library, as a filing system. They don’t ease my searches. I use them as a matter of convenience.” Respondent 20 said “I will only go back to them when I run out of things to look at, ‘on a rainy day.’” In fact, he only uses his hotlists 5% of the time.

However, among those respondents who do not have hotlists is respondent 22. According to him, “I get what I need out of it the first time and if I need it again, I would be surprised. I therefore hardly return to the same site.”

#### *9. The Number of Sites Respondents Have in Their Hotlists*

Among the 43 respondents in the study, five of them, or 11.63% do not have hotlists. Of the 88.37% of the sample who do use hotlists, 12 respondents or 31.58% have between one and ten items (inclusive) in their hotlists. Another 11 respondents or 28.95% have between 11 and 50 items (inclusive) in their hotlists, while 7 respondents or 18.42% have between 51 and 100 items (inclusive) in their hotlists. 3 respondents or 7.89% of the sample have between 101 and 200 items (inclusive) in their hotlists, while 5 respondents or 13.16% have 201 or more items in their hotlists.

*10. The Number of Hours per Week (on Average) Respondents Watch Television*

Refer to the following table for the amount of hours respondents spend watching television.

**Table #2: The Number of Hours of Television Use per Week**

TV Use in Hours per Week	Number of Users	% of Users	Times Accessed the Web (per Week)	Number of Users	% of Users
1	3	6.98	7-14	1	2.33
2	2	4.65	8	1	2.33
3	4	9.30	10	8	18.60
3-4	1	2.33	10-12	1	2.33
4	1	2.33	10-15	1	2.33
4-5	2	4.65	15	1	2.33
5	3	6.98	15-20	1	2.33
5-6	2	4.65	20	1	2.33
5-10	3	6.98	20-40	1	2.33
6	1	2.33	21	1	2.33
7	1	2.33	30	1	2.33
7-10	1	2.33	2-40	1	2.33

As can be seen from the table above, three respondents or 6.98% of the sample watch television one hour a week. Another eight individuals or 18.60% watch ten hours of television per week. There are also a few respondents who watch over 15 hours of television a week.

*11. The Number of Newspapers Respondents Subscribe to*

30.23% of respondents do not subscribe to newspapers. 41.86% subscribe to only one daily newspaper, while 4.65% subscribe to only two dailies. 2.33% of the sample

subscribe to one newspaper only on Saturdays, while 4.65% subscribe to one newspaper only on weekends. Another 2.33% of the sample subscribe to two weekly newspapers. As can be seen, the remaining 13.95%, or six respondents, subscribe to a combination of weeklies and dailies, or bi-weeklies and weeklies.

### *12. The Number of Newspapers Respondents Buy per Month*

62.80% of respondents do not buy any newspapers. 16.28% buy more than zero and up until and including three, while 11.63% buy more than three and up until and including eight newspapers a month. The remaining 9.30% buy more than eight newspapers a month.

### *13. The Number of Magazines/Professional Journals Respondents Subscribe to*

25.58% of respondents do not subscribe to magazines/professional journals. 6.98% subscribe to one weekly magazine/professional journal only, while another 6.98% subscribe to only one monthly magazine/professional journal. There are no respondents who subscribe to only two monthlies, but there are a few who subscribe to three or more monthlies. In fact, 32.58% of respondents subscribe to at least three monthly magazines/professional journals. Out of these respondents, 64.29% (or nine people) subscribe to three, four, or five monthlies, while 35.71 (or five people) subscribe to six or more monthlies. There are even three respondents who subscribe to 12 magazines/professional journals (monthly, quarterly, or annually). The remaining 27.91% of the sample subscribe to a variety of magazines/professional journals, including various

combinations of magazines/professional journals that are bi-weekly, weekly, bi-monthly, monthly, quarterly, and annual.

*14. The Number of Magazines/Professional Journals Respondents Purchase per Month*

38.10% of respondents do not buy magazines/professional journals. 52.38% of the sample buy more than zero and up until and including three magazines/professional journals, while 9.52% buy more than three magazines/professional journals.

***Relationships Investigated***

A matrix or chart has been developed for each relationship, listing respondents' feelings and opinions as well as other data about the specific issue(s) that the relationship examines.

The following table lists the relationships that were investigated and as well as the main results that were obtained from respondents' answers during the telephone interviews.

**Table #3: Relationships Investigated**

<i>Relationships</i>	<i>Findings/Comments</i>
<i>Web Users' Use of Hotlists</i>	<i>Web Users' Use of Hotlists</i>
R <sub>1a</sub> : The number of items in Web users' hotlists is related to the level of satisfaction with the Web.	<b>Unclear.</b> Most respondents in the sample reported high levels of satisfaction with the Web. Also, the six categories grouping the number of items in hotlists have unequal sample sizes.
R <sub>1b</sub> : The number of items in Web users' hotlists is related to the level of cognitive effort required to use the Web.	<b>Unclear.</b> Most respondents in the sample reported high levels of ease of Web use. Also, there was a similar number of respondents who felt it difficult and easy to find information on the Web. Moreover, the six categories grouping the number of items in hotlists have unequal sample sizes.
R <sub>1c</sub> : The number of items in Web users' hotlists is related to the level of usage of hotlists.	<b>Unclear.</b> Respondents' comments showed that just because a user has many items in his hotlists does not mean that he will frequently access them all.
R <sub>2a</sub> : Users will add an item to their hotlists when the site is new, when they expect to return to the site, when the content/information is timely, when the site serves their specific interests, and when the visit was enjoyable.	<b>Partially supported.</b> The most frequent reasons why respondents add a site to their hotlists are: The site is interesting; they expect to return to the site; the site has useful information; they do not have time to read the site at first access; and the site serves their specific interest(s).
R <sub>2b</sub> : Users will delete an item from their hotlists when the site is not updated on a regular basis, when users have not accessed the site regularly, and after storing a site on behalf of other people.	<b>Partially supported.</b> The most popular reasons why respondents delete a site from their hotlists are: They have not regularly accessed the site; they no longer need/want the site; they are no longer interested in the site/product; they want to clean up their hotlists; and the site no longer exists.

**Table #3 - Continued**

<b><i>Relationships</i></b>	<b><i>Findings/Comments</i></b>
<p align="center"><i>Instrumental and Ritualized Media Use</i></p> <p>R<sub>3</sub>: Ritualized and instrumental users differ in the percentage of time they use links, access their hotlists, use search engines, and type in addresses in their daily Web use.</p> <p>R<sub>4a</sub>: Ritualized and instrumental users differ in the number of items they keep in their hotlists.</p> <p>R<sub>4b</sub>: Ritualized and instrumental users differ in the number of additions and/or deletions of hotlist items.</p>	<p align="center"><i>Instrumental and Ritualized Media Use</i></p> <p><b>Unclear.</b> The scale used to measure ritualized and instrumental Web use has questionable validity. Also, there is an unequal number of ritualized and instrumental Web users.</p> <p><b>Unclear.</b> There is an unequal number of ritualized and instrumental Web users.</p> <p><b>Unclear.</b> There is an unequal number of ritualized and instrumental Web users.</p>
<p align="center"><i>The Web's Effects on the Consumption of Traditional Media</i></p> <p>R<sub>5a</sub>: There is a negative relationship between Web use and television viewership.</p> <p>R<sub>5b</sub>: Web use affects newspaper readership levels.</p> <p>R<sub>5c</sub>: Web use affects magazine readership levels.</p>	<p align="center"><i>The Web's Effects on the Consumption of Traditional Media</i></p> <p><b>Partially supported.</b> Results show that the Web has decreased the television viewership levels of nine respondents or 20.93% of the sample.</p> <p><b>Partially supported.</b> Results indicate that the Web has had a negative effect on the newspaper readership levels of eight respondents or 18.60% of the sample.</p> <p><b>Partially supported.</b> Results indicate the existence of a negative relationship between Web use and magazine readership. The Web has had a negative effect on the magazine readership levels of 11 respondents or 25.58% of the sample. At the same time, the Web has increased the magazine readership of one respondent or 2.33% of the sample.</p>

### *Web Users' Use of Hotlists*

**R<sub>1a</sub>: The number of items in Web users' hotlists is related to the level of satisfaction with the Web.**

Refer to Exhibit #4 for the chart illustrating the number of items respondents keep in their hotlists and their level of satisfaction with the Web. This relationship only involves 41 respondents because two respondents did not answer the satisfaction question during the interview. In fact these two individuals are respondents 2 and 16, who have a very similar number of items in their hotlists, 75 and 85, respectively.

Respondents' level of Web satisfaction was classified according to a fully anchored 9-point Likert type scale, ranging from 1 to 9: extremely dissatisfied, very dissatisfied, dissatisfied, somewhat dissatisfied, neither satisfied nor dissatisfied, somewhat satisfied, satisfied, very satisfied, and extremely satisfied. Respondents who felt that they were moderately satisfied, generally satisfied, averagely satisfied, fairly satisfied, relatively satisfied, between fairly satisfied and very satisfied, or those who have never been dissatisfied were categorized as satisfied. One respondent who was extremely satisfied about having Web access, but not as satisfied with the Web itself, was also classified as being satisfied.



**Table #4: The Level of Web Satisfaction**

Level of Web Satisfaction	Number of Users	% of Users
Extremely Dissatisfied	0	0.00
Very Dissatisfied	0	0.00
Dissatisfied	0	0.00
Somewhat Dissatisfied	0	0.00
Neither Satisfied nor Dissatisfied	1	2.44
Somewhat Satisfied	3	7.32
Satisfied	14	34.15
Very Satisfied	22	53.66
Extremely Satisfied	1	2.44
Totals	41	100.01

From the table above, it can be seen that more than half of respondents, 22 people or 53.66% are very satisfied with the Web, while there are no respondents who are dissatisfied.

Related to the above issue is the relationship between the number of items users have in their hotlists and their level of Web satisfaction. This will be discussed in the following section.

**Table #5: The Number of Hotlist Items and the Level of Web Satisfaction**

Number of Items in Hotlists	Neither Satisfied nor Dissatisfied	Somewhat Satisfied	Satisfied	Very Satisfied	Extremely Satisfied	Totals
0	0	1	3	1	0	5
1-10	1	0	5	5	0	11
11-50	0	2	3	7	0	12
51-100	0	0	0	5	0	5
101-200	0	0	2	1	0	3
201 and more	0	0	1	3	1	5
Sample Size	n=1	n=3	n=14	n=22	n=1	n=41
% of Users	2.44	7.32	34.15	53.66	2.44	100.01

From the above table, it can be seen that of the respondents who are satisfied with the Web, 11 or 78.57% have 50 items or less in their hotlists, while nine out of 22 respondents or 40.91%, who have 51 or more items are very satisfied with the Web. The only respondent who is extremely satisfied with the Web has 201 and more items in his hotlists.

Even though the majority of respondents are at least satisfied with the Web, some respondents find that the Web still needs improvement in certain areas. Respondents have raised concerns in such areas as the speed of transmission/connection, loading time, as well as the high number of hits when searching for something through the use of a search engine (information overload). These problems are similar to those found by the Georgia Tech Research Corporation (1996b). The study conducted by the Georgia Tech Research Corporation (1996b) discovered that the speed of viewing and downloading Web sites was the number one concern among Web users, while another big problem was trying to find information.

Respondent 1, for example, who is somewhat satisfied and does not use hotlists, stated, “I wish that I could find stuff quicker. The waiting time is a factor: the nicer the Web pages, the longer the user has to wait for the site to load.” Moreover, respondent 3 who is very satisfied with the Web and has 20 items in his hotlists, feels the same way. “ ... Some of the mindless eye-candy is annoying and it takes up a lot of bandwidth ...” According to him, “mindless eye-candy is heavily graphic stuff, that for the sake of graphics, doesn’t impart any information or is not well designed and just there to look at for show.”

Similarly, respondent 36, who has 79 items in his hotlists, claimed, “I’m very satisfied with the Web. The only thing is that there’s a hardware problem - bandwidth. I’m not getting as fast access as I would like to have.”

Another example is respondent 32 who has 26 items in her hotlists. She stated:

“I’m satisfied with the Web. However, I do find that the Web is confusing sometimes. There’s a lot of different information you can look at. It’s hard to find yourself around this and there’s too much information.”

Moreover, respondent 12, who has 169 in her hotlists, stated:

“I’m pretty satisfied with the Web. My only problem about the Web is that it is slow and a lot of time you have to wait a while to get onto the pages, but that depends on the computer as well. If the loading time could be

faster, it would be much better for me, as sometimes you have to wait a long time.”

Respondent 30 is another example. He has 219 items in his hotlists and he said, “I’m very satisfied with the Web, expect for speed. It has been improving, but it still needs improvement.” Similarly, respondent 40, who has 27 sites in his hotlists, said, “I like the Web very much ... I’m pretty satisfied with the Web. However, I feel that it still needs to be faster, but it’s getting faster.”

Similarly, respondent 7 is very satisfied with the Web and has 20 items in his hotlists. He stated:

“I know that it’s improving all the time and I expect the Web to continue to improve. I would still like it to evolve. I’m very impressed. It still needs some improvement, like anything else out there.”

Moreover, respondent 8, who has 86 sites in her hotlists, claimed:

“I’m very satisfied with the Web. It could be improved by faster connections. I’m always waiting for stuff to load. I don’t have a problem finding the information, but I find that I don’t often have the time to read everything.”

Respondent 23, who has 100 items in his hotlists, shares similar beliefs:

“I’m pretty satisfied, about 80%, with the Web. The only complaint that I have about the Web is that when I’m looking for a topic, the number of hits I get is too much to be able to actually see what’s out there. I’m overloaded with information. If I look for a topic and get 10,000 hits, I will look through the first 30 just to see what the names are. Also, access to Web sites is very slow right now and it should be sped up. Accessing information takes a long time sometimes, and that is one of the problems with the Web. I feel that response time should be faster. Graphics can also be a bottleneck.”

Another example is respondent 16. He has 85 sites in his hotlists and he stated, “I find the Web fairly boring in many cases. This is because it takes too long to download and some sites are not very interesting.” Similarly, respondent 4, who has ten items in her hotlists, stated, “I’m generally satisfied, but it needs improvement in the way to get around and the time it takes to get around (depends on the speed of the modem) and to find the stuff you need.” Respondent 42, who does not have hotlists, has similar feelings:

“I’m satisfied with the Web, but I want faster access. During the day, I find that I get a lot of busy signals and have to wait. The Web is harder to access during the day. At night, I find it a bit better.”

Respondent 43, who has 220 items in his hotlists, also stated:

“I’m relatively satisfied with the Web. It’s not what I’m used to. It’s a medium where you wish things would happen quickly and it doesn’t happen quickly. Sometimes it’s difficult to log onto a site and sometimes it’s difficult to get around a site. I would ideally prefer that things would happen faster, but it’s improving.”

Moreover, respondent 6, who has 161 items in his hotlists, said, “I’m satisfied in the way that it provides a gateway for information. The trick, however, is finding what you need when you need it. This can be a problem.” In fact, respondent 26, who has seven items in his hotlists, stated:

“I’m averagely satisfied. I’m overwhelmed with information, more than anything else. Sorting through it and trying to find out what I want takes more time than actually finding what I want.”

Respondent 10, who has two items in her hotlists, is satisfied with the Web finds that:

“... there’s a lot of room for improvement, for the search engines, in particular. There’s a lot of junk on the Web and it’s increasing at an exponential rate. I don’t care about the junk as long as it’s not in my way when I’m looking for something. But, I find that the junk is becoming more and more cumbersome, so it makes everything slower and less efficient.”

Another concern that was raised is the issue of paying for things on the Web. Respondent 29, who has 12 items in her hotlists, is somewhat satisfied with the Web. She stated, “I find that the Web is a good form of information. But, many times, there are too many things you have to pay for, so instead of being an information highway, it’s more like a toll road - you have to stop, sign up, and pay for everything.”

Another problematic area is the ease with which users navigate the Web. For example, respondent 38, who has seven items in his hotlists, said:

“I’m 50/50 satisfied with the Web. There’s room for improvement. It should be more user-friendly. I don’t find it easy to get around.”

Moreover, respondent 39’s level of satisfaction varies. He has two sites in his hotlists and claimed:

“My satisfaction varies quite a bit from one site to another, depending on how well I can find the information. I’m extremely satisfied about having access to the Web. I’m not as much satisfied with the Web because I don’t always find the information that I’m looking for and it’s not always in the format that I want it. Sometimes I have to spend a long time to find what I’m interested in.”

Respondent 33, who has 15 items in his hotlists, adds another concern. He is satisfied with the Web, but stated:

“It (the Web) could be improved upon by variety in terms of the depth. There are different levels of information and they take it to a sub-level. For example, if you go to a Web page, it goes into level 1, 2, and 3. Eventually, it would be better if it got further and further in detail or in-depth.”

On the other hand, respondent 9, who has six items in his hotlists, stated:

“I’m very satisfied with the Web. For example, I save \$500.00 right away because I used to have to buy on diskette literature search documents for information and now it’s available to the public, free on the Web. It’s very quick access for me.”

Respondent 11, who is very satisfied with the Web and has 240 items in his hotlists, looks at the Web with a different view:

“It is revolutionizing the way people communicate with each other. The Web introduces a new level of communication. Like before TV, people would write to each other. Once people had telephones, the only time people would write to each other was when it was very important. So, the Internet will make telephone conversation as important as writing to each



other. Eventually, we will reach a point where people will only call each other when it's very important. For example, some people have the attitude of 'Why are you calling me on the phone, disturbing me right now, when you could have e-mailed me!'"

However, respondent 27, who has eight items in his hotlists, finds that he still needs to go to the library:

"I'm very much satisfied with the Web. As an information source, it gives me most of the time what I want. The other times, I have to do some legwork and go to the library."

Meanwhile other respondents are overjoyed about the Web. For example, respondents 20 and 40, with 1000 and 27 items in their hotlists, respectively, claimed that the Web "is the next best thing to sliced bread!" In fact, respondent 20 is the only respondent who is extremely satisfied with the Web and goes on to say:

"I'm overwhelmed with the Web ... I'm very impressed with the Web and I have been so over and over again since I started with the Web. I'm extremely satisfied with the Web."

Respondent 19, who has 201 items in her hotlists, is very satisfied with the Web also has a favorable attitude to the new medium. However, she does feel that using the Web can be frustrating. She said:

“I find that the Web is fun, I enjoy and love it, and I’m pretty satisfied. Every once in a while, I feel that the Web falls a bit short, but in general, I find that the Web is a great thing. However, I sometimes find searching a bit frustrating. Sometimes I get really obscure responses to what I thought were really specific parameters. I think that people expect everybody to have a Web site, but not everybody does. When I’m looking for something specific and I can’t find it, it’s usually because they have not gotten online yet.”

The location of Web access is another reason why respondents could be somewhat unhappy about the Web. For example, respondent 31, who has 135 items in his hotlists, stated:

“Generally, I’m pretty satisfied with the Web. This is because the majority of my Web use is at work and I have a T1 connection, so bandwidth or speed is not a problem. If I was always trying to use the Web from home, I would be frustrated with speed more often.”

As opposed to all other respondents, respondent 14, who has two items in his hotlists, is neither satisfied nor dissatisfied with the Web. In fact, he said:

“For me, it’s no big deal as it’s just another way to get information. It’s a tool that I use. For example, I found a bit of information on the Web for my project, but some students used the Web a lot more than I did. I use it when I need to.”

Yet, for respondent 35, who has ten items in his hotlists, the level of Web satisfaction has decreased over time and he is currently fairly satisfied with the Web. In his words:

“I liked the Web a lot more before than I currently do. Now, it seems to take forever to get to a page. Before, it was a novelty and it was new. Now, I use it just for information that I need.”

In contrast, respondent 37, who has 26 items in his hotlists, is more and more satisfied with the Web every week. As he stated, “At first, I had a problem with the equipment that I was using. My equipment is now better, I have faster and better access and a better machine, so I get less frustrated.”

As can be seen from Table #5 as well as from respondents’ comments, it is unclear whether the number of items in Web users’ hotlists is related to the level of Web satisfaction. One reason for this is that most respondents in the sample reported high levels

of Web satisfaction. However, there is some support for the fact that Web users will be satisfied with the Web and may have certain problems using the Web regardless of the number of items in their hotlists.

One reason for this finding can be that some issues which Web users confront are universal, do not discriminate among users, and are external to users' control. For example, many respondents in the study found that speed is a problem. As stated by respondent 14, "I have a 28.8 modem and it can still take a while for a site that has graphics to load." So, the speed problem may not only stem from the equipment that users own, but from the traffic and the sheer number of sites that are on the Web.

However, even though the relationship remains inconclusive, one fact does seem to emerge. Respondents with many items in their hotlists are either satisfied, very satisfied, or extremely satisfied with the Web. There are no individuals in this category that are dissatisfied with the Web.

For illustrative purposes, correlation analysis was conducted in order to analyze the relationship between the number of items in hotlists and the level of Web satisfaction. As mentioned before, a 9-point scale of Web satisfaction was developed. Each respondent's answer to their level of Web satisfaction was categorized according to this scale. These numbers were then correlated with the number of items respondents have in their hotlists. The coefficient of correlation between the two variables was found to be 0.391.

As previously stated, this number is simply for illustrative purposes and cannot be relied upon. One reason for this is that many of the statistical assumptions are violated, such as linearity and normality. Also, the categories of the number of items in hotlists have different sample sizes.

**R<sub>1b</sub>: The number of items in Web users' hotlists is related to the level of cognitive effort required to use the Web.**

Refer to Exhibit #5 for an examination of the number of items respondents have in their hotlists and the level of cognitive effort required in using the Web. Cognitive effort is measured by two factors: the ease of using the Web and the ease of finding specific information on the Web. The first factor, ease of use, is measured by 42 respondents, while the second dimension, ease of finding specific information on the Web, is measured by 32 respondents. Instead of answering how easy they find it is to use the Web, some respondents told us how easy or difficult they find it is to get around on the Web. The ease of getting around on the Web was therefore considered to mean the same as using the Web.

Respondents' answers for the ease of Web use were then classified according to the following 9-point Likert type scale, ranging from 1 to 9: extremely difficult, very difficult, difficult, somewhat difficult, neither easy nor difficult, somewhat easy, easy, very easy, and extremely easy. Respondents who felt that the Web is fairly easy to use, moderately easy to use, not very difficult to use, and relatively easy to get around, were categorized as

finding the Web easy to use. One respondent finds that the Web is not easy to use, so she is classified as finding the Web difficult to use.

Respondents' answers for the ease of finding specific information on the Web were also classified according to the following 9-point Likert type scale, ranging from 1 to 9: extremely difficult, very difficult, difficult, somewhat difficult, neither easy nor difficult, somewhat easy, easy, very easy, and extremely easy. Respondents who found that finding information is relatively easy, who rarely have problems, and who do not have problems finding information are classified as easily finding things on the Web. Meanwhile, respondents who found it moderately difficult to find things on the Web are classified as finding it difficult to find things.

**Table #6: The Level of Ease of Using the Web**

Level of Ease of Web Use	Number of Users	% of Users
Extremely Difficult	0	0.00
Very Difficult	0	0.00
Difficult	1	2.38
Somewhat Difficult	0	0.00
Neither Easy nor Difficult	0	0.00
Somewhat Easy	0	0.00
Easy	16	38.10
Very Easy	23	54.76
Extremely Easy	2	4.76
Totals	42	100.00

From the above table, it can be seen that nearly all respondents or 97.62% feel that the Web is easy, very easy, or extremely easy to use.

The next section will discuss the relationship between the number of items respondents keep in their hotlists and their level of ease of Web use.

**Table #7: The Number of Hotlist Items and the Level of Ease of Web Use**

Number of Items in Hotlists	Difficult	Easy	Very Easy	Extremely Easy	Totals
0	1	1	3	0	5
1-10	0	5	4	1	10
11-50	0	4	8	0	12
51-100	0	3	3	1	7
101-200	0	1	2	0	3
201 and more	0	2	3	0	5
Sample Size	n=1	n=16	n=23	n=2	n=42
% of Users	2.38	38.10	54.76	4.76	100.00

As can be seen from the above table, there is only one respondent who feels that it is difficult to use the Web. This respondent does not use hotlists. On the other hand, two respondents, one with a maximum of ten items and the other between 51 and 100, find that the Web is extremely easy to use.

One reason why some users find the Web easy or very easy to use is because they have gained experience in using the Web. For example, respondents 2, who has 75 items in his hotlists, finds that the Web is fairly easy to use. In fact, he stated:

“No problem with the vast amounts of information. I get around O.K. I have been using the Web since its development, so I’m used to it. It was worse back then because you didn’t have Web browsers. You had to know things by heart. It was really word-of-mouth.”

Similarly, respondent 3, who has 20 items in his hotlists, finds the Web very simple to use:

“It’s a joke! I find it very easy to get around in it. I used to get the Internet because the World Wide Web existed. Browsers have made the Internet so much more easier to use.”

Respondent 11, who has 240 items in his hotlists, has had much experience with the Web and finds it easy to use:

“I find it pretty difficult for the average person who is going on the Web for the first time. It might seem like a concept that’s too hard to grasp. Once you have the concept and with a couple of hours of training, there should be no problem. It’s hard to learn, but it’s easy to be an expert at it.”

Evidence of this statement rests with respondent 43 (who has 220 items in his hotlists).

“At the beginning, I was very intimidated by the Web, but I find it very easy to get around the Web.”



As opposed to other respondents who find have the Web experience, respondent 42 does not. She is the only individual who finds it difficult to use the Web. This respondent is also one of the few who does not have hotlists. She claimed, "I find that the Web isn't easy. I'm not on it enough to gain a lot of experience."

Respondent 1 (who does not use hotlists) finds that the Web is easy to use. He stated:

"Once you find a search engine, it's a question of finding what you want. But, using the Web is hard if you don't know an address and you just get on, you don't know where to go. I think that addresses should be standardized and clearer. Many Web sites have complicated addresses that are also too long."

Moreover, respondent 14, who has two sites in his hotlists, raises a concern about speed.

He states:

"Generally, it's easy to use the Web. But, the graphics sites that are on the Web are too large and they slow everything down. There are too much graphics on Web sites. The graphics should be more judiciously used. I think that just because people can do it, doesn't make something well designed. I have a 28.8 modem and it can still take a while for a site that has graphics to load."

Moreover, the speed of search engines is another concern for respondents in the sample. Specifically, respondent 38, who has seven items in his hotlists, stated, "Sometimes I get frustrated doing searches because of the slow speed and I will shut the computer down."

From Table #7 as well as from respondents' comments, it seems that a conclusion cannot be reached for  $R_{1b}$ . The fact that the level of ease of Web use may be related to the number of items users have in their hotlists is inconclusive. Thus, it remains unclear whether the number of items in Web users' hotlists is related to the level of cognitive effort required to use the Web. Again, one reason for this is that most respondents reported high level of ease of Web use.

There are other reasons why Web users find the Web easy to use. First, the sites that they visit may be clearly presented and easily explained. Second, the degree ease of Web use may also depend on the level of experience of the Web user and the amount of time he spends on the Web.

For illustrative purposes, correlation analysis was used to analyze the relationship between the number of items in hotlists and the level of ease of Web use. As previously mentioned, a 9-point scale was developed for the dimension of the ease of Web use. Respondents' answers to this factor were categorized according to this scale. The coefficient of correlation between the number of items users have in their hotlists and the level of ease of Web use was found to be 0.101. As previously mentioned, this number should be used

with caution. However, this correlation is somewhat similar to the conclusion made using respondents' comments.

As previously stated, this number is simply for illustrative purposes and should not be used to draw conclusions. Again, statistical assumptions were violated. Also, there are unequal sample sizes relating to the number of items in hotlists. For example, there are only five respondents who have 201 and more items, while there are 12 individuals with 11 to 50 items in their hotlists.

The following section discusses how respondents feel about finding specific information on the Web.

**Table #8: The Level of Ease of Finding Information on the Web**

Level of Ease of Finding Information on the Web	Number of Users	% of Users
Extremely Difficult	0	0.00
Very Difficult	1	3.13
Difficult	12	37.50
Somewhat Difficult	0	0.00
Neither Easy nor Difficult	3	9.38
Somewhat Easy	0	0.00
Easy	12	37.50
Very Easy	3	9.38
Extremely Easy	1	3.13
Totals	32	100.02

From the above table, it can be seen that 12 people or 37.50% of respondents find that it easy to find information on the Web. Meanwhile, 12 people or 37.50% also find that it is difficult to find what they are looking for on the Web.

**Table #9: The Number of Hotlist Items and the Level of Ease of Finding Information on the Web**

Number of Items in Hotlists	Very Difficult	Difficult	Neither Easy nor Difficult	Easy	Very Easy	Extremely Easy	Totals
0	0	2	1	0	1	0	4
1-10	1	2	1	3	1	1	9
11-50	0	3	0	4	0	0	7
51-100	0	2	0	3	0	0	5
101-200	0	1	0	1	1	0	3
201 and more	0	2	1	1	0	0	4
Sample Size	n=1	n=12	n=3	n=12	n=3	n=1	n=32
% of Users	3.13	37.50	9.38	37.50	9.38	3.13	100.02

As can be seen in the table above, the respondent who feels that it is very difficult to find things on the Web has a small number of items in his hotlists. Moreover, respondents who feel that it is difficult to find information on the Web are spread out over the different ranges of items. Also, the only person who finds that it is extremely easy to find information has a small number of items in his hotlists.

As stated before, there are many respondents who said that they have difficulties finding specific information on the Web. For example, respondent 4, who has ten items in her hotlists, stated:

“I find it often very annoying and very frustrating. I don’t know if it’s because my modem is slow, but if I don’t have anything specific to find, I find it very annoying to go onto. Because it brings me to many different places for all the different links I get and I get frustrated and close the whole thing without finding what I’m looking for. On the other hand, if I have something specific in mind and I know how to find it quickly, I will find it very useful.”

Respondent 24, who has 20 sites in his hotlists, shares similar beliefs:

“I find that sometimes it gets confusing to find things on the Web. This is because a site can have a link that brings you back. For example, if you’re on a site that has an advertisement and you want to access that ad. it takes time to access it.”

Moreover, respondent 6, with 161 items in his hotlists, finds that it is difficult to find what he is looking for. In fact, he said, “... The question is that once you’re on, it’s hard to find exactly what you want.” Similarly, respondent 35, who has ten items in his hotlists, stated, “I find it difficult to find things on the Web ... Another reason is that the Web is unorganized and it’s hard to find the exact things that you’re looking for.”

In addition, respondent 42, who does not use hotlists, stated:

“I find it sometimes difficult to find what I’m looking for. If I go to the sites that I usually go to, that are work-related, then I have no problem and I find it easy. However, if I was to log on and browse, I would find it very difficult. Once you get familiar with the Web, it’s easy.”

Information overload is a common concern for Web users, as many people find that there is too much information on the Web and that the search engines are not efficient enough. Also, many respondents have expressed their concerns over the fact that they get too many entries when they conduct a search on a search engine. For example respondent 22, who does not use hotlists, said, “There is too much to look at. You have to sort out the good stuff from the crap (advertising).” Moreover, respondent 23, who has 100 items in his hotlists, stated: “I find that there’s too much information out there, information overload. When I look for a topic, I get too many references, so it’s very hard to find things.”

Similarly, respondent 32, who has 26 sites in her hotlists, said:

“I find it hard to find things on the Web. This is because I find that there’s always too much to look at. You search for a specific topic and you end up with tons of sites to look at. It takes time and sometimes you even have to go through sites that aren’t relevant.”

Also, respondent 43, with 220 items in his hotlists, gets very frustrated because of the number of references that he is given:

“I find that if I’m looking for a specific thing, the Web will sometimes give you general information and it becomes very difficult to get exactly to the place you’re going. In an encyclopedia, it’s relatively easy to find something specific. Whereas on the Web, there’s so much information that you can’t necessarily get to the area that’s out there that might have exactly what you want. Also, there’s so much other stuff out there that it’s almost too difficult to get it all. If you’re looking for something general, then the Web can provide you with a lot of leads. Then it’s just a matter of time to go through them all. Sometimes I will get fed up and shut the computer off.”

Moreover, respondent 13, who has 20 sites in his hotlists, stated, “ ... it can be difficult to find things. There are too many references given when you conduct a search.” Similarly, respondent 17, who does not use hotlists, said, “It’s sometimes difficult to find information, as you might get too many references when conducting a search.” Also, respondent 6, who has 161 items in his hotlists, feels that it is important to minimize the entries that search engines give because they provide users with such a big amount.

Respondent 9, who has six items in his hotlists, also stated:

“To use bookmarks is straightforward. To find things is tricky. It’s not always straightforward to find something new. (Depending on) the links and keywords you use, sometimes you end up getting to a place that has minimal information and not really what you want ... If you chose the wrong link, it can be an aspect of your keyword that is not of interest. For example, it can be too clinical and your interested in more technical information ... You can get on the Web and get something right away. But, if you’re looking for something more specific, that becomes more difficult. Narrowing down the number of entries given in a search is the key.”

Moreover respondents 21, who has eight items in her hotlists, stated:

“Sometimes with a search engine, though, as you search something, you get thousands of entries. Just going through them is a long process. I try to limit them, but sometimes I still get too many entries.”

Respondent 38, who has seven items in his hotlists, also agrees. “There are so many ways of writing it down when you’re looking for something specific. You can get too many references and never finish the search. I find it very difficult to find things that I’m looking for.”

In addition, respondent 40, who has 27 items in his hotlists, says that the Web is time consuming. “There are so many things available to be found on the Web, that you have to



be precise in your searches to find what you're looking for." Also, respondent 41, who does not use hotlists, said, "I find ... (it) quite easy to find things. Eventually, you find things on the Web, but it just takes time."

Not only are people concerned about the amount of references given, but they have also paid attention to their quality. Respondent 19, who has 201 items in her hotlists, feels that "Sometimes, some of the results of the searches are a little obscure, not very relevant." Similarly, respondent 23, who has 100 sites in his hotlists, said, "You do get information on what you're looking for, but you might miss out on something that would be more relevant, more catered to your needs."

As opposed to some people who have complained about search engines, respondent 29 (who has 12 items in her hotlists) feels differently. In fact, she claimed:

"I find that the search engine, Yahoo, is pretty easy to use. With Yahoo, I find that it's easy to find what I'm looking for. I have tried another search engine, but (I) didn't like it."

Respondent 39, with two sites in his hotlists, also stated:

"I find that it's generally easy to find things on the Web. If I have problems with the fact that I was given too many references, it's because I have not provided enough. I don't mind scrolling down 100 sites."

Meanwhile, some respondents do not mind using search engines. For example, respondent 36, who has 79 items in his hotlists, stated:

“Generally, I find it easy to find what I’m looking for. As long as I have some keywords to use and as long as there’s anything out there, I can use a few search engines to find it. I can’t think of anything that I have wanted to look for that I couldn’t find something about.”

Other Web users have minor difficulties in trying to find what they are looking for on the Web. For example, respondent 5, with ten sites in her hotlists, stated, “I find it pretty easy to get around. I have problems in getting what I’m looking for, but not any that I have not been able to figure out or get help with.” Similarly, respondent 9, with six items in his hotlists, said, “I find it easy to use because there are many people who know more about the Web than I do. So, if I have a problem, I can just ask them.”

Due to their level of Web experience, some respondents do not have any difficulties in finding what they are looking for. For example, respondent 15, with four sites in her hotlists, stated:

“I don’t find it at all difficult to find things. Within five minutes, I usually have what I’m looking for. Because of the work I did in the past, I’m very good at narrowing down my searches.”

Similarly, respondent 31, who has 135 items in his hotlists, has learned how to narrow down his searches:

“I find that it’s pretty easy to find things on the Web. As an academic, I search a lot of information databases (through library databases and CD-ROM’s) and I understand how to do a search of a database, I understand what’s a good keyword and how to combine them. So, I’m very comfortable using the search engines because I’m used to it. If I was looking for something specific, I could eliminate wrong keywords to search because they would be too general or too specific. My experience using electronic database searches has made it easier for me to use Web-based search engines.”

Moreover, respondent 37, with 26 sites in his hotlists, said:

“I find it relatively easy to find things that I’m looking for. It’s a lot like commands in a Dbase type program as you can specify what you want precisely. The search engines are pretty good to find things and I find that they’re getting better and better. With my experience, I have learned what to do and what not to do when doing a search.”

Not only do some respondents have feel it is easy to find what they are looking for on the Web, but respondent 27 (with eight sites in his hotlists) finds it extremely easy. “This is because more often than not I know what I’m looking for.”

It is important to explain how respondents were classified into the category of neither easy nor difficult, with respect to how easy or difficult they feel it is to find specific information on the Web. As was previously stated, three respondents were classified into this category. The main reason for why they were placed in this particular category was that they feel it can be both easy and difficult to find specific information on the Web, depending on the type of search and the kind of information a user is looking for.

For example, respondent 26, who has seven items in his hotlists, said:

“I find that it’s moderately easy to use. Since I normally do some kind of a guided search and I start off with some Web sites, it becomes easy. If it’s a totally blind search, then it takes time and you need to have patience to go through it. It’s more time consuming, but the search process isn’t too bad because the browsers are good as there are a lot of ways of searching. Sorting through it and trying to find out what I want takes more time than actually finding what I want.”

Another individual, respondent 30, with 219 items in his hotlists, said:

“Sometimes it’s easy to find information, while other times it’s difficult. Depending on the information I’m looking for, some things are easy to find, while some things I have never found. For example, I was looking for a piece of shareware (Explorer Plus), but could not find it in Yahoo, AltaVista, or at shareware.com. I couldn’t find it under its name or the name of the developer. I ended up going to a client and taking it from them. Most of the time, I find what I’m looking for. However, sometimes it could take me a long time.”

From Table #9 as well as from respondents’ comments, it can be seen that the ease of finding information on the Web varies among respondents. In fact, there is more variation in the level of ease of finding information than there is in the level of ease of using the Web. However, it is still difficult to conclude that the number of items users keep in their hotlists is related to the level of ease of finding specific information on the Web. Thus, it is unclear whether the number of items in Web users’ hotlists is related to the level of cognitive effort required to use the Web. In other words,  $R_{1b}$  is unclear given the data that were obtained.

One reason for this finding is that there was a similar number of respondents who felt that it was difficult and easy to find information on the Web. Thus, it was difficult to find differences between those users who have many items in their hotlists and those who have fewer items.

There are other reasons why Web users may find it easy/difficult to find specific information on the Web. From their comments, it can be seen that some respondents have had much experience using the Web and/or conducting other searches on CD-ROM's that are similar to those searches using search engines. Thus, these individuals have an easier time finding what they are looking for than those people with less experience.

Among the reasons why respondents find it difficult to find information are that the Web is unorganized; there is too much information available on the Web; and that the search engines give users too many references. Thus, even though users said that they find the Web easy to use, some of them find that it is difficult to find what they are looking for.

For illustrative purposes, correlation analysis was conducted to analyze the relationship between the number of items users have in their hotlists and the level of ease of finding specific information on the Web. As previously mentioned, a 9-point scale was developed for the ease of finding information on the Web. Respondents' answers to this dimension were categorized according to this scale. The coefficient of correlation between the number of items users have in their hotlists and their level of ease of finding information on the Web was found to be 0.068.

As previously explained, this number should be used with caution. Nonetheless, this correlation is somewhat similar to the conclusion drawn from respondents' comments. One reason is that the above correlation analysis is very simplistic in nature and is not only

based on a very small sample size, but also on unequal sample sizes. Moreover, and as stated before, statistical assumptions are violated.

As previously mentioned, the level of cognitive effort was measured by two factors: the ease of Web use and the ease of finding specific information on the Web. Looking over the tables, a few observations can be made. In general, there are more users who find the Web easier to use compared to those who feel it is to find specific information. Stated another way, there are many more users who feel it is difficult to find things compared to those individuals who feel it is difficult to use the Web. In fact, only one respondent felt it difficult to use the Web, while 12 people felt it difficult and another individual felt it very difficult to find specific information on the Web.

Moreover, there is also a big discrepancy in the number of users who feel that the Web is very easy to use and those who feel that it is very easy to find information on the Web. Specifically, 54.76% of respondents feel that the Web is very easy to use, while 9.38% feel that it is very easy to find information.

In addition, it is interesting to note that the ease of finding information has more categories than the ease of Web use. Specifically, respondents have given four different levels of ease of Web use, while they named six different levels for the ease of finding information. All categories that depict the ease of Web use are also present in the ease of finding things. However, respondents have also responded to the ease of finding

information with the categories of very difficult and neither easy nor difficult. Thus, respondents' levels of finding specific information vary more than those for using the Web.

Because cognitive effort is made up of two different constructs, it was necessary to examine any possible associations between the two dimensions. Correlation analysis was conducted to examine the relationship between the ease of Web use and the ease of finding specific information on the Web. The coefficient of correlation was found to be 0.289. Thus, these two factors are mildly and positively correlated to each other. This means that if a user finds that the Web is easy to use then he will possibly also feel that it is easy to find information. Or, said another way, if a user feels that it is easy to find things on the Web, then he will possibly also find it easy to use the Web. The fact that there is a relationship between these two factors may lead to a small confusion of the results.

**R<sub>1c</sub>: The number of items in Web users' hotlists is related to the level of usage of hotlists.**

Refer to Exhibit #6 for the chart illustrating respondents' number of items in their hotlists and their level of usage of hotlists (in percentage). This relationship examines the association between the number of items users have in their hotlists and the percentage of time they use their hotlists to access Web sites. As was previously mentioned, hotlists are not the only method that Web users can use to access Web sites. Other techniques include search engines, links, and typing in Web site addresses. No possible relationships were



investigated, however, between the percentage of use of search engines, links, or typing in addresses and the number of items respondents have in their hotlists.

It should also be noted that the sample size for  $R_{1c}$  is 38 respondents. This is because five respondents (1, 17, 22, 41, and 42) in the sample do not use hotlists. Because they do not use hotlists, their level of hotlist usage is obviously zero. In fact, there is one individual, respondent 14, who has two items in his hotlists, but claims that he does not access them. Thus, this shows that even though people may have items in their hotlists, they may not access Web sites in this way.

Furthermore, just because users have items in their hotlists does not mean that they frequently access them all. In fact, some respondents do not only add items to their hotlists that they expect to revisit time and again. For example, respondent 11, who has 240 items in his hotlists, said:

“In the beginning, I got bookmarks from a company that already had a few hundred in there that had to do with my type of industry. So, I downloaded a bunch of Web sites that someone had published on software and hardware magazine sites. I add and subtract to it ... I bookmark a lot of things, and usually go back to them. But, I don't only bookmark sites that I expect to go back to.”

It is interesting to note that this respondent has a high number of items in his hotlists (240 items). Also, respondent 24, who has 20 sites in his hotlists stated that he does not use these sites all the time. In addition, respondent 40, who has 27 sites in his hotlists says that “just because it’s bookmarked, does not mean that I frequently visit all the sites.”

Similarly, respondent 31 has many items in his hotlists (135 sites). However, he does not use a lot of them:

“20% of the bookmarks I’m using 80% of the time (the 80/20 rule). The other 80%, I only use 20% of the time. Because I have them categorized, I don’t mind putting some obscure bookmarks because they are not really in the way (they are in their own folder).”

Moreover, respondent 39 has two items in his hotlists, but does not access them very often:

“I go to my favorites because I know exactly what I want and I want very specific information. I don’t spend much time on them. I will get the information I need and will then log off. Favorites represent 20% of my total time on the Web, versus 80% when I explore and when I don’t know which site I will go to to find what I need.”

Respondent 34 does not frequently use all his 100 sites that are in his hotlists, either. “But when you want them, they are there.” Moreover, respondent 38 has some sites in his hotlists that he does not use anymore, but has yet to delete them.

Another example is respondent 30. He has 219 sites in his hotlists, but accesses them only 10% of the time. “If I’m not starting from my e-mail, I will start from a site in my bookmarks. But, from that point on, I will not come back to my bookmarks, as I will go through links.”

On the other hand, there are some respondents who spend a lot of time accessing sites from their hotlists. For example, respondent 27 has eight sites in his hotlists and said that he really focuses on those few sites. Meanwhile, respondent 10 uses her hotlists 100% of the time. She also stated, “I use bookmarks as a search engine database for abstracts and references (for work-purposes).” Similarly, respondent 38, who has seven sites in his hotlists, said, “Every time I start off (on the Web), I use my bookmarks, as they also contain the search engines.”

Moreover, respondent 31 has 135 sites in his hotlists and accesses them 80% of the time. “I don’t use search engines all that much because I’m not often looking for new places to go. My bookmarks are stuffed full of places.” Respondent 28 has fewer items in her hotlists, 12 of them, but accesses them 80% of the time as well. “There are standard sites that I want, so I don’t have to use search engines. I just use my favorites.”

Even though some sites that are put in hotlists are not all frequently visited, almost all 38 respondents have all their frequently visited sites in their hotlists. There are only four respondents or 10.53% who do not have all their most often accessed sites in their hotlists. These four people do indeed have hotlists, but have chosen not to keep all their most frequently visited sites in this form of external memory.

It appears that most of those respondents who do not keep their most frequently visited sites in their hotlists have the sites at a location where they can just click on the icon, rather than go into their hotlists, have the sites come up as soon as they log in, and/or do not mind typing in the Web address. The first two options allow users quick and easy access to Web sites and do not require much effort. On the other hand, typing in the Web address is somewhat more time consuming and requires the user to use his memory, unless he has it somewhere written down on a list.

For example, respondent 6, with 161 items in his hotlists, has most of the sites that he most often accesses in his hotlists, except for Yahoo. This is because he can click on Yahoo as soon as he logs onto Netscape. Respondent 15 has four items in her hotlists and frequently accesses two more sites (that are not in her hotlists). One of these sites is the first site to come up when she logs onto the Web, while she types in the address for the other site.

Another example is respondent 38, who has a total of seven items in his hotlists. Three of the sites that he frequently visits are not in his hotlists. This is because he never really took

the time to put them in his hotlists, as sometimes he forgets. He will therefore type in the addresses. Similarly, not all respondent 39's frequently visited sites are not in his hotlists:

“Right now, I have two sites on the computer, ‘site A and site B’ (only one of them is among his most often accessed sites). I have to change them around because I just got a new computer. The way I want to do it is to have bookmarks for ‘sites A, B, C, D, and E’. I would have five sites. For the first month, there will be less than seven. In a year, I plan to have less than 20 sites.”

Thus, from respondents' comments, it is unclear whether the number of items in Web users' hotlists is related to the level of usage of hotlists. A conclusion cannot therefore be reached for  $R_{1c}$ .

A possible reason for this finding is that those users who have many items in their hotlists have added them thinking that they may need them some day and that they may forget how they found in the site in the first place. As a result, they may only access some of the sites in their hotlists when the need arises. In other words, just because they have many sites in their hotlists, does not mean that they are going to frequently access them all. These people may, in fact, prefer searching for information through other methods such as search engines and links.

For example, respondent 20 has approximately 1000 items in his hotlists and he only accesses his hotlists 5% of the time. Specifically, he prefers to use search engines more often to conduct his Web explorations (he uses them 80% of the time). In addition, he keeps so many items in case he needs the information at some point in the future. “Anything that I find interesting, I will put as a bookmark. I will go back to them when I run out of things to look at, on a rainy day.”

Another example is respondent 39. He has two items in his hotlists, but accesses them 20% of the time. This is because he prefers to search and explore more often through links. Similarly, respondent 11 has 240 items in his hotlists, but only accesses them 30% of the time, while respondent 6 has 161 items in his hotlists and accesses them only 15% of the time. Another individual, respondent 30, has 219 items in his hotlists and only accesses them 10% of the time.

On the other hand, some respondents do frequently access their hotlists in their daily Web use. For example, respondent 43 has 220 items in his hotlists and accesses them 75% of the time, compared to other methods available. However, he does not frequently access them all because he keeps sites in his hotlists in the hope that he might need them one day. Another example is respondent 31 who has 135 items in his hotlists and accesses them 80% of the time.

For illustrative purposes only, correlation analysis was conducted to examine the relationship between the number of items in hotlists and the level of usage of hotlists (in

percentage). The coefficient of correlation was found to be -0.229. Again, caution must be taken when interpreting this figure because of the simplistic analysis used in the study. Thus, conclusions cannot be drawn from this analysis. It can however be seen that this correlation has similar implications to what was concluded using respondents' comments.

**R<sub>2a</sub>: Users will add an item to their hotlists when the site is new, when they expect to return to the site, when the content/information is timely, when the site serves their specific interests, and when the visit was enjoyable.**

Refer to Exhibit #7 for the chart illustrating the reasons why respondents add a site to their hotlists and any comments that they may have made. The sample size for R<sub>2a</sub> is 38 respondents. This is due to the fact that five respondents do not use hotlists. Respondents' answers to the question, "How do you decide to add a site to your bookmarks/favorites?" were classified into categories. The decision of which category/ies a respondent was classified into was a judgment call made by the researcher. The following table examines the conditions under which users add a site to their hotlists.

**Table #10: Reasons to Add a Site to Hotlists**

Web Users Add a Site To Their Hotlists When ...	Number of Users	% of Users
The site is interesting	24	63.16
<b>They expect to return to the site</b>	<b>24</b>	<b>63.16</b>
The site has useful information	6	15.79
They do not have time to read the whole site at first access	5	13.16
<b>The site serves their specific interests</b>	<b>5</b>	<b>13.16</b>
They need to have quick/convenient access to the site	4	10.53
The site is regularly/frequently visited	3	7.89
On impulse	1	2.63
<b>The content/information of the site is timely/up-to-date</b>	<b>1</b>	<b>2.63</b>
<b>The site is something new</b>	<b>1</b>	<b>2.63</b>
They want to show other people	1	2.63
<b>The visit is enjoyable</b>	<b>0</b>	<b>0.00</b>

The conditions and numbers which are in bold-type make up  $R_{2a}$ . They are the reasons that were proposed for why users add a site to their hotlists. The categories are not mutually exclusive. Thus, one respondent can give more than one reason for adding a site to his hotlists.

It was proposed that users will add a site to their hotlists when the site is new, when they expect to return to the site, when the content/information is timely, when the site serves their specific interests, and when the visit was enjoyable. The following section discusses respondents' comments and the reasons for adding a site to their hotlists. Results from the interviews somewhat support  $R_{2a}$ .



For example, the data support the fact that users will add a site to their hotlists when they expect to return to the site. In fact, 24 respondents, or 63.16% listed this reason as one of two most popular reasons why they add a site to their hotlists.

Specifically, one of the reasons why respondent 5 will add a site to her hotlists is that she expects to return. “If the site is very interesting, I will want to return to the site someday for information. Also, if I have not had enough time to get through the whole thing, I will want to go back.” Similarly, respondent 36 stated, “These (sites that I have added) were sites that I went to by a link or that I wanted to find out information about. In both cases, I found the site interesting and thought that I might come back again.”

Respondent 18 adds a site for similar reasons. She said:

“If the site is interesting and I do not have the time then to look at it, I will bookmark it and go back to it later. Also, if you are roaming a bit, there are only so many sites you want to see and you bookmark them. That’s why I end up trashing some of them after a while.”

Also, respondent 7 will add a site to his hotlists for the same reason. “(I will add a site) when I want to go back and visit the site. For example, I will go back and see what a certain company is doing in one month from now.” Respondent 11 will also add a site when he thinks he will go back and visit it. “With the product I am looking for, I figure that I would look for it again. I bookmark a lot of things and I usually go back to them.”

Moreover, the only reason why respondent 12 will put a site in her hotlists is as she stated, “when I find something really interesting that a) I want to show to someone else, or b) that I plan to be using in the future.” Respondent 24 adds a site to his hotlists for similar reasons:

“Someone had given me an interesting site and I wanted to keep the address. Other sites represent new areas that I knew I was going to, so I wanted to refer back to them. For example, to get weather forecasts.”

Similarly, respondent 39 stated, “(I add a site) either because I visit it regularly or because it is something that I find, either through the search engine or a Web site that I do not have the time to look at. I add it to use as a reference for later on.” Moreover, respondent 43 said, “... If I get to a site that’s well-put together and I might need it one day and would like to visit it, I will bookmark it. (This is in order) to be able to get to it quickly.”

Respondent 20 will add a site to his hotlists when the site contains information that he is in fear of losing:

“I find a site on the search engine and I might not have the time to study the site in detail. So, I will put it in my bookmarks. When I need that information, I have the leisure of going back to it ... Also, if I feel that I need to remember something, I will bookmark it. Also, just in case I need the information at some point, I will bookmark it as well.”

Similarly, respondent 35 will add a site to his hotlists because, as he stated, “I might forget where I went and how to get there.”

In further analysis, it was found that five respondents or 13.16% said they will add a site to their hotlists because it serves their specific interests. This fact is rather surprising because it was found that personal interest is a major motivation to site selection. For example, respondent 19 has added sites to her hotlists because she needs them for the specific purposes of finding a job, looking for a house, and work. Respondent 25 will also add a site because she needs it for specific purposes. For example, she will add a travel site to her hotlists because she is looking to go somewhere.

Respondent 26 will add a site to his hotlists for the same reason. “Since I started using the Web, I have found these sites for research, teaching, and entertainment purposes. I have added these sites and they serve my interests.”

Moreover, only respondent 10 or 2.63% of the sample said that she adds a site to her hotlists (among other reasons) because of its timely/up-to-date content/information. Thus, it can be clearly said that this respondent values up-to-date information. However, this is an odd finding given the fact that practically all respondents feel that the Web offers frequently updated information. In addition, it was found these respondents frequently visit sites that are timely and updated on a regular basis. Thus, it can be concluded that even though respondents did not clearly state that they add a site to their hotlists because

of its updated information, it is fair to say that up-to-date information is one of their priorities.

Furthermore, only one respondent, respondent 28 said that she adds a site to her hotlists (among another reason) because it has something new.

It was also proposed that people will add a site to their hotlists when the visit is enjoyable. In contrast to what was expected, it was found that no respondents will add a site to their hotlists because of this reason. This is a surprising result because in a study conducted by Rice (1997), it was found that the second most important reason to why a user would revisit a site (71%) is whether or not he found the visit enjoyable.

Because people have different reasons for their preferences and actions, the study was limited to discussing five conditions under which users will add a site to their hotlists. Thus, some of respondents' reasons for adding a site to their hotlists differed from what was proposed and/or were in addition to what was proposed.

For example, it was not predicted that Web users would add a site to their hotlists because the site is interesting. Respondent 2 states that one of the reasons why he will add a site to his hotlists is that "something catches my eye." Furthermore, respondent 3 explains one of the conditions under which he would add a site to his hotlists:

“... there’s no rationale, it’s just impulse. It hits me and then it’s like as if I get a jerk out of watching a TV commercial. I will just bookmark it. I may never come back to it, though.”

The remaining conditions under which users will add a site to their hotlists, though most are obvious, were not proposed. For instance, six respondents or 15.79% mentioned the fact that they will add a site to their hotlists because it has useful information. This is not the same as timely information. It is believed that information can be useful and/or timely, depending on the situation at hand. But, respondents’ answers were either classified as one or the other. For example, users may be interested in good content, but may not be looking for information that is up-to-date. A scientist who is conducting some research may access different science journal sites online because they have useful information, as opposed to timely information. It is not important to him that the sites be up-to-date because he is searching for techniques that have been used in the past and for other similar studies that have been done.

On the other hand, a user may feel that the timeliness of the information is more important than the usefulness of the information. For example, a user may access a news-oriented site to receive up-to-date information, but not necessarily to get information that she could use in her day-to-day life.

As can be seen from the table above, there are other reasons to why users add a site to their hotlists. Because they are less common among Web users, it was not necessary at this point in time to explain them any further.

To summarize, R<sub>2a</sub> was partially supported. Many respondents stated that they will add a site to their hotlists when they expect to return to the site, while a few will add a site when it serves their specific interests. One respondent will add a site to her hotlists when the content/information is up-to-date, while another individual said that she will add a site to her hotlists when it is something new. No respondents claimed to add a site to their hotlists when the visit is enjoyable.

**R<sub>2b</sub>: Users will delete an item from their hotlists when the site is not updated on a regular basis, when users have not accessed the site regularly, and after storing a site on behalf of other people.**

Refer to Exhibit #8 for the chart illustrating the reasons why respondents delete a site from their hotlists and any comments that they may have made. The sample size for R<sub>2b</sub> is 27 respondents. This is because while five respondents do not use hotlists, another 11 individuals have never deleted a site from their hotlists. Respondents' answers to the question, "How do you decide to delete a site from your bookmarks/favorites?" were classified into categories. The decision of which category/ies a respondent was classified into was a judgment call made by the researcher. The following table examines the conditions under which users delete a site from their hotlists.

**Table #11: Reasons to Delete a Site From Hotlists**

Web Users Delete a Site From Their Hotlists When ...	Number of Users	% of Users
<b>They have not regularly/frequently accessed the site</b>	<b>10</b>	<b>37.04</b>
They have no need/want for the site anymore	10	37.04
They are not interested in the site/product anymore	7	25.93
They want to clean up/update their hotlists	6	22.22
The site does not exist anymore/is no longer linkable	5	18.52
The site becomes boring	2	7.41
The site is a duplicate	1	3.70
The is site is old	1	3.70
<b>The site is not regularly updated</b>	<b>1</b>	<b>3.70</b>
<b>They have stored a site on behalf of other people</b>	<b>0</b>	<b>0.00</b>

The conditions and numbers which are in bold-type make up R<sub>2b</sub>. They are the reasons for why users delete a site from their hotlists. As before, the categories are not mutually exclusive. Thus, a respondent can have more than one reason for deleting a site from his hotlists.

It was proposed that users will delete a site from their hotlists when the site is not updated on a regular basis, when they do not regularly access the site, and after storing a site on behalf of other people. The following section discusses respondents' comments and reasons to why they delete a site from their hotlists.

The data support the fact that users will delete a site from their hotlists when they have not regularly (or frequently) accessed the site. In fact, 10 respondents or 37.04% listed this reason as one of the two most popular reasons to why they delete a site from their hotlists. One example of a user who has deleted sites from his hotlists because he had not

regularly accessed them is respondent 31. “I did not recognize them anymore. I forgot why they were there, why I had them in the first place.”

Another example is respondent 4. “I delete a site when I have not gone back to them in a long time. For example, I deleted two sites within the past month because I had not gone back to them in a year.” Moreover, respondent 12 will delete a site for the same reason. “If I go through them (her hotlists) and see that I have never gone to a certain site at all, and I realize that I really didn’t need to bookmark it, then I will delete it.”

With the same reasoning is respondent 21. “I have delete because when I (first) looked at it, I thought that I would use it, but never did. I have therefore deleted when I realize that I never go to the site.” Similarly, respondent 36 stated, “Some sites I bookmarked because there was a specific issue that I was interested in and I would have when I needed it. Later on, I did not need them anymore, and thus I deleted them.”

Surprisingly, however, respondents did not mention that they delete a site from their hotlists when the site is not regularly updated. This finding indicates that up-to-date information is not on the sample’s high priority list. This is also consistent with one of the findings in  $R_{2a}$ , as it was found that one respondent said that she will add a site to her hotlists when the information is up-to-date. Nonetheless, even though respondents did not specifically state that they delete a site when it does not contain timely information, they do visit sites that contain current information.



In addition, no respondents in the sample said they will delete a site from their hotlists after having stored the site on behalf of other people. A possible reason for this is that people may not store a site for others, but may give them the address instead so they can type it in directly.

The study was limited to a few conditions under which users would delete an item from their hotlists, because of the fact that respondents can have a variety of reasons why they would delete a site from their hotlists. Results show the existence of a few others. For example, one of the most popular reasons to delete a site from hotlists is that respondents have no need/want for the site anymore. In fact, ten individuals or 37.04% gave this reason. This means that if they find that the site no longer meets their needs, they will eliminate it from memory.

For example, respondent 7 will delete a site for this reason. "It would be a site that I would have put there to reference and go back and check. I might go back and check it and decide that I don't need it, as I won't visit it again."

Another example is respondent 15. She stated:

"I had a site on antique shopping because I was going to New England, but after the trip, I didn't need it anymore. I didn't keep it even for later reference because I know the sites where I can find the shops. I like to

keep my computer as neat as possible, so I generally don't leave a lot of stuff in memory."

Respondent 25 feels the same way:

"When I come back from a vacation, I will delete all those sites that are related to that location. I delete them because I don't need them anymore. I will delete personal Web sites, but I will keep the work-related ones."

Moreover, respondent 18 stated:

"Sometimes, I will delete a site if at first I had bookmarked it and then went back to it, but while looking through it I find that it is not worth keeping. If I really need to go there, I can find it again. It's not necessarily something you want to keep on hand, ready."

In contrast to the respondents above, respondent 32 will keep more items in her hotlists for pleasure purposes. In fact, she has stated that:

"For work purposes, every time I go on the Web, it's for something different. So, I will not bookmark it. For example, I will look up pharmaceutical or beer industries. Therefore, I have more bookmarks for

pleasure than for work. Bookmarks are more important for me for pleasure purposes than for work purposes.”

The next most popular reasons why respondents delete a site from hotlists are that they are no longer interested in the site and/or the product anymore, they want to clean up or update their hotlists, and that the site no longer exists/is no longer linkable. Some respondents will clean up their hotlists once in a while by deleting certain sites because they find that the items in their hotlists become overcrowded. Thus, hotlists can become unmanageable after a certain number of sites are added. Since the main purpose of the creation of hotlists is to ensure that users can access sites quickly and easily, it is important for users to upkeep their hotlists.

For example, respondent 27 will delete some sites from his hotlists “because they were getting crowded and I was looking for what to select from the bookmarks.” In addition, respondent 12 tries to limit the number of sites in her hotlists, stating that “I get to a certain point where there are too many after a while.”

Moreover, respondent 35 stated, “I sometimes update my browser and delete the old ones (sites).” Similarly, respondent 39 said:

“I clear it up every six to eight months, when it starts accumulating too much and when I don’t have the time to go to those sites. I will delete ten sites at once ... (I delete sites) to ease my navigation. With a list of 20 sites,

it's more difficult to find the site that you want than with a list of five sites.”

The remaining conditions are not as common as those already mentioned. It was therefore felt that there was no need to examine them further.

To summarize, R<sub>2b</sub> was partially supported. A few respondents stated that they will delete a site from their hotlists when they have not regularly accessed the site, while one respondent will delete a site when it is not regularly updated. No respondents said that they will delete a site after they have stored it on behalf of other people.

#### *Instrumental and Ritualized Media Use*

Research has yet to measure instrumental and ritualized media orientations with respect to the Web. This study represents the beginning of this type of investigation. The current research tries to expand past studies that have been conducted on instrumental and ritualized media orientations by classifying Web users as instrumental or ritualized media users. These two types of orientations were measured by a combination of a couple of dimensions. The first one involves the activities that respondents perform on the Web (such as looking for information, purchasing, and chatting). The second factor is how respondents use the Web. Specifically, one of the questions in the interview was “Do you always have a clear idea of the sites you will go to, or do you tend to visit sites that you had not necessarily planned?”

Respondents' answers and opinions to the above issues were then compiled. Refer to Exhibit #9 for the chart illustrating respondents' feelings and comments to the above issues. A 7-point scale was constructed to measure the degree to which a user is instrumental and/or ritualized in his Web orientation. A score of one means that the Web user is highly ritualized, while a score of seven indicates that the Web user is highly instrumental. An independent judge who was knowledgeable about the definitions of instrumental and ritualized media orientations, but blind to the study's proposed relationships, read over respondents' comments and reactions. According to what they said, she rated each respondent on the instrumental/ritualized scale.

**Table #12: The Classification of Media Orientations**

Level of Media Orientation	Number of Users	% of Users
Highly Ritualized	0	0.00
Ritualized	2	4.65
Somewhat Ritualized	3	6.98
Neither Ritualized nor Instrumental	8	18.60
Somewhat Instrumental	14	32.56
Instrumental	12	27.91
Highly Instrumental	4	9.30
Totals	43	100.00

From Table #12, it can be seen that generally, Web users in the sample take on a more instrumental media orientation than a ritualized one. Specifically, over two thirds of respondents are classified as either being somewhat instrumental, instrumental, or highly instrumental. On the other hand, only 11.63% are considered as being ritualized or somewhat ritualized in their Web use.

It is important to examine the differences between an instrumental and a ritualized Web user. The following descriptions are general and may not be mutually exclusive. More research needs to be conducted to further examine the definitions of an instrumental and a ritualized Web user. In the study, an instrumental user is someone who looks for specific information (work, for example) rather than for entertainment related issues; someone who does not surf the Web and browse randomly; as well as someone who has a clear idea of where he wants to go.

On the other hand, a ritualized user is classified as someone who browses the Web quite often; someone who looks for interesting and fun Web sites; someone who clicks on links to go to places that he has never been before; as well as someone who searches the Web more for hobbies and entertainment purposes than for work-related purposes.

Respondent 3 is a ritualized Web user. "I am always clicking on links and going to places that I have never been before." Respondent 8 is classified as being somewhat ritualized in her media orientation to the Web. She will sometimes have a specific idea in mind when she starts off on the Web, while other times she will get on the Web "for fun, to see what's new."

Respondent 14 is neither ritualized nor instrumental in his Web orientation. He stated that "If I'm looking for a specific topic, I will do a search. On occasion, I will also end up at sites that I had not planned to visit."

Respondent 35 is also classified as being neither ritualized nor instrumental:

“Most of the time, it’s not planned. I have one site that I want to go to, but after that I browse around. Generally, I don’t have a clear idea of where I’m going.”

Respondent 43 is also in the same category. Most of the time, he has a specific idea in mind when he goes on the Web (and uses his hotlists). “On the occasion that I’m in a more playful mood, I will use a search engine and I will randomly put in things and see where it takes me.”

Respondent 1 is classified as being somewhat instrumental in his Web use. “I usually start off with a specific goal in mind for my exploration, but not a specific site.” Respondent 5 is also somewhat instrumental. “Most of the time when I do a search for something, it’s because I’m looking for something specific, and then, other times, like on my lunch hour, I will go through and see whatever I will stumble upon.”

Respondent 11, who is somewhat instrumental in his Web use, most often goes to sites that he is looking for:

“From there, I might go off in a different direction, if I have the time. Most of the time, I don’t have the time, so I rarely do it ... The novelty of the Web has worn off.”

Moreover, respondent 18, who takes on a somewhat instrumental orientation, usually has a specific purpose in mind when she goes on the Web (work-related). She will also sometimes visit sites that she had not necessarily planned. “For recreation purposes, you can haphazardly look for anything that might interest you.”

In addition, respondent 19 takes on somewhat of an instrumental orientation to the Web. “Frequently, I get online to look for something specific, but often I will get off track and notice other sites that are interesting ... I just don’t get on and surf aimlessly.” Similarly, respondent 31 goes onto the Web most of the time with a specific purpose in mind. “I just don’t randomly surf. I don’t browse that often.”

Respondent 4 takes on an instrumental orientation to the Web. She mostly uses the Web to find specific information and will not browse around. “I don’t say, oh, this is a nice site. Let me look around a bit! I don’t waste my time.” Similarly, respondent 7, who also use the Web with an instrumental orientation, stated, “I almost always start off with a clear intention/specific purpose. I rarely just go in to explore randomly.” Respondent 38 always starts off with a clear idea of where he wants to go, but he does not go to the Web “just to fool around.”

Moreover, respondent 15 is also classified as taking on an instrumental orientation:

“Usually, I look up a keyword (on Infoseek) and then I will get a list of sites and I will look at the ones that I’m interested in. I may therefore go to



sites that I had not necessarily planned to visit. I know the topic that I'm looking for, but I don't know what I will find."

Respondent 10 has been classified as a highly instrumental Web user. "It's always the same sites that I go to. So, I know where I'm going." Moreover, most of the time, respondent 23, who takes on a highly instrumental orientation, has a specific idea in mind and he does not end up visiting sites that he had not planned. Respondent 27 also stated, "I just don't browse the Web for the fun of it."

Thus, 35 respondents or 81.40% have been classified into a ritualized or instrumental category, while only eight individuals or the remaining 18.60% take on neither a ritualized nor an instrumental media orientation to the Web.

In addition, it should be mentioned and kept in mind when discussing the remaining relationships that deal with media orientations that the number of instrumental users outnumber the number of ritualized users. Specifically, there are five respondents who are on the ritualized side of the scale, while there are 30 people who take on an instrumental orientation. There are also eight individuals who are neither ritualized nor instrumental. Because these differences in sample size do exist, they may affect the outcome of the results. Thus, conclusions should be made with caution.

One reason why there exists a big difference in the number of ritualized and instrumental users is due to the social desirability factor. Respondents may feel uncomfortable

expressing how they truly use the Web. It is believed that individuals will not mention that they “fool around,” “have fun,” and waste their time playing on the Web.

Another issue that needs to be considered when analyzing the relationships dealing with media orientations is the scale used to measure the degree to which a user is ritualized or instrumental in his Web use. Specifically, past research has not created a media orientation scale for traditional media or for the Web. Thus, the scale used in this study to measure ritualized and instrumental Web use has questionable validity.

### **Instrumental and Ritualized Use and Browsing Strategies**

As was described in the literature review, Cove and Walsh (1988) discussed three different types of browsing strategies: search browsing, general purpose browsing, and serendipitous browsing. These strategies were also used in the research conducted by Catledge and Pitkow (1995).

Even though the current research did not propose any relationships with respect to the type of browsing respondents use and their frequently accessed Web sites, it is important to discuss the association between these two variables. As previously stated, the rating of respondents on the instrumental/ritualized scale of media orientations was based on their comments to certain questions. Thus, one question that is important to examine is: Do people feel that they are either instrumental or ritualized, but actually visit sites using a different strategy?

It is interesting to examine if differences exist between the degree to which respondents are instrumental or ritualized in their Web use and the motivations behind why they frequently visit certain sites. For example, does a respondent who is instrumental frequently access sites that have a specific purpose or does he go to sites for fun, that are ritualized in nature? Does a respondent who is classified as a serendipitous browser frequently visit sites that are instrumental in nature?

There can be important marketing implications if differences do exist between the media orientation a user takes on and the strategy he uses to browse through the Web. Specifically, this would mean that even though people view themselves one way, they act another way. Thus, the way Web users browse the Web and the motivations behind it (through their frequently accessed sites) may not be an indication of the type of media orientation that they take on.

During the interview, respondents were asked a few questions about Web sites. A couple of them dealt with frequently accessed sites. One question was, "Which sites do you frequently visit? Please list five or six of them." The other question was, "What attracts you to the above sites?" The main purpose of these questions was to discover the type of sites that respondents most often access as well as the reasons and the circumstances under which they do.

Of the 43 respondents in the sample, 42 listed their frequently visited sites. The one individual who does not frequently access any site is respondent 17. He takes on a somewhat instrumental orientation to the Web and stated:

“I don’t really go to sites over and over again. There are sites that I wish I could go to over and over again - Statistics Canada, for example. This site is probably the most frustrating and disappointing site on the Web and horribly presented as well. It’s difficult to impossible to gather some basic information, such as the number of marriages and divorces in Canada as well as certain types of populations on the Web. A couple of years ago, one went to the library (for example, The Marketing Research Handbook) to find out this type of information. This Statistics Canada site would be the site to motivate me to use bookmarks, if the site actually worked ...”

The respondents who listed their frequently visited sites gave a minimum of one site (respondent 22) and a maximum of eight sites (respondents 3, 12, 28, and 34). Like respondent 17, respondent 22 (who has a somewhat instrumental media orientation) also claimed that there are no sites that he frequently visits. He did, however, mention one site that he has recently been to a few times. In his words, “I’m using a search engines and typing in keywords trying to find a place to go.”

Moreover, respondent 4 (who takes on an instrumental orientation and who listed four sites that she most often accesses) stated, “I really don’t frequently access any sites. Each

time I go to the Internet, I go for something different because I have a different goal in mind.” Similarly, even though respondent 14, who has neither a ritualized nor an instrumental orientation, said that he does not regularly visit any sites, he was able to name a couple of them.

Each site that respondents named was classified according to one of the three browsing strategies - search browsing, general purpose browsing, and serendipitous browsing (Cove and Walsh, 1988) used by Catledge and Pitkow (1995). To aid in this categorization, respondents’ comments as to why they frequently visit a site and for what type of purposes were looked over and considered.

After classifying each site into one of the three browsing strategies, each site was labeled as either being ritualized, instrumental, or somewhere in between. This step was needed so that the sites that respondents frequently visit could be easily compared to how instrumental or ritualized they are. Thus, the sites and the degree of media orientation were compared.

After these two factors were compared, the following was found: In 50% of the cases, respondents’ level of media orientation was similar to the type of sites that they frequently visit. In the remaining 50% of the cases, respondents’ level of media orientation differed from the type of sites that they most often access. Thus, 50% of the time the type of media orientation predicts the type of browsing or the type of sites Web users will frequently visit. In other words, just because a Web user frequently visits a certain set of sites does

not necessarily mean that he can be classified as having one type of media orientation over another.

It is interesting to note that all four respondents who were classified as being highly instrumental in their Web use most often access sites that are instrumental in nature or which are based on search browsing. In addition, the two respondents who take on a ritualized orientation access more sites that are ritualized in nature or are based on serendipitous browsing than are instrumentally-based.

Meanwhile, of the 13 respondents who were classified as being somewhat instrumental, six or 46.15% generally access sites that are based on similar motivations. Of the 12 respondents who are instrumental in their Web use, six or 50% of them most often access sites that can be characterized as goal oriented. Also, of the eight individuals who take on neither a ritualized nor an instrumental orientation, three or 37.5% generally access a set of sites that have similar motivations. Of the three respondents who are somewhat ritualized in their Web use, none most often visit sites that are of this type of orientation.

There are some common reasons why respondents frequently access certain sites. It can be seen from the interview transcripts that respondents frequently visit sites which have the information that they are looking for; have information that is timely and updated on a regular basis; serve their specific interests, be it for work-related purposes and/or for personal pleasure; have a good design and are well organized; have good graphics; and have links to other relevant sites.

As was found in R<sub>2a</sub>, only one respondent (respondent 10) said that she adds a site to her hotlists (among other reasons) because of its timely/up-to-date content/information. However, a high majority of respondents do indeed value up-to-date information even though they did not give this as a reason to why they add a site to their hotlists.

In fact, a few respondents have mentioned that they value timely information on the Web. For example respondent 3, who takes on a ritualized orientation, stated, “I work in a software company and it’s crucial that I’m able to contact companies, most of which keep their product content on the Web. I can find out what’s new, I can find out about stocks, ... Actually, as an employee, I look on my own company’s Web site to find out what’s new about my company.”

Similarly, respondent 2, who uses a somewhat instrumental approach to the Web, stated:

“I would visit a site because of the information it contains. Most new information that’s released is put up on these Web pages. I need access to that information such as releases of products and releases as software that must be as timely as possible ... Some sites are poorly designed and most sites are O.K. Very rarely are there sites that are really really well done ... It’s basically the information that I look for.”

In addition, respondent 4, who takes on an instrumental orientation, claimed:

“The need for information attracts me to the above sites. There are no sites that I frequently go to because of the format or the design. I will comment to myself whether I like a format of a site, but I won’t go to a site just because of the format.”

Respondent 6, who is classified as an instrumental Web user, shares the same view. “None of these sites have to do with format and design. Either they have the information I’m looking for or they don’t.” Similarly, after naming her frequently visited sites, respondent 15, who takes on an instrumental orientation, stated, “These sites have the information I like. Even if they were well presented, but they didn’t have the sites I liked, I wouldn’t go there.” Moreover, after naming her frequently visited sites, respondent 19, who is a somewhat instrumental Web user, said, “I’m not attracted to these sites because of the format or design. Sometimes I think they’re pretty badly designed.”

Respondent 30, who takes on neither a ritualized nor an instrumental orientation to the Web, frequently accesses the Ziff-Davis home page because it keeps him “abreast of what’s going on in the computer world, new software, companies buying other companies, new ideas.” He will also go to the Shareware site to see what is new in shareware.

Respondent 32, who takes on the same orientation, uses the Web to keep her up-to-date on issues related to work and personal pleasure. For example, she frequently accesses the Canadian Direct Marketing Association Web site for timely information on on-going



projects and other issues related to her field. She will also regularly access *Voir*, “for the news that it brings.”

Another example is respondent 33 who takes on a somewhat instrumental orientation. He accesses his company’s Web site to find out about product information and to see if there are any new products coming out. For personal interest and because of his investments, he accesses the Trimark mutual funds Web site. Respondent 31, who takes on the same type of orientation, frequently accesses the Bank of Montreal’s mutual funds daily update site to check out how his mutual funds are doing. Also, respondents 20 (instrumental) and 24 (neither ritualized nor instrumental) frequently visit Canada Stockwatch to keep track of their stocks on a daily basis.

In addition, the sites that respondents frequently visit may change over time as needs change. For example, after naming five sites, respondent 6, who takes on an instrumental orientation, stated:

“These sites change. There’s no constant number of bookmarks, it changes day-to-day. But, I don’t take the sites off my bookmarks, as I usually leave them on. The sites that are frequently visited vary with time. It depends on what I need.”

Another example is respondent 10, who is a highly instrumental Web user. At the time the interview was conducted, among the sites that she was frequently visiting was one that

was related to finding a job. “These sites are very temporary. As soon as I get a job, I won’t be looking at them.” Similarly, respondent 19 was frequently accessing sites that are job and house related.

In addition, some frequently accessed sites are seasonal. For example, respondent 12, who is somewhat ritualized in her Web use, often goes to the Nielsen Ratings site. In her words, “I don’t go here during the summer because there are reruns on TV.”

Some respondents will frequently access certain sites with a specific goal in mind and for fun. For example, respondent 15, who takes on an instrumental orientation, stated, “I use the recipe sites for fun and to look things up, when I have a few minutes at work. For instance, I will do a search on white chocolate or try to find something to make for supper that night, for which I have an ingredient, like chicken.”

In addition, respondent 21, who is ritualized in her Web use, will also have fun on the Web, besides looking for work-related information. She stated, “When I have extra time at work, I like to play.” She is referring to a crossword puzzle site called Literate Software System. Moreover, respondent 36, who takes on a somewhat instrumental orientation to the Web, will frequently access the Dilbert comic strip. In his words, “(it’s) purely for entertainment, to get a laugh.”

Other respondents will frequently access sites that are mostly or all related to their personal interests or hobbies. For example, of the six sites that respondent 20

(instrumental user) named, five are related to his hobby of space science. Another example is respondent 23, who is highly instrumental in his Web use. Of the six sites he named, five are related to his hobby of finding people. These sites provide him with addresses and telephone numbers to help him find missing family members.

On the other hand, some respondents frequently access sites that are work-related. For example, of the six sites that respondent 27 (highly instrumental) named, five are work-related. For instance, he spends time searching a literature survey database, a pulp and paper site, and uses a computing site for operations research. Respondent 28, who is highly instrumental in her Web use as well, will also frequently access sites that are related to her work. She will visit sites that enable her to find people and post jobs.

In addition, respondent 25, who takes on an instrumental orientation, named seven sites, five of which are used for work purposes. For instance, she will find out information about currency exchange rates for expense reports as well as addresses to find people.

Among the frequently visited sites that respondents gave, the most popular site is the search engine, Yahoo. Ten respondents or 23.81% stated that they frequently access this site. It is interesting to note that people will use this site for different purposes. Even though nine respondents use Yahoo for specific reasons, or search browsing, there is one respondent who uses it both for a certain goal and for open ended browsing. In fact, respondent 30, who is classified as having neither a ritualized nor an instrumental orientation, stated, "Yahoo is used for anything new and different. It has many categories

and I will browse through whatever I'm interested in and I will link to wherever it leads me. I will also use Yahoo when looking for something specific.”

Another popular site among the sample is the Microsoft Home Page. Five respondents or 11.90% said that they frequently accessed this site. As in the case of Yahoo, there is one respondent who uses the Microsoft site for specific purposes, while the other individuals do not have a goal in mind when looking through the site. For example, respondent 11, who is somewhat instrumental in his Web use uses the Microsoft Web site. His use of this site was classified as instrumental because he stated that the reason he goes to this site often is “The need to be there. (I look) for product information and technical support.”

The above purposes are pretty specific when compared to other respondents who frequently access the Microsoft site. For example, respondent 3, who takes on a ritualized orientation, claimed, “It allows you to customize your own pages, get all kinds of information, stock quotes, weather, whatever.” Similarly, respondent 40, who has a somewhat ritualized Web orientation, stated, “This site gives a lot of information and news. For example, I have looked at reviews of new cars.”

In addition, the *CNN* News Web site was mentioned by three respondents or 7.14%. This site was classified as having a ritualized motivation or as being a form of serendipitous browsing. The main reason for this type of classification is that there is no specific goal in mind when looking through the *CNN* site.

For example, respondent 7, who has an instrumental orientation, frequently accesses this site for the information and the content that he receives from the site. He also stated that:

“... I like the layout and design of the site. Good job of combining graphics and the content and made it easy to absorb the information and to navigate. Layout and design are important, but it’s primarily the content that I’m interested in.”

Respondent 30, who takes on neither a ritualized nor an instrumental orientation, also frequently accesses the *CNN* News site. “It gives me news in the business world, science and health, politics, as well as other areas, non-computer news.” This respondent will also often visit the *CNN* Travel Web site. This site was also classified as ritualized or as serendipitous browsing:

“(This site) leads me to different ideas of where to go and how to get there. There are a lot of links. It has links to places like the Sidewalk Series (Microsoft started a series called the Sidewalks of Seattle, the Sidewalks of New York). There is one starting called the Sidewalks of Montreal. You have a complete compendium of everything about a specific city. I use New York one a lot because I’m there every month. I find out what’s happening next time I will be there, for information on events on weekends, walking tours, and plays.”

The other respondent who frequently accesses the *CNN* site is respondent 33 (a somewhat instrumental Web user):

“I’m attracted by the American point of view. It differs very much from the Canadian viewpoint, as Americans are more hyped up about things. I do a lot of traveling to the U.S., so it gives me a feel for the environment and a better understanding.”

**R<sub>3</sub>: Ritualized and instrumental users differ in the percentage of time they use links, access their hotlists, use search engines, and type in addresses in their daily Web use.**

Refer to Exhibit #10 illustrating the degree to which respondents are instrumental or ritualized in their media orientation towards the Web. This table also examines the percentage of time these users (classified by their media orientation) will use links, and/or hotlists, and/or search engines, and/or will type in Web addresses in their daily Web use. It is also important to remember that of the 43 respondents, five do not use hotlists (respondents 1, 17, 22, 41, and 42). Moreover, conclusions should be made with caution because instrumental Web users outnumber ritualized users in the sample.

Some respondents found it difficult to give the percentage of time they access their hotlists, they use links and search, and type in Web addresses. For example, respondent 5 said, “I use all these methods. It’s hard for me to quantify these percentages.” Another

example is respondent 18. She stated, "It's difficult for me to give the percentages of sites accessed through links because I don't even notice whether or not I hit on links to get to another site."

Respondent 2, who is somewhat instrumental in his Web use, stated:

"Basically, number one would be through bookmarks, number two would be through testing out names of companies and just doing the general idea of what your Web page should be ... Bookmarks probably 60% of the time, 30% addresses, and 10% search engines. I often use links as well. If the link is there and I need it, then I will follow the link. I don't generally use links, as I mostly use search engines and bookmarks."

Respondent 4, who takes on an instrumental orientation, said:

"I use bookmarks, links, and search engines. I use a lot of links. This is because I will go to a site with an idea in mind and it's usually the best way to find the next site I'm looking for. So, quite often I will use a search engine a few times. For example, when I sit down by the computer, I will use the search engine five times and then I will use links the rest of the time I'm on the computer. Now and then I use bookmarks."

In addition, respondent 41, who is neither ritualized nor instrumental in his Web use, stated:

“I don’t use bookmarks. I want to bookmark things, but I have not got to them yet. I start off my search by using search engines and then I use links from site to site. If I have an address, I will type it in.”

Respondent 20, who has an instrumental orientation, stated, “I will type in an address if I get one through an e-mail that says I should check out a specific site, so I will copy it and paste particularly interesting sites. I have a database where I collect URL’s (Web addresses).”

Respondent 42, who is somewhat instrumental, does not have hotlists. “Most often, I start by typing in the addresses. I will type in the addresses for the sites that I go to most often. I have a list of addresses.”

In contrast to the above individual is respondent 3. He takes on a ritualized orientation, but does not type in Web site addresses. He will most often uses links, followed by search engines, and then his hotlists. However, respondent 8, who has a somewhat ritualized orientation, rarely types in addresses, but will spend half her time accessing sites through her hotlists, followed by search engines, and links. Respondent 12, who takes on a somewhat ritualized orientation as well as respondent 21, who is an ritualized Web user,



do not use links very often either. These last two respondents, however, will most often access sites through their hotlists.

Moreover, respondent 22, who takes on a somewhat instrumental orientation, claimed:

“I never use bookmarks ... Sometimes I will type in addresses. If there’s a company or place that I want to be, I will type in the address that I think it might be and most of the time I’m right. Often, I will type the first site in and then I will go from links to links. Search engines are basically once and typing in is also basically once. After that, it’s all links.”

Respondent 37 who has an instrumental Web orientation, very rarely uses links:

“I don’t go from one site to the next through links, but I will use the sites through the search engines. If I go into Infoseek, there may be ten hits, but one of them is pertinent. I might go through a few of them just to see what’s there. I will sometimes go into Infoseek and look at the hottest Web sites. I will look at them to give me ideas for my company’s Web site.”

Respondent 25, an instrumental Web user, stated the following, “I access my bookmarks almost every time I’m on the Web (three to four times a week). I search for different Web sites about once a week.”

Respondent 28, a highly instrumental Web user, claimed, "There are standard sites that I want, so I don't have to use search engines; I just use my favorites. Initially, I will do a search. I will then bookmark the Web sites I like."

Yet other respondents will type in where to go and not the address, *per se*. An example is respondent 34 who has an instrumental orientation. In his words:

"This is because, now, more and more, you don't have to type in the whole address. For example, if you have a Mazda and you want to know what the new Mazda will look like next year, now you don't need a search engine. You can type 'www.mazda.com'. Even though the site may have another true address, you will wind up on it. It's no longer a question of missing a letter. You could type 'mazda' only and you will wind up on it."

Moreover, other respondents keep search engines in their hotlists. For example, respondent 10, a highly instrumental Web user, stated:

"On a typical week, I use a bookmark for Medline and I put in keywords and click on links to get to article abstracts. I use bookmarks as a search engine as a database for abstracts and references. I don't use search engines."

Also, respondent 38, who has an instrumental orientation, said, “Every time I start off, I use my bookmarks and they also contain the search engines. The things I’m looking for will vary from time to time, so I will use search engines.”

Respondent 43, who neither takes on a ritualized nor an instrumental orientation, stated:

“With search engines, you may not end up where you want to go. With the specific address, you get exactly where you want to go. My use of links depends on the type of links available. Some sites have tremendously well-organized and well-defined links and I will use them where they are available. Otherwise, I will use a search engine, a very easy tool ... As I’m scrolling through the results of the search engine, I will go off on tangents because I will see something interesting. I will then click on the site. When I’m finished with the site, I won’t link to another site, but will go back to the search engine and continue searching through the results. I do, however, use links sometimes from site to site. If I find that the site I have linked to is interesting, I will bookmark it ... If I ever type in an address and I like the site, it will become a bookmark.”

Looking over respondents’ comments, it is unclear whether ritualized and instrumental users differ in the percentage of time they use links, access their hotlists, use search engines, and type in addresses in their daily Web use. Thus, a conclusion cannot be drawn for  $R_3$ .

One reason for this finding is due to the fact that instrumental users greatly outnumber ritualized users. With this difference, it is difficult to be able to draw any clear conclusions.

For illustrative purposes only, correlation analysis was conducted to examine for each of the four relationships which are found in  $R_3$ .

### **Links**

The first relationship examines whether instrumental and ritualized users differ in the use of links. The correlation coefficient for the relationship between media orientation and the percentage of time users spend finding sites through links was found to be -0.134.

This number needs to be used with caution and conclusions should not be drawn by relying on this correlation. Specifically, there is a big difference in the sample sizes of the two types of media orientations. However, it can be seen that the results of the correlation and the analysis of respondents' comments are somewhat similar in that they both show that it is unclear whether ritualized and instrumental users differ in the percentage of time they use links to find Web sites.

In other words, this part of  $R_3$  is inconclusive as it is uncertain if ritualized users use links more or less often than instrumental users in their daily Web use. Indeed, most of the total sample do not use links very often. More research needs to be conducted in this area to examine this relationship ensuring equal sample sizes of instrumental and ritualized users.

## **Hotlists**

The second relationship is that ritualized and instrumental users differ in the percentage of time they access their hotlists. Looking over respondents' comments and some quantitative data, it is unclear whether the use of hotlists is related to the type of media orientation.

For illustrative purposes, correlation analysis was conducted. The correlation coefficient for the association between media orientations and the percentage of time users access their hotlists was found to be 0.286.

Again, this figure must be used with caution, for reasons already described. Analysis of respondents' comments and other data show that it is uncertain if ritualized and instrumental users differ in the percentage of time they access their hotlists. Thus, this part of  $R_3$  remains inconclusive. More research needs to be done to further investigate this relationship, at the same time ensuring relatively equal sample sizes.

## **Search Engines**

The third expectation is that ritualized and instrumental users differ in the percentage of time they use search engines in their daily Web use. As previously stated, it seems this relationship is unclear.

For illustrative purposes only, correlation analysis was conducted. The correlation coefficient for the relationship between media orientations and the percentage of time spent finding sites using search engines was found to be -0.103.

Again, this finding needs to be interpreted with caution. As previously explained, conclusions cannot be drawn from this result. However, it can be seen that the results of the correlation and the analysis of respondents' comments are somewhat similar in that they both show that the relationship between the use of search engines and the type of media orientation is unclear. Thus, a conclusion cannot be drawn from the data for this part of R<sub>3</sub> either. Also, it should be noted that it was found that most of the total sample do not use search engines very often. Again, future research needs to be conducted in this area to examine this relationship using equal sample sizes.

### **Typing in Web Addresses**

Lastly, it was proposed that ritualized and instrumental users will differ in the percentage of time they type in Web addresses. Respondents' comments indicate that the relationship between the type of media orientation and typing in addresses is unclear.

For illustrative purposes only, correlation analysis was used to examine this relationship. The correlation coefficient for the association between media orientations and the percentage of time users spend finding sites by typing in Web site addresses was found to be -0.240.

As before, this number needs to be used with caution. The correlation coefficient and the analysis of respondents' comments are somewhat similar in that they both show that it is uncertain that ritualized and instrumental users differ in the percentage of time they spend typing in addresses. In other words, this part of  $R_3$  remains inconclusive. Indeed, most of the sample do not type in Web site addresses very often. Again, more research needs to be done to further examine this association using equal sample sizes of instrumental and ritualized users.

**$R_{4a}$ : Ritualized and instrumental users differ in the number of items they keep in their hotlists.**

Refer to Exhibit #11 for the chart illustrating respondents' media orientations and the number of items they have in their hotlists. The sample size for this proposed relationship is 38 respondents. This is because five respondents do not have hotlists. Again, it is important to remember that the sample contains many more instrumental users than ritualized users.

Of the five respondents who do not have hotlists, four have a somewhat ritualized orientation to the Web, while the remaining individual is neither ritualized nor instrumental in his orientation.

Looking over respondents' answers to the question of, "How many sites in total do you have on your bookmarks/favorites?" it can be noticed that respondents have varying

numbers of sites that they keep in their hotlists. Moreover, it is difficult to conclude that the number of sites respondents have in their hotlists does depend on the type of media orientation. This is because of the unequal samples of ritualized and instrumental Web users. Thus,  $R_{4a}$  remains unclear. More research needs to be conducted to examine this relationship, paying special attention to obtaining equal sample sizes.

For illustrative purposes only, correlation analysis was conducted to examine the association between media orientations and the number of items users have in their hotlists. The correlation coefficient was found to be 0.05. Again, more research needs to be conducted to examine if the number of hotlist items depends on the type of media orientation.

One of the reasons why uncertainty exists for the relationship between the two variables is that some people prefer to have many items stored in their hotlists, while others like to be very neat and keep as little as possible on hand. For example, respondent 12, who is somewhat ritualized and has 169 items in her hotlists, tries to limit the number of sites in her hotlists. This is “because they get to a certain point where there are too many.” Similarly, respondent 15, who is instrumental in her Web use and has four items in her hotlists, likes to keep her computer as neat as possible, so she “generally does not leave a lot of stuff in memory.”

On the other hand, respondent 43, who is neither ritualized nor instrumental and who has 220 items in his hotlists, stated, “... I tend to keep everything, in the hope that I may need



it someday.” Another example is respondent 20. He is instrumental in his Web use and has 1000 items in his hotlists. Furthermore, he stated, “... just in case I need the information at some point, I will bookmark it as well.”

From additional analyses, one factor, though not originally predicted however, that may influence the number of items users have in their hotlists is the number of years of Web access. For example, all of the five respondents who do not use hotlists have a maximum of 14 months of Web access. Thus, this finding somewhat indicates that people who do not have hotlists have little experience on the Web.

For illustrative purposes, correlation analysis was conducted to examine the relationship between these two variables for 37 respondents (five do not use hotlists and one did not know how long he has had Web access). The correlation coefficient was found to be 0.278. Again, this result must be used with caution. More research needs to be done to examine how the number of years of Web access affects the number of sites users keep in their hotlists.

**R<sub>4b</sub>: Ritualized and instrumental users differ in the number of additions and/or deletions of hotlist items.**

Refer to Exhibit #12 for the chart illustrating respondents’ media orientations, the number of items in their hotlists, as well as the number of sites which they have added and/or deleted from their hotlists. The sample size for those people who have added a site to their

hotlists within the past month is 38 respondents, while the sample size for those who have deleted a site is 27 respondents (as 11 individuals or 28.95% have never deleted a site from their hotlists).

As previously discussed, users will add a site to their hotlists for many reasons. For example, a user might add certain sites to his hotlists because they serve his specific interests, they are interesting, and he expects to return. Others, like respondents 20 (instrumental), 23 (highly instrumental), and 43 (neither ritualized nor instrumental) will add many sites to their hotlists because they are the type of people to collect things, in the hope that they may need them one day and because they are afraid to lose the information they have.

However, some users may find that sites are not important enough to be added to their hotlists. For example, respondent 12 (somewhat ritualized) will add a site to her hotlists depending on the value of the site. "It depends on how great the need to go back to it is. If I know that I will never go back to it again or will only use it for one thing, I won't bookmark it."

Other people may/may not add sites to their hotlists because they do/do not meet their specific needs. Because different people have different interests and needs at different periods of time, it is too hard to generalize as to which type of sites users will add to their hotlists. For example, respondent 19 (somewhat instrumental) added certain sites to meet her specific needs of finding a job and a new house. However, once she does find a job

and a house, her needs will shift to other issues. Respondent 25 (instrumental) has added sites because they also serve her specific interests, travel, for example. Moreover, respondent 26 has added sites that serve his interests of research, teaching, and entertainment.

From respondents' comments, it is difficult to conclude that instrumental and ritualized Web users vary in the number of Web sites they add to their hotlists. Thus,  $R_{4b}$  remains unclear.

One reason for this finding is the unequal sample sizes of ritualized and instrumental Web users. Another reason is since individuals' interests and needs constantly change with time and with a particular situation, people will have different sites in their hotlists over time. Thus, more research needs to be conducted with equal sample sizes of ritualized and instrumental users.

For illustrative purposes, correlation analysis was performed to examine the relationship between media orientations and the number of items respondents have added to their hotlists within the past month. The correlation coefficient was found to be -0.066. This figure must be used with caution.

As previously discussed, Web users will delete a site from their hotlists for many reasons. For example, a user may delete sites when he has not frequently accessed them, when he is not interested in the site, and when he no longer needs the site. As stated before, some

respondents like to keep things in the hope that they may need them one day. These individuals are therefore afraid to delete sites which may prove useful to them one day.

On the other hand, other respondents are not as afraid to delete sites from their hotlists. For example, respondents 15 (instrumental) and 18 (somewhat instrumental) have deleted sites when they do not need them anymore. Respondent 15 deleted a site on antique shopping after taking a trip, while respondent 18 felt that the site she had in her hotlists was not worth keeping. If they need the sites again, they know where they are and they can easily find them. Similarly, when she comes back from a vacation, respondent 25 (instrumental) will delete the sites that are related to that location.

Moreover, respondent 28 (highly instrumental) recently deleted a couple of recipe sites and a couple of sites that were screen savers. At the time she added them, she needed them. However, she did not regularly access them.

Some respondents will also delete certain sites, but keep other sites that serve other interests. For example, respondent 25 (instrumental) will delete personal-related sites (such as travel sites), but will keep work-related sites. On the other hand, respondent 32 (neither ritualized nor instrumental) has more sites in her hotlists for pleasure purposes than for work purposes. Because every time she uses the Web for work she looks for something different, she will not add these sites to her hotlists. Therefore, hotlists are more important for her for pleasure purposes than for work purposes.

From respondents' comments, it is difficult to conclude that instrumental and ritualized Web users vary in the number of Web sites they delete from their hotlists. Thus, it is unclear whether the type of media orientation is related to the number of items people delete from their hotlists. Thus, the second part of  $R_{4b}$  is unclear.

Moreover, respondents may vary in the number of the sites that they delete for the same reasons that they vary in the number of sites which they add to their hotlists. Again, more research needs to be conducted with equal sample sizes of ritualized and instrumental users.

For illustrative purposes only, correlation analysis was also used to investigate the association between media orientations and the number of sites respondents have deleted to their hotlists within the past month. The correlation coefficient was found to be -0.049. Again, this figure must be used with caution and cannot be used to draw conclusions for reasons already described.

#### *The Web's Effects on the Consumption of Traditional Media*

**$R_{5a}$ : There is a negative relationship between Web use and television viewership.**

Refer to Exhibit #13 for the chart illustrating respondents' hours of Web use on a weekly basis, respondents' weekly hours of television viewership, the effect of their Web use on

their television viewership, and the degree to which they use the Web instead of or in addition to watching television.

**Table #13: The Web's Effects on Television Viewership**

The Web's Effect on Television Viewership	Number of Users	% of Users
No effect	34	79.07
Decrease in TV viewership	9	20.93
Increase in TV viewership	0	0.00
Totals	43	100.00

As can be seen from the table above, the Web has negatively affected nine respondents' television viewership levels. The remaining individuals stated that their patterns of television use have not changed because of their Web use. Thus, the Web seems to have had somewhat of a negative effect on the television viewership levels of some Web users. It is therefore safe to say that the Web is not having as big an impact on television viewership as researchers first thought. This result is somewhat similar to what was found by Coffey and Stipp (1997). In their study of the interactions between PC use and television viewership, they found that users are not replacing television with computers, and thus are not dramatically decreasing their television viewership levels.

Respondents whose television viewership has declined have varying levels of Web use. The amount of hours spent on the Web per week ranges from two hours to 20 hours. Thus, the number of hours of Web use is not a good indicator of how the Web affects respondents' television viewership.

However, one dimension which was not predicted to be a moderating factor in the relationship between Web use and television viewership is respondents' primary location of Web access. Refer to Table #14 (below) for a breakdown of locations and the percentage of time these locations are accessed by respondents whose television viewership has declined.

**Table #14: The Locations of Web Access for Respondents  
Whose Television Viewership Levels Have Declined**

Location of Web Access	% of Access	Number of Users	% of Users
Home	60	1	11.11
	70	1	11.11
	80	1	11.11
	90	1	11.11
	99	1	11.11
	100	3	33.33
Work	95	1	11.11
Totals		9	99.99

Thus, it seems that the Web will have a negative impact on television viewership when people watch television and primarily/only access the Web from the same locations. Moreover, it can also be inferred that generally, the Web will not have an effect on television use for those people who access the Web primarily/only from work. This is because they will use the two media in separate locations: they will watch television at home and will use the Web at work. One exception was found in the research. As was stated before, one of the nine respondents whose television use has declined accesses the Web 95% of his time at work.

Further examining Exhibit #13, it can be seen that the Web used to negatively affect television viewership for some respondents. Specifically, respondents 8, 11, and 29, used to watch less television, but maintain that the Web no longer affects their television viewership patterns. Respondent 8 says that her Web use affected her television use in the beginning:

“I didn’t want to buy a TV, as I had my computer. With my Web use, my TV use declined. Now, however, I use the Web so and my Web use doesn’t affect my TV use anymore. I use the Web in addition to watching TV. If there’s nothing on TV, I will go to the Web.”

Similarly, respondent 11’s Web use affected his television use when he started using the Web:

“I was browsing for the fun of it. In the past, my Web use lead to a decrease of TV use. Today, my Web use doesn’t affect my TV use. Now, I use the Web basically for work. It doesn’t take away my TV use.”

Moreover, respondent 29’s television use used to be affected by her Web use. She has access to the Web only at work:

“In the past, when I was using the Web, I felt that I was using it too much, and I could have been in the office later searching the Web rather than



going home to watch TV ... but now I use the Web less. So, now the Web isn't affecting my TV use.”

Another factor to examine in the relationship between Web use and television viewership is the degree to which the Web is used instead of and/or in addition to watching television. Refer to Exhibit #13 for respondents' reactions to this question.

**Table #15: Using the Web Instead of and/or In Addition to Watching Television**

How Are the Web and Television Used Together?	Number of Users	% of Users
Instead of	5	11.63
In Addition to	26	60.47
Instead of and in Addition to	4	9.30
Neither Instead of nor in Addition to	8	18.60
Totals	43	100.00

As can be seen from above, more than one half of respondents or 60.47% use the Web in addition to watching television. According to respondent 1:

“The Web and TV are used for very different purposes. TV is used as passive viewing, for entertainment, and for information. On the other hand, the Web is more for a precise/specific interest.”

Respondent 40 also finds that the Web and television are used for different purposes. “I use TV for news and entertainment. On the other hand, I use the Web mostly for work purposes and a bit of leisure.”

Similarly, some respondents, like respondent 26, will use the Web in addition to watching television because they have different types of information and are used for different purposes. For example, respondent 34 said, “I use the Web in addition to watching TV because you don’t find on TV what you find on the Web. They are two different media.”

Moreover, respondent 23 stated, “... when I go on the Web, I’m looking for research (genealogical related information).” Respondent 27 finds that “TV is lot more entertaining than the Web.” Also, respondent 32 said that she uses the Web in addition to watching television. “(This is) because I watch TV for pleasure. I use the Web more for information, such as travel tips, that I won’t find on TV.”

Another example is respondent 22. In his words:

“I watch less TV. I use the Web in addition to watching TV. This is because what I’m looking for is not on TV. I look for specific information on the Web. I use the Web a lot to get information about the programs that I’m using and access their sources, programmer or hardware suppliers that I have been using.”

Also, some respondents will use the Web as a supplementary form of information. In fact, respondent 11 stated, "When what I find on TV is not sufficient, I may go to the Web." Similarly, respondent 31 uses the Web in addition to watching television because, as he stated, "I can find supplementary information on the Web."

Moreover, some respondents use the Web in addition to watching television because they use the Web mostly or only at work and watch television at home. And as such, they find the two media unrelated. Specifically, there are 12 respondents who fit into this category.

Four out of the five respondents who use the Web instead of watching television have seen a decline in their television viewership. For example, respondent 20's Web use has affected his television viewership. As he stated, "I watch less TV as I use the Web mostly from home ... I use the Web in addition to watching TV as it doesn't replace what I get on TV."

The availability of time is a major factor in the relationship between Web use and television viewership. Because people only have a certain amount of time in a day, every hour they spend on the Web is time spent not conducting other activities, such as watching television. For example, respondent 16 states, "The Web takes some of my TV time. I don't choose between TV and the Web. I will go on the Web and have less time for TV."

However, it is surprising that respondent 42 said that she uses the Web instead of watching television, but her Web use has not affected her viewership. Her reasoning is that

“I’m not on the Web that much to make such a big difference ... If I’m on the Web, I’m not watching TV.”

Among those respondents whose television viewership has declined is respondent 7:

“I use the Web instead of watching TV. Because I’m at work a lot of the time, I’m somewhat of a work-a-holic, and it is very convenient for me to get what I want. What I watch TV for is basically the news or channels like *A&E* or the *History Channel*. If I can get the news that I want on the Web, then I don’t bother getting it from TV. This is because on the Web I can get it when I want it rather than having to watch TV at a certain time, 10:00 p.m. for example, in order to watch the news. I get the news on the Web whenever I want it and I can also choose what I want to see.”

Also, respondent 14 will still watch the shows that he wants, even with his Web use. He has stated that:

“My Web use has not affected my TV use. However, if I get started on something on the Web one night, I may not watch TV that night. If there are repeats on TV, I will go on the Web. For me, TV is only a partial substitute for the Web.”

Similarly, respondent 37 stated, “I use the Web in addition to watching TV because I want to keep watching the shows that I watch. The Web is becoming a way to find information that I need to have at a particular point in time.”

On the other hand, respondent 31’s Web use has somewhat affected his television viewership:

“There are some TV shows that have a Web site and I will go to the TV show Web site in advance and get a preview of the TV show and know if it’s a repeat. In this way, depending on what I find on the Web, I may or may not watch TV. If it’s a repeat, I might not bother watching it. However, my amount of TV use has not really changed with my Web use. I will still watch the programs that I want to.”

In addition, some respondents use the Web instead of television when there is nothing good or interesting on television. Respondent 36 (whose television viewership has declined) stated:

“When there’s nothing good on the TV, I will go to the Web to kill some time. I use the Web in addition to watching TV and instead of watching TV. In some cases, I may use it instead of watching TV because there’s nothing good on TV during the time that I have available to watch. The things that I really want to watch on TV, I will watch. I won’t use the Web

in place of watching TV. In this case, I will use the Web in addition to watching TV. Whether it's in addition to or instead of depends on the information and the issue and what I enjoy watching. I watch TV primarily for the news. Except, I have access to the *Fox News Network* at work. If there's something big going on, they will have some information about it and I can watch it. I watch it because it's more like TV. If I had that access to such information anytime on TV, I would probably watch TV instead. But the flexibility of having access to certain types of information throughout the day on the Web is much better."

Moreover, respondent 41's television use has declined:

"I use the Web in addition to watching TV, as they give different types of information. I will also use the Web instead of watching TV. The Web compensated for TV for entertainment. If there's no entertainment on TV, I will go to the Web. The Web partly replaces TV- if there's nothing good on TV, I will use the Web."

Respondent 43 watches less television as well:

"I like to have the TV on in the background as I'm on the Web. If something interesting comes on TV, I will pause what I'm doing and check out the TV. They are very much interchanged ...More often, I use the Web

in addition to watching TV and sometimes I use the Web instead of watching TV. It depends on the situation. If I'm really into something, I might not want the TV on. At other times, I like to have the TV on as background (noise) because I feel that there might be something I would want to see."

The respondents who said that they use the Web neither instead of nor in addition to watching television watch very few hours of television and/or find that the two media are unrelated. For example, respondent 4 finds that "the Web is more annoying and requires more concentration."

Other respondents, like respondents 5 and 29 access the Web only at work and watch television only at home so that they find that the two media do not affect each other. Another example is respondent 30 whose work is at home and who watches very little television:

"My Web use has not affected my TV use. The TV I watch is just a couple of specific programs that I want to see. The Web will not affect my wanting to see those specific programs. I'm not a person who sits in front of the TV and watches. I don't use the Web in addition to nor instead of watching TV. I would not be watching TV anyways. If I'm on the Web, I'm spending less time doing something else rather than watching TV."

Moreover, respondent 33 does not use the Web instead of nor in addition to watching television. "I really don't watch TV. I don't link them together." Similarly, respondent 38 stated, "I use the Web when I'm at the office, so I find that the two are unrelated." Also, respondent 39 watches very little television (two hours a week) and finds that the two media are unrelated.

Another example of a Web user who watches television and uses the Web in different locations is respondent 15. She feels that her television use would not be affected even if she had Web use at home. In fact, she stated:

"If I had the Web at home, I wouldn't use it anymore than I use it now.

This is because I don't think of the Web as that much fun. I look at the Web as an information tool and not as a pastime."

To summarize,  $R_{5a}$  is partially supported by the data. A negative relationship seems to exist between Web use and television viewership levels. Specifically, the nine respondents or 20.93% of the sample watch less television due to their Web use.

**$R_{5b}$ : Web use affects newspaper readership levels.**

Refer to Exhibit #14 for the chart illustrating respondents' hours of Web use on a weekly basis, respondents' number of newspaper subscriptions and number bought per month, the



effect of their Web use on their newspaper readership, and the degree to which they use the Web instead of or in addition to reading newspapers.

**Table #16: The Web's Effects on Newspaper Readership**

The Web's Effect on Newspaper Readership	Number of Users	% of Users
No effect	35	81.40
Decrease in newspaper readership	8	18.60
Increase in newspaper readership	0	0.00
Totals	43	100.00

As can be seen from the table above, the Web has negatively affected the newspaper readership levels of eight respondents or 18.60% of the sample. Also, the Web had no effect on the newspaper readership levels of 35 respondents or 81.40% of the sample. Thus, the Web has negatively affected the newspaper readership patterns of some Web users.

Respondents whose newspaper readership has declined have somewhat similar levels of Web use. All respondents spent under ten hours a week on the Web. Specifically, the amount of hours spent on the Web ranges from one hour to eight hours. This indicates that even though people do not spend more than ten hours a week on the Web, their newspaper readership has still decreased. Thus, there appears to be a mild a negative relationship between Web use (hours per week) and newspaper readership. It can also be seen that the amount of hours spent on the Web per week is somewhat of an indication of how newspaper readership levels will be affected.

**Table #17: Using the Web Instead of and/or In Addition to Reading Newspapers**

How Are the Web and Newspapers Used Together?	Number of Users	% of Users
Instead of	1	2.38
In Addition to	27	64.29
Instead of and in Addition to	8	19.05
Neither Instead of nor in Addition to	6	14.29
Totals	42	100.01

As can be seen, 27 respondents or 64.29% of the sample uses the Web in addition to reading newspapers. For example, respondent 4 stated: “If I found something interesting in the newspaper or I heard of something in current events that I did not see in the newspaper that day, I would look it up on the Web.” Similarly, if what respondent 11 uses the Web in addition to reading newspaper:

“If it’s a particular subject I’m interested in, I will go to TV first. Then I go to newspaper and then the Web. If what I find in newspapers is not sufficient, I will go to the Web to get more information on a particular subject.”

Some respondents find that the paper version is much more portable, gives more up-to-date information, is more convenient, and gives different types of information than the online version. For example, respondent 7 who uses the Web in addition to reading newspapers, stated, “I can pick up the newspaper when I want to, it depends more on

what I'm doing. If I'm away from the office and want to read about what's going on, I will pick up a newspaper."

Similarly, respondent 8 uses the Web in addition to reading newspapers. She justifies her media use by saying, "This is because newspapers are easy to read in the morning, otherwise I would have to turn on the computer, wait for it to warm up, go to my sites, and go access the news."

Moreover, respondent 16 stated, "I use the Web in addition to reading newspapers, as a supplementary form of information because you can't take the computer into the bathroom."

Another example is respondent 43. "I use the Web in addition to reading newspapers because there's a certain time of the day when I like to read the newspaper, in the morning. I cannot take the computer with me to the bathroom."

Similarly, respondent 41 stated, "I don't read newspapers online because I prefer the hard copy version. I cannot put the Web on my LA-Z-Boy!"

Another example is respondent 42 who stated:

"I find it a lot faster to open up a newspaper than to log on to the Web ....  
anything that I can read in the newspaper, I will read in the newspaper and

I won't go to the Web. The Web is just for accessing information and that's it."

Respondent 5 has a similar view of things:

"I use the Web in addition to reading newspapers in order to get more information. I don't think the Web has enough current stuff, day-to-day information. I also think that it's easier to get it something that is happening locally right from newspapers than it would be to go through different search engines. Also, not everybody has a Web site or has their information online. Information in the newspaper is more convenient. I have been reading newspapers all my life, so I know where to go for whatever I'm looking for."

Respondent 22 had a similar reaction and finds that the Web does not replace the newspaper:

"My Web use has not affected my newspaper readership. I still read newspapers. I find that the Web doesn't replace the newspaper. I have found a few news sites on the Web, but I have not gotten around to getting there yet. I find that the news sites on the Web are old and that by the time I get there, some of the news is old. I don't find that they are being kept up-to-date. I find that newspapers are more up-to-date and more in-depth

than the news on the Web. The Web has headlines, but not the stories behind them. I feel that it's very hard to read on the screen ... Therefore, I use the Web in addition to reading newspapers."

Respondent 24 has similar beliefs:

"I use the Web in addition to reading newspapers because of the ease of information. *The Gazette* has a Web site, but I don't read the articles online. I have accessed *The Gazette's* Web site, but just to find a Web site address, not to browse through highlights of the newspaper. The Web does not replace the newspaper at all."

Another example is respondent 38:

"I tried reading newspapers over the Web, but I didn't like it. I found that the pages were too slow to load. I use the Web in addition to reading newspapers. This is because they have different types of information. The Web does not replace the newspaper."

On the other hand, some respondents find that there is more up-to-date information on the Web. For example, respondent 43 finds that the Web has more timely information:

“I find that the newspaper has old information and that there’s more updated information on the Web. However, if I go on the Web to *The New York Times* Web site, I have to pay for it. What they do is give you a taste of it and it’s aimed at a certain market. I’m more tuned into what’s going on in my area. So, the Web will not replace the newspaper.”

Meanwhile, other respondents like respondent 41, find that the two forms of media give different types of information. For example, respondent 20 stated, “I use the Web in addition to reading newspapers. This is because newspapers give him one type of information, news in particular, whereas the Web is totally different, as it complements the newspaper.”

Another example is respondent 34:

“I use the Web in addition to reading newspapers. If I read *USA Today* on the Web, it’s for the same reason that I read *La Presse*, to get current information. In that sense, the Web complements the newspaper.”

Respondent 23 has a similar point of view:

“... I will still use the Web instead of newspapers when I want stock information. This is because *The Gazette* does not have the stock market that I’m interested in looking at. I will also use the Web instead of reading

newspapers if I wanted to buy something and I wanted to find information on a product that was not available in the newspaper. Otherwise, I use the Web in addition to reading newspapers.”

Moreover, respondent 35 stated:

“ I use the Web in addition to reading newspapers. This is because they give different types of information. I use the Web more for stock and quote prices.”

Also, many respondents find that the Web does not replace the newspaper. Respondent 43 is one example. One justification for this is that some people love newspapers and will not give up reading them. For example, respondent 9 said:

“There is an interesting use of the Web right now - you can get any newspaper you want online. I don't think that I would ever sit and browse through newspapers online. I love newspapers. I don't see myself sitting in front of a screen and reading newspapers. I find it very uncomfortable. You just don't get the whole view as you scroll through.”

Similarly, respondent 13 stated, “I'm a newspaper fanatic, so that I most likely will never give up reading newspapers altogether. I'm not the type of person who will read the news off the Web when I can get it in the newspaper.”

In addition, respondent 26 said:

“In the University, being in the Executive MBA Programme, they do have newspapers, so I read *The Gazette* on a daily basis. My Web use has not affected my newspaper readership. Even though I don’t buy any newspapers, I still like to read them, compared to just reading them on the Web. This is because there is a greater feel by sitting down and reading the print rather than just looking at the computer screen. The screen hurts my eyes after a while.”

Another reason why people feel that the Web does not replace the newspaper is that they like to have a paper version in front of them, to keep on hand. For example, respondent 28 stated:

“I use the Web in addition to reading the newspaper, because I still prefer paper. The Web doesn’t replace the newspaper. I like to feel the newspaper I’m reading. I don’t read newspapers online even though I know that they exist.”

However, respondent 33 stated:

“I do read *The Gazette* online, but mostly *CNN* on the Web. I prefer to buy the newspaper because you get an actual hard copy. I feel that I get more



on the hard copy version than the online version of *The Gazette* ... They cannot put every single article on the Web ... The Web does not really replace the newspaper.”

In addition, respondent 27, who uses the Web in addition to reading newspapers, stated:

“... they are mutually exclusive, for what I’m looking for. They contain different types of information and one does not replace the other. I have accessed newspapers online, but they don’t appeal to me at all. I prefer the paper version. It also contributes to my English reading.”

Moreover, another reason why respondents feel that the Web does not replace the newspaper is that they use the Web as just another tool. For example, respondent 33 stated:

“In general, for me, the Web is another form of media. It does not replace other forms of media. I find that the Web is just another tool and will use it in addition to what I currently use.”

Another issue that is relevant is the location of Web access. Respondent 15 gets the newspaper at home and accesses the Web only from work. Also, respondent 18 stated:

“When I get *The Gazette*, I may not have had enough time to read through it. Whereas at work, I can at least go through the topics before I get home and all the news is old. This is because I read *The Gazette* when I get home ... My Web use has affected my newspaper readership a bit. With *The Gazette*, whatever I read online, I won’t read when I have it in front of me ... what is online is very limited with respect to the rest of the newspaper. There is just so much more in the newspaper version of *The Gazette* than the online version.”

Another reason why Web users will not read newspapers over the Web is shown in respondent 17’s statement. He said:

“I use the Web in addition to reading newspapers because they offer different types of information. I know that I can access these newspapers over the Web, but I don’t because I read newspapers for relaxation and to take a break. Reading newspapers lets me get away from it all.”

Among respondents in the sample, only one claimed to use the Web instead of reading newspapers. Respondent 37, who now only receives *The Gazette* on weekends, stated, “I used to get *The Gazette* delivered seven days a week before I started using the Web ... I read *The Gazette* online every day and I will read it on weekends ... I use the Web instead of reading the newspaper during the week, as I only subscribe to *The Gazette* on weekends.”

Findings also indicate that there are a few respondents who have canceled their subscriptions because it is cheaper and faster for them to read it on the Web. For example, respondent 26 stated:

“I used to subscribe to an Indian newspaper and it used to take a week before I got it shipped from India and it used to be a weekly edition. But now, I have a daily edition on the Web, and it has become very convenient to keep up-to-date on a daily basis. So, I canceled my subscription. In this case, I use the Web instead of reading the newspaper.”

Also, respondent 34 (whose readership has decreased) no longer buys *USA Today*:

“I will not buy it anymore because I read it on the Web ... I will also use the Web instead of reading newspaper, as in the case of *USA Today* ... If I buy it, there are only a few things I’m looking for anyway, so there’s no use in buying it. I will very often look at newspapers from France (*Le Monde* and *Le Figaro*). I will also read *El Tiempo*, the major newspaper from Bogota, Columbia, which has a better Web site than any Canadian newspaper.”

Moreover, respondent 12 stated:

“My Web use has affected my newspaper readership. I will buy less newspapers now for movies and entertainment purposes, as I will just look on the Web. I don’t buy as many newspapers anymore because I used to buy newspapers just to know the movie listings. Now, I look on the Web for the movie schedule. I use the Web in addition to reading newspapers, as I still buy newspapers. I just buy the newspaper to get the headlines, last night’s news, for example. The past week I bought *The Gazette* every day because there was a good section on the Grand Prix. I can get this on the Web, but they don’t put the whole thing on. In that respect, newspapers still have greater coverage. But, for up-to-date information, the Web is better. For example, when they were qualifying in Monaco, I knew immediately who qualified, whereas with newspapers, I would have had to wait until the next morning.”

Depending on the type of news, respondent 39, whose readership has declined, stated:

“For all the financial information, for example, if I did not have the Web, I would buy more. I read less of my newspaper and would probably more often buy an additional newspaper with the use of the Web. I use the Web instead of reading newspapers and also in addition to reading newspapers, depending on the type of news. For financial and computer-related news, I will go to the Web. For politics and general society issues, I prefer the newspaper.”

Similarly, respondent 3 will use the Web instead of and in addition to reading newspapers.

His newspaper has also decreased with his Web use. He stated:

“Because I can get the same things on the Web that I can get in newspapers more or less. The Web has content that is more focused to what I want to see ... The advantages to using the Web versus buying newspapers are a) I am using the Web anyways, so I should use it because I don't have to pay for the paper that way; b) The Web gives me more control over what I want to read. There are entire sections of the newspaper that I have never looked at, and this is not the case when I read things on the Web. And, instead of reading the same amount of stuff, I can read more of the stuff that I want to read. The disadvantage of using the Web versus buying newspapers is that there will always be people who would rather read a book or a paper than a screen. According to me, the screen is a downside.”

Some respondents in the sample do not read newspapers. For example, respondent 10 has been looking for a job:

“My husband will buy a newspaper once a week. He will tell me about anything interesting that's in the newspaper, I don't read it ... However, if my husband tells me about a new job opening, I will check it out on the Web.”

In addition, respondent 29 does not subscribe nor buy newspapers. “I don’t really read newspapers ... I will only read a newspaper if I’m at a friend’s house and they have it there. I do access newspapers online, rarely though.”

Moreover, respondent 19’s Web use has not been affected by her newspaper readership. In her words, “I have never been a very big newspaper reader. Now I can access *BBC* and *CNN* news on the Web, so now I’m more informed than before.”

Also, respondent 36 does not like to read newspapers:

“I figure that I can get most of the news I need on the Web or on TV or on the radio. I will frequently access my hometown newspaper on the Web. Once in a while, I will access *The Gazette* Web site.”

To summarize,  $R_{sb}$  is partially supported by the data. It seems that the Web has had somewhat of a negative effect on people’s newspaper readership levels. Specifically, the newspaper readership levels of eight respondents or 18.60% of the sample have decreased due to their Web use.

One reason for this is the cost differential between newspapers and the Web. As previously explained, a few respondents buy less newspapers and/or have canceled their newspaper subscriptions. This is because it is cheaper and faster to read them online than to buy them and/or receive them in the mail.

Another justification for the negative relationship between Web use and newspaper readership is the type of information that individuals are looking for. As was previously stated, respondent 39 will use the Web for financial and computer-related news, but will read newspapers for politics and social issues.

**R<sub>5c</sub>: Web use affects magazine readership levels.**

Refer to Exhibit #15 for the chart illustrating respondents' hours of Web use on a weekly basis, respondents' number of magazines subscriptions and number bought per month, the effect of their Web use on their magazine readership, and the degree to which they use the Web instead of or in addition to reading magazines.

**Table #18: The Web's Effects on Magazine Readership**

The Web's Effect on Magazine Readership	Number of Users	% of Users
No effect	31	72.09
Decrease in magazine readership	11	25.58
Increase in magazine readership	1	2.33
Totals	43	100.00

From Table #18, it can be seen that the Web has had a negative effect on the magazine readership levels of 11 respondents or 25.58% of the sample. Also, the Web has led to an increase in readership of one respondent or 2.33% of the sample. Thus, there is somewhat of a negative association and a very small positive relationship between Web use and magazine readership.

Respondents whose magazine readership has decreased have varying levels of Web use. Specifically, the hours per week spent on the Web ranges from one hour to 25 hours. Thus, the amount of Web use is not a good indication of its effect on magazine readership.

Respondent 17 is a Web user whose magazine readership has decreased because of the time that he has available. In fact, he stated, “I use the Web in addition to reading magazines because the Web is there. I have only so many hours in a day that if I spend an hour a week on the Web, it’s an hour less that I spend doing other things.”

As mentioned before, one respondent’s magazine readership has increased with his Web use. He spends 15 to 20 hours a week on the Web. Because there is only one individual who reads more magazines, it is difficult to generalize and say that heavy Web users read more magazines. In this case, there would be a positive association between Web use and magazine readership.

**Table #19: Using the Web Instead of and/or In Addition to Reading Magazines**

How Are the Web and Magazines Used Together?	Number of Users	% of Users
Instead of	4	9.52
In Addition to	31	73.81
Instead of and in Addition to	4	9.52
Neither Instead of nor in Addition to	3	7.14
Totals	42	99.99



It can be noticed that, as with television and newspapers, a majority of respondents use the Web in addition to reading magazines.

Respondent 2 uses the Web in addition to reading magazines. His reasoning is the following:

“Because the magazines are also online, if there is only one interesting article and I don’t have the time to read it and if I’m traveling, I will download the article instead of bringing the magazine with me. Also, there are sometimes articles in the magazines that I want to keep, so in the past I have had to cut the articles out, it’s messy, and this way I can just download it and store it away.”

Respondent 24 who subscribes to four magazines per month also uses the Web in addition to reading magazines:

“I read many magazines on the Web. This is because magazines are costly to buy and they are free on the Web. Sometimes I don’t like to buy a magazine because there’s only one interesting article in it.”

Another Web user who uses the Web in addition to reading magazines is respondent 19. She stated:

“I access *Cnet* on the Web, but they don’t have a magazine version. On the other hand, there is a magazine called *Mac Addict* that has a Web site. I don’t access this site, but I buy the magazine every month. I don’t access the *Mac Addict* Web site because I never think about it. I don’t have a Mac at work and I have a Mac at home. *Mac Addict* is a magazine that comes with a CD-ROM every month, so I use it at home.”

Respondent 26 also uses the Web in addition to reading professional journals:

“This is because most of the journals that I read I can either subscribe to them (through the mail) or I can subscribe to them electronically. Therefore, I don’t have the option of reading them for free over the Web, because I would have to pay to get access to them. The Web restricts me economically, in that sense. It does not motivate me to read the magazines online, either ... Only part of those journals that are constantly updated, some information about conferences, for example, which the journals will not give, I will look for on the Web.”

Many respondents, such as respondent 41, find that the two media give different types of information. Another example is respondent 15. She stated that:

“The Web gives me information that I’m looking for on a whim. Magazines don’t always have what I want and I’m therefore limited to what is in the

table of contents in any particular month. For example, if I want information on travel to a certain location, travel magazines might not have that location featured that month. Whereas the Web has all the information, all the time. However, I will buy a magazine when something on the cover catches my eye.”

Similarly, respondent 13 said:

“The Web and magazines give different types of news and I also look for different types of news. I read a lot in my leisure time and I want to browse through publications and select what I want to see. You can also do this on the Web, but I prefer magazines.”

Respondent 40 also shares this belief:

“I use the Web in addition to reading magazines/professional journals because they are both separate and have different types of information and purposes. I find that the Web is very superficial and won’t spend half my time reading on the Web. I will use magazines instead. I see the Web as a different media, not as a substitute for other forms of media. Magazines have more depth, are more in-depth with respect to their coverage ... The Web has the widest breadth of any of the other media. It covers different topics, but is not as specific as magazines.”

In addition, some respondents use the Web as a supplementary form of information, while others find that they complement each other. Respondent 3 reads magazines at work, off newsstands, and at bookstores without buying them:

“I use the Web in addition to reading magazines, as a supplementary form of information. The nice thing about the magazine is that you have all the information on a given topic, especially computer magazines. It’s often a question of getting all the information in one place, and that’s not always possible on the Web. Currently in some cases, magazines do a better job on that. And that’s when I would read a magazine.”

Similarly, respondent 7 (whose readership has increased) find that magazines are more current than is the Web. In fact, he has stated:

“I read magazines in bookstores and in libraries, and at work ...The Web is another source of information for me. Also, I when I’m out, I will see a magazine related to what I’m doing. So, I will read that as well. Sometimes, those magazines will have a Web site. However, the information on the Web site does not come out until one month after it’s published. So, in that way, I will get additional information or information that’s not available on the Web or hard to find or I may just come across something that looks interesting on a magazine rack and I will read it.”

Respondent 22 also refers to the Web as a source of more information:

“I use the Web in addition to reading magazines because I’m looking for more information than what I saw in the magazine. With magazines, I get an idea of what I’m looking for, who has got it, or something that’s going on, and I will use the Web to get some more information. The magazines are a basis for my Web use.”

Similarly, respondent 8 uses the Web in addition to reading magazines. She stated, “I buy a magazine called *Shape*, it’s a workout magazine, and it’s hard to see this type of stuff on the Web. There are some weight sites on the Web, but they deal more with what kind of exercise people should do rather than showing you pictures of how to do it.”

Respondent 20 feels differently. He stated:

“... the Web complements what I get in journals, but I get direct access to information that I need and when I need it. I don’t always need the information in journals. On the Web, however, if I need a specific document on a specific topic, I can probably find it in a repository, download it, and print it.”

Similarly, respondent 34 stated, “I don’t read magazines over the Web. I use the Web in addition to reading magazines because it complements the information I get in magazines.”

Respondent 23 (whose readership has declined) takes a similar view, but uses the Web instead of reading magazines:

“ ... I don't need the information that's usually available in a magazine because I can find the information over the Web. I therefore buy and read less magazines. I use the Web instead of reading magazines. This is because what I'm looking for is readily available over the Web.”

Other individuals, because of their Web use, have changed the type of magazines they purchase. For example, respondent 16 buys more magazines that are related to the Web and less magazines that are related to other issues.

Meanwhile, other people like respondent 21, enjoy reading magazines and find that the Web does not replace them. For example, respondent 41 stated, “I don't read magazines online because I prefer the hard copy version.” Respondent 42 also claimed, “I still prefer to read the paper version of the magazine rather than the online version.” Moreover, respondent 27 also prefers to read the paper version over the online version:

“I use the Web in addition to reading magazines. This is because they are mutually exclusive. I have magazines online, but they don't appeal to me at all. I prefer the paper version. It also contributes to my English reading.”

Similarly respondent 28 stated:

“I use the Web in addition to reading magazines. This is because I still prefer paper. The Web doesn’t replace the magazine. I like to feel the paper I’m reading. I don’t read magazines online even though I know that they exist.”

Respondent 35 also prefers the paper version:

“... most of the information in magazines you cannot get on the Web. I have tried reading magazines over the Web, but I find that they are usually limited editions. It’s not the full magazine. I still prefer the paper version.”

Another reason why respondents feel that the Web does not replace magazines is that they use the Web as just another tool. For example, respondent 33 stated:

“In general, for me, the Web is another form of media. It does not replace other forms of media. I find that the Web is just another tool and I will use it in addition to what I currently use.”

In addition, other respondents feel that they will never stop reading magazines in favor of the Web. For example, respondent 5 stated, “I like to read, so I will never give up reading magazines. Reading magazines is one of my hobbies.” Also, respondent 9 will occasionally read magazines online. In his words, this is:

“... because I find that it’s very difficult to read from a screen. However, if I had a very specific piece of information that I want and I didn’t have the printed journal, I would go to the Web. But, I wouldn’t go just to browse. It takes too much time.”

Others find that magazines are more portable than is the Web. For example, respondent 1 whose magazine readership has declined, said, “The Web is computer-based, so it’s hard to read in bed.” Moreover, respondent 25 stated, “I’m sure the information I want is on the Web as well, but I don’t have time for it. Whereas, I can read a magazine on the train or any other location.” Respondent 30 stated, “I use the Web in addition to reading magazines because you can’t take the Web into the bathroom.” Similarly, respondent 41 stated “I cannot put the Web on my LA-Z-Boy!”

Even though magazines are more portable than the computer, sometimes using the Web can be more convenient. For example, respondent 6 stated that “Instead of looking at magazines to try and find something, I try to find it on the Web. This is because I always know where my computer is, but I can never find where I put my magazines.” Moreover, respondent 33 said:

“I use the Web in addition to reading magazines/professional journals. This is because the magazines are at my fingertips. When I’m at my desk, it’s more convenient to go to the Web.”



Respondent 12 stated:

“My Web use has affected my magazine readership. I used to buy more magazines before. I use the Web instead of reading magazines. The Web is free, whereas you have to buy magazines. You can access all the magazines and information on the Web ... especially with ‘site X,’ you get all the entertainment news. I don’t buy any entertainment magazines anymore because of that. And, for fashion stuff, if I find something good in a magazine, I will buy it. Otherwise, it’s not worth it.”

Similarly, respondent 23’s readership has decreased. “I don’t need the information that’s usually available in a magazine because I can find the information over the Web.”

Other respondents use the Web instead of and in addition to reading magazines, depending on the situation. For example, as respondent 11 has stated:

“Many times I would read magazines just to get information on some products. Now, I can go to the Web. Therefore, I have cut back on certain magazines that I find redundant. For example, I used to subscribe to *PC Magazine*, but now I just go to their Web site. I have canceled my subscription. With the Web, I get the headlines flashing at me every time I log in, and then, if I’m interested, I will go and read it. Whereas before, with my subscription, I didn’t have the time to look through the whole

magazine ... I still read some magazines. But, it's still hard to use the Web in bed."

Similarly, respondent 36 also uses the Web instead of and in addition to reading magazines:

"I use the Web instead of reading magazines. For example, *PC World* becomes very expensive in Canada and it's cheap in the US. I decided not to renew my subscription as I can access the page and get most of the stories and the rating of PC's. I can't, however, get everything that's in the paper copy of the Web. I use the Web in addition to reading magazines ... because it's a different type of thing than the actual journal ... This is because if there are things that you want to get out of a paper copy that you can't get on the Web page, you're probably going to do one or the other, or both (which is what I do in those cases). The things that I really need to get out of *PC World*, I can easily get for free over the Web (that would be instead)."

Moreover, respondent 39 reads less magazines because he reads them on the Web:

"I read less magazines/professional journals. They're on very specific topics, so depending on the topic, I will buy or not buy a magazine ... I will use the Web instead of reading a magazine. For example, since I have the

Web, I don't buy any computer and financial related magazines anymore. And, I will use the Web in addition to reading magazines for other issues, such as general society news and politics.”

There are also some respondents who use the Web neither instead of nor in addition to reading magazines. It seems that these people are light Web users. Their Web use ranges from one hour to two hours a week. For example, respondent 29 subscribes to professional journals and finds that the Web and magazines are unrelated. “The Web is mostly business-related and I will only read a magazine if I'm at a friend's house and they have it there ... I don't access magazines or professional journals online.”

To summarize,  $R_{5c}$  is somewhat supported by the data. It was predicted that Web use would affect the magazine readership levels of Web users. Results show that the Web has had a negative effect on the magazine readership levels of 11 respondents or 25.58% of the sample. On the other hand, the Web has positively affected the magazine readership level of one respondent or 2.33% of the sample.

## **Discussion**

The current research contributes both theoretically and empirically to the marketing, advertising, and communication literature. The theoretical contribution of the current study is the extension of past consumer information search and decision making literature to link hotlists, external memory, consideration sets, and awareness sets. Essentially, it is one of few studies that have combined these four concepts to explain the processes used by consumers to search for information on products and services and to store this knowledge.

First, by reviewing the literature on hotlists and external memory, the study discussed how and why hotlists are similar to external memories. Specifically, hotlists are important in the consumer information search process because they change the way people look for information on products and services. Other studies which have discussed hotlists and how they relate to consumer's external memory include Coupey (1996) and Hoffman and Novak (1996).

In addition, this study is the first to link hotlists and consideration sets. In other words, after examining both concepts, the similarities and differences between hotlists and consideration sets were discussed. As stated in the literature review, past research has only investigated consideration sets in the context of brands (Roberts, 1989; Roberts and Lattin, 1991). Thus, up until now, there has been no research conducted on consideration sets which has gone beyond brands to examine items in hotlists.

In the context of a review of the information search literature, it was shown that consideration sets are important in the search for information and affect the consumer decision making process (Brown and Wildt, 1992; Roberts and Lattin, 1991; Schmidt and Spreng, 1996). This is partly due to the fact that a brand in a consideration set has a greater chance of being purchased than a brand which is not. The current study extends the literature by showing that even though hotlists consist of sites or items rather than brands, they are similar to consideration sets under certain conditions. For example, both concepts refer to a set of alternatives that evolves over time which the consumer chooses to access or purchase.

Moreover, the current research is also the first of its kind to investigate the link between hotlists and awareness sets. Like consideration sets, awareness sets have been examined in the context of brands (Brown and Wildt, 1992). However, the current study extends the literature by discussing the similarities and differences between hotlists and awareness sets in the context of the consumer information search process. For example, one difference between the two concepts is that consumers are limited in their capacity to remember each brand that is found in their awareness set, but are not faced with any cognitive limitations when using hotlists.

In addition, the current research has linked Web use and the information search process. As stated in the literature review, past research has investigated the consumer information search process (Furse, Punj, and Stewart, 1984; Punj and Staelin, 1983, for example). Yet other studies have examined how Web users search for information on the Web and the

methods they use to find Web sites, such as hotlists, links, search engines, and typing in addresses (Catledge and Pitkow, 1995; Georgia Tech Research Corporation, 1996b; Hoffman and Novak, 1996). However, no research has considered the reasons why individuals prefer to use certain methods over others when searching for information over the Web.

The main drawback to the above studies is that they examine people's use of the above browsing methods by asking respondents to state the strategies they use when using the Web (Georgia Tech Research Corporation, 1996b) or by conducting an experiment over a certain time period that records people's search patterns on the Web (Catledge and Pitkow, 1995). The current study, however, extends past research by also obtaining the percentage of time each individual Web user accesses his hotlists, uses links and search engines, and types in addresses. Thus, results obtained here not only indicate the methods Web users use to find sites, but the frequency with which they use each method.

The empirical contributions of the research are the following. First, it is the first of its kind to use interviews to investigate hotlists and how they relate to such factors as Web satisfaction, cognitive effort, as well as ritualized and instrumental media orientations. The study is also the first kind to use interviews to examine the reasons why users add sites to and/or delete sites from their hotlists. Previous studies on Web use, feelings about the Web, and hotlists have used surveys (online, intercept, and telephone), focus groups, and data on home PC use (Coffey and Stipp, 1997; Ducoffe, 1996; Georgia Tech Research Corporation, 1996a; 1996b; Maddox, Mehta, and Daubek, 1997; Strauss, 1996).

The importance of conducting interviews rather than administering surveys to examine hotlists lies in the fact that the subject at hand is rather new to the research area. As such, there is a need for exploratory studies which utilize qualitative data to investigate Web users' use of hotlists. As opposed to surveys which constrain participant responses into narrow categories and are characterized by their quantitative data, interviews allow for open-ended questions which permit the researcher to investigate people's opinions and feelings in a more in-depth fashion.

In addition, it is the first study to use interviews to thoroughly explore the motivations (ritualized and instrumental media orientations) behind why individuals use the Web. The study also is the first to extend the ritualized and instrumental scale (introduced by Greenberg (1974) and expanded by Rubin (1979; 1984) with respect to television usage) to classify Web users according to their user motivations.

Moreover, the current research is also the first one to use an interview methodology to investigate the Web's effects on television viewership and newspaper and magazine readership levels. Thus, not only did the interviews allow for the examination of the effects of the Web on the various traditional media vehicles, but they provided the opportunity to investigate the reasons underlying these effects.

## ***Managerial Implications***

The following section discusses the theoretical and practical implications of the study for companies who want to conduct business on the Web as well as for marketers who wish to promote their products and services online. Refer to Table #3 (in the findings section) for a listing of the relationships that were investigated and the main results that were obtained.

### **Web Users' Use of Hotlists**

The finding that respondents generally find the Web very easy to use corresponds to Eighmey's (forthcoming) study on people's perceptions of Web sites. Specifically, the study concluded that respondents felt Web sites "... to be generally easy to use and well organized" and did not require a lot of effort to figure out (Eighmey, forthcoming).

The finding that most respondents use hotlists and access them (at varying percentages) is consistent with past literature. The Georgia Tech Research Corporation (1996b) found that a majority of respondents (82.69%) access their hotlists when using the Web. This implies that people do use the external memories that they create, but access them in addition to the other methods they use to search for Web sites.

However, the finding differs from Catledge and Pitkow's (1995) results. They found that hotlists are generally not a preferred method to navigate the Web. A possible explanation for this may be the methodology that Catledge and Pitkow used to carry out their



research. Specifically, they conducted an experiment in a college where they observed the type of sites respondents visited and the methods they used to get there. Perhaps participants did not want to inform the researchers of the Web sites they keep in their hotlists or perhaps individuals do not keep their hotlists on computers that are used by many others. It can also be that perhaps some people do not primarily access the Web from that location (they may access their hotlists more often at home, for example).

In fact, the current study found that some individuals may essentially minimize the amount of external memory they keep by limiting the number of sites in their hotlists. In this way, they can keep the items in their hotlists organized and easy to find. Because they keep a limited number of sites in their hotlists, some may end up using other methods to find Web sites, such as search engines, links, and/or typing in addresses.

The study also found that among the reasons why respondents will add a site to their hotlists are that they expect to return to the site and that the site serves their specific interest(s). However, and in contrast to what was expected, there were no users who said that they would add a site because the visit was enjoyable and only one respondent who claimed to add a site because of timely information. One possible explanation for these results is that the question posed was open-ended so that respondents had to think of the reasons for adding a site, rather than having to choose among options. Results may have been different if respondents had been given options. For example, the term “enjoyable” may mean different things to different people. In other words, perhaps some of the reasons provided by respondents implied that the visit was enjoyable. For instance, many

individuals claimed to add a site to their hotlists when it is interesting, while a few added a site when it serves their specific interest(s). Future research needs to better measure this variable.

Moreover, the finding that respondents did not say that they would add a site to their hotlists because of an enjoyable visit is in contrast to a study discussed by Rice (1997). In his research, Rice (1997) found that one of the most important factors in determining repeat visits to a Web site is the degree to which a user found the visit enjoyable.

There are a few reasons why this discrepancy exists. For one, the study conducted by Rice's research company (1997) used a different methodology. In addition, the current study and the one conducted by Rice (1997) might, in fact, examine different concepts. Specifically, Rice (1997) looked at the reasons why Web users revisit a site, while the current research investigated the reasons why users add a site to their hotlists. These two topics may measure different issues since some Web users may revisit a site without having stored it in their hotlists. In fact, one finding in the current study was that some respondents will revisit a site through other means than hotlists, like typing in the Web address.

In addition, and as previously mentioned, most respondents did not claim to add a site to their hotlists when it has timely information, even though their comments to other questions show that they value this factor. One possible reason is that timely information was implied by such reasons as the site is interesting, they expect to return to the site, and

that the site has useful information. For example, one of the reasons why a respondent would return to a site (given as a reason to add it to his hotlists) is possibly due to the up-to-date content on the site. Because this factor may imply others, future research needs to examine it in more detail.

It is somewhat surprising to see that a relationship did not emerge in this study between the number of items users keep in their hotlists and the percentage of time they access their hotlists. While past literature on memory and consideration sets has indicated that the use of external memory and consideration sets helps in the consumer decision making process (Bettman, 1979; Brown and Wildt, 1992; Roberts and Lattin, 1991; Schmidt and Spreng, 1996), it does not explicitly state that there is a relationship between these two variables. Past research on consideration sets, however, has found a positive relationship between consideration set size and external information search (Newman and Staelin, 1972; Srinivasan and Ratchford, 1991).

Nevertheless, the current study did examine this association and found the relationship to be unclear. Thus, there is a need for future research to investigate the possible association between the two variables using a bigger sample size.

### **Instrumental and Ritualized Media Use**

Past research has examined instrumental and ritualized media orientations and how they apply to television use. An instrumental user is goal-directed, has a clear purpose in mind, and looks for information (see Rubin, 1984 and 1994, for example). On the other hand, a

ritualized individual does not have a specific goal in mind, but wants to pass time, relax, and be entertained (see Rubin, 1984 and 1994, for example). Meanwhile, past literature has categorized Web users according to three browsing strategies: search browsers, general purpose browsers, or serendipitous browsers (Catledge and Pitkow, 1995).

Even though past research has yet to link them together, the current study believes that the above two characterizations of Web users are similar. Because instrumental users are goal-oriented, it is assumed that they are search browsers. On the other hand, because ritualized users do not have a task when using the Web, they are considered serendipitous browsers (purely random). In addition, those Web users who are partly instrumental and partly ritualized are considered general purpose browsers.

One finding of the study is that many of the respondents are instrumental in their Web use. One major reason for this result may be a social desirability factor. Specifically, respondents may not have been completely candid in all their answers because they did not want to admit to certain activities they conduct on the Web and/or certain sites they visit. Also, they may have not been self-perceptive enough to recognize the number of times an instrumental search turns into a ritualized one. For example, pornographic sites are known to be very popular, but only one respondent mentioned that he accesses such sites. Another example is the case of the individual who only browses the Web with no specific idea in mind. He may not want to admit to such activities for fear of embarrassment.

Results based on a classification of frequently visited Web sites mentioned by respondents also show that half of respondents view their search behavior as being either instrumental, ritualized, or neither instrumental nor ritualized, while the sites they access appear to be either of a recreational, casual, or ritualized sort, of a purposeful or instrumental nature, or of somewhere in between. For example, the study found an instrumental user who most often browses through news-related sites without a specific purpose in mind. This lends support to the notion that a social desirability factor may be operating. For example, a respondent may sometimes have a goal in mind when searching the Web, but most of the sites that he frequently visits are not task-oriented. Thus, the type of media orientation a Web user takes on does not necessarily predict the reasons behind which he frequently accesses a site.

Another reason for this finding is that frequently visited sites may not fully characterize users' browsing strategies and media orientations. This can be due to the fact that frequently visited sites do not account for all Web activities, as there are possibly many other sites that users access, but not as frequently.

The study also found that even though most respondents use links, they do not access them as much as other methods (such as hotlists). One reason for this may be that almost half of the sample are professionals and thus are looking for specific information rather than general information. However, the finding that a majority of respondents do use links to find Web sites is consistent with past literature. For example, Catledge and

Pitkow (1995) found that among respondents, links were the preferred method to access sites. In addition, in a survey conducted by the Georgia Tech Research Corporation (1996b), it was found that 64.16% of respondents access links when using the Web.

This finding also implies that even though ritualized users are classified as serendipitous browsers, they may not use links more often than people who browse with a specific goal in mind. This result is unexpected considering the fact that links allow users to easily browse through sites that they find interesting.

It is somewhat surprising, however, that instrumental users do not appear to access their hotlists more frequently than ritualized users. The reason for this is that hotlists are an easy way to return to sites that users have already visited (Coupey, 1996). Also, hotlists allow users to save time by accessing specific sites without having to type in the site address and/or conduct a full search using a search engine.

Moreover, it is advantageous for companies to have their Web sites in users' hotlists because the current study found that most of the frequently accessed sites are listed here. This finding is consistent with past literature on memory. Because hotlists affect the amount of external memory consumers use to make decisions (Coupey, 1996), it is not surprising that the most often accessed sites are kept here. In this way, Web users can access their most popular sites in an efficient and quick manner, without having to use other methods or their internal memory.

The above finding also illustrates a similarity between hotlists and consideration sets. Because consideration sets contain brands that are considered for future purchase (Roberts and Lattin, 1991), each set also contains brands that have been purchased in the past and/or are the most preferred brands in a product/service category. In other words, one factor that applies to both hotlists and consideration sets is frequency of use. Thus, just as the most frequently accessed sites are kept in an individual's hotlists, the most often purchased brands form part of the consideration set.

The study also concluded that search engines are a popular tool among respondents, but most of the sample did not claim to use them frequently. The finding that search engines are used by a majority of respondents is similar to the results obtained by the Georgia Tech Research Corporation (1996b). Specifically, the Georgia Tech study showed that 78.10% of respondents use search engines like Lycos and another 59.45% use larger search engines like Yahoo.

In contrast to past research, it is unclear whether ritualized and instrumental users differ in their use of search engines. Specifically, Catledge and Pitkow (1995) stated that search engines have been developed for those users who take on a directed search strategy or who have a known goal when using the Web. Thus, it would appear that according to Catledge and Pitkow (1995), instrumental users would access search engines more often than ritualized users. As can be seen, the relationship between these two variables needs further investigation.

### **The Web's Effects on the Consumption of Traditional Media**

The study found that the Web has had a negative effect on the television viewership levels of a few respondents (refer to Table #3, R<sub>5a</sub>, for more information). This finding is consistent with past studies which have also shown that Web use has decreased people's television use (Coffey and Stipp, 1997; Georgia Tech Research Corporation, 1996a, 1996b; Satran, 1996).

One reason for this finding which has yet to be investigated by past research is the location where respondents primarily access the Web. In the current study, most respondents who have noticed a decline in their television use primarily access the Web from home rather than from work. A majority of respondents who watch television at home and primarily use the Web at work have not reported a decrease in the number of hours spent watching television. This finding is due to the fact that these two types of media compete for the user's time on a daily basis. This result also makes sense given the fact that people perform different activities at home and at work.

The Web has also had a negative effect on respondents' newspaper readership levels (refer to Table #3, R<sub>5b</sub>, for more information). It is interesting to note that this occurred to respondents who spent under ten hours a week on the Web.

The current study also has some practical implications for marketers and businesses who have started to or are thinking about using the Web as a form of communication. Because



of such problems as information overload and the difficulty in finding information, marketers must ensure that their Web sites are easy to find and stand out from the others. This is not an easy task given the proliferation of Web sites. Marketers must use methods that allow them to promote their Web sites and increase their coverage. One way to increase the probability of Web users finding a Web site without much difficulty is by establishing links on other sites (Berthon, Pitt, and Watson, 1996a). Another method marketers could use is to advertise their Web sites in traditional media vehicles.

In addition, it is important for marketers to be aware of the reasons why Web users add a site to and delete a site from their hotlists as well as why they revisit a site. In this way, they can take the appropriate steps to ensure that their Web sites are added to people's hotlists and not deleted from them. Results from the current study indicate that, in order for a site to be added to a user's hotlists and be revisited by the user, marketers must ensure that their sites are attractive, attention-grabbing, organized, and contain the type of information that is valued by Web users (Berthon, Pitt, and Watson, 1996a; Rice, 1997; Wehling, 1996).

Moreover, there is a need for marketers to further examine the use of search engines among Web users. One main reason for this is that search engines have been used by companies to attract consumers to their Web sites (Berthon, Pitt, and Watson, 1996a). Companies and marketers may therefore want to rethink how they can increase the frequency of use of search engines among Web users. One method that may accomplish this goal is the development of more efficient search engines. With greater efficiency,

search engines would be able to give more relevant references and thus decrease the growing concern of information overload.

The finding that most respondents do not frequently type in Web site addresses in their daily Web use has important marketing implications. If Web users are not typing in addresses often, then perhaps they are not paying much attention to and/or do not notice the display of Web site addresses that are found in traditional media vehicles, such as television, newspapers, and magazines. Marketers should be aware of this because companies have started including their Web sites in these types of media (Berthon, Pitt, and Watson, 1996a; Maddox, Mehta, and Daubek, 1997; *The Economist*, 1995).

It is also important for marketers to further examine the reasons why Web use is having a negative effect on television use (Coffey and Stipp, 1997). It might also prove beneficial to investigate how the two media vehicles are being used together by individuals to search for information as well as how advertisements on television promote Web sites (Coffey and Stipp, 1997). In other words, being informed of these interactions will allow marketers to develop strategies that would use traditional media to increase awareness of their Web sites.

Moreover, marketers should further examine the specific reasons why and the conditions under which newspaper readership levels have declined for some individuals but not for others. For example, in the current study, some respondents have canceled their

newspaper subscriptions because it is quicker and cheaper to read the information online, while others have chosen not to give up reading their newspapers.

In addition, it is important for marketers to further investigate the Web's effects on the number and the amount of time Web users spend reading magazines. As was found with newspapers, some respondents prefer the paper version of the magazine, while others will use the Web instead of reading magazines because it is free and contains specific information that is readily available.

### ***Limitations***

Like any study, this research has limitations. One limitation is that respondents often had to rely on their memory to answer certain questions. For example, respondents were asked to specify the length of time they have had Web access and the number of hours per week they spend on the Web. Another question involved remembering how often they use their hotlists, search engines, links, and type in addresses.

Because respondents had to rely on their memory, there is a possibility of a lack of accuracy in their responses. There can be much variability in their answers. Not only can their answers to the same questions vary day to day because of a change in their patterns of Web use and search behavior, but they can vary because they rely on respondents' memory.

An additional limitation is the questionable validity of the ritualized and instrumental scale. As this was the first study of its kind to use interviews to examine these media orientations with respect to the Web, the degree to which the scale is valid is uncertain. Thus, future research needs to examine this scale more carefully and perhaps develop and test a new or improved measurement.

Moreover, another limitation in this research is the social desirability factor. One of the purposes of the study was to examine the behaviors of instrumental and ritualized Web users. It was found that a high majority of individuals take on an instrumental orientation to the Web as opposed to a ritualized one. It is believed that the social desirability factor is partly to blame for these unequal sample sizes. This can be due to that the fact that respondents may have felt uncomfortable in discussing or did not want to admit how they actually use the Web and which sites they frequently visit. Thus, some respondents are not willing to claim that they spend most of their time “fooling around” on the Web and “having fun.”

### ***Future Research***

As the current study is exploratory in nature, a few recommendations exist for future research. First, there is a need to further investigate consumer behavior and the information search process on the Web. Because the Web has become a very popular form of media, it is important for marketers to understand these issues and how they are affected by them.

This study has also investigated how ritualized and instrumental media orientations apply to the Web and Web usage. In order to examine these issues, respondents were classified according to a ritualized and instrumental scale. Future studies should be conducted to investigate the validity of the scale. There is also a need to further examine how instrumental and ritualized media orientations affect Web use and search patterns as well as the characteristics that describe these two types of users.

Another recommendation is that researchers conduct a longitudinal study of Web users (somewhat similar to the surveys conducted by the Georgia Tech Research Corporation). In this way, people's Web use, search patterns, and the effects of the Web on their use of traditional media could be examined and any changes in their behavior could be monitored. This type of study is important as researchers would be able to keep track of changes in people's Web behaviors that occur over time.

In addition, there is a need for researchers to conduct more semistructured and in-depth interviews regarding Web use. This is due to the lack of research conducted with this method. For example, surveys (self-administered, telephone, and online) are a very popular way of examining Web use and other related behaviors (Ducoffe, 1996; Georgia Tech Research Corporation, 1996a, 1996b; Maddox, Mehta, and Daubek, 1997; Strauss, 1996).

Moreover, future studies should also include full-time students as part of their sample. Their Web use and their search patterns may differ from those who are employed full-time. Researchers may also wish to conduct studies in different areas of the country and/or with a specific group of people or within a certain company/industry. For example, a study could be done on the Web use of academics or of individuals working at a pharmaceutical firm.

Another area of future research is the further investigation of the effects of Web use on the consumption of traditional media. Specifically, researchers should examine these increases or decreases in more quantitative terms. For example, it would be beneficial for marketers to know the number of hours television use has declined for Web users as well as the number of newspapers and magazines which Web users no longer buy and/or subscribe to.

It should be noted that this qualitative research is being supplemented by a quantitative study. A Web survey has been developed in conjunction with an Internet Service Provider in the Montreal area and has recently been administered online. The survey, which is based on the issues and the proposed relationships that are found in the current research, will be used to examine Web use from a quantitative perspective.

## **Conclusion**

The current research is the first of its kind to use interviews to qualitatively explore individuals' Web use, the methods they use to search for information on the Web, their motivations behind using the Web, as well as the effects the Web has had on their consumption of traditional media.

As a form of communication and marketing tool, the Web is still in its infancy. As such, it is not surprising that some of the relationships investigated in the study were found to be inconclusive. Further research is therefore needed to examine such issues as Web users' use of hotlists and their motivations for using the Web.

In addition, the study has also emphasized the growing importance for marketers and companies to understand how the Web functions as a communication tool and how they can cater to their customers. Specifically, it is crucial to create Web sites that are attractive and interesting so that Web users want to add them to their hotlists.

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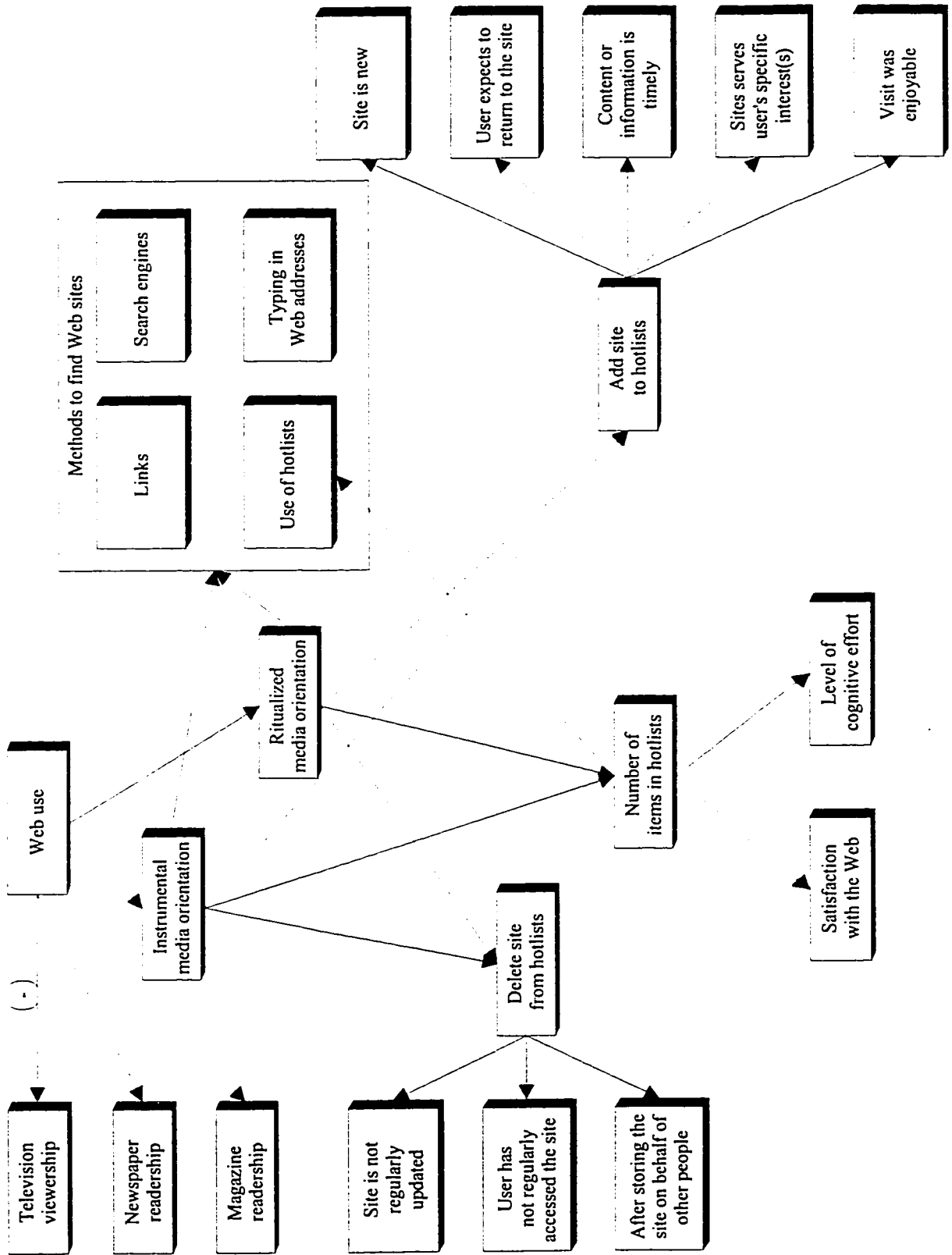


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# **Appendix I**

**Figure #1: Pre-interview Network**



## **Appendix II**

**Exhibit #1: Demographics of Respondents**

Resp.	Gender	Age	Income (\$)	Education	Occupation	Marital Status
1	Male	25-34	20,000-29,999	Master's	Research Assistant	Married
2	Male	35-44	75,000-99,999	Bachelor	Systems Engineer	Married
3	Male	25-34	30,000-39,999	Bachelor	Software Testing Analyst	Single
4	Female	25-34	20,000-29,000	Bachelor	Assistant to Financial Planner	Single
5	Female	25-34	20,000-29,000	Bachelor	Clerk	Single
6	Male	45-54	50,000-74,999	Master's	Mechanical Engineer	Married
7	Male	25-34	N/A	Master's	Pres. of E-Commerce Company	Single
8	Female	25-34	20,000-29,000	Master's	Research Technician	Single
9	Male	45-54	N/A	Doctorate	Medical Research Scientist	Married
10	Female	25-34	20,000-29,000	Master's	Research Assistant	Married
11	Male	25-34	50,000-74,999	Master's	Systems Engineer	Married
12	Female	25-34	30,000-39,000	Bachelor	Statistician	Single
13	Male	45-54	100,000 and +	Bachelor	Owner of Advertising Agency	Married
14	Male	25-34	N/A	Bachelor	Food Supervisor	Single
15	Female	25-34	30,000-39,000	Master's	Project Consultant	Married
16	Male	45-54	N/A	Master's	Real Estate Developer	Married
17	Male	45-54	75,000-99,999	Master's	Univ. Prof/Mkting Consultant	Separated
18	Female	25-34	20,000-29,000	Bachelor	Research Assistant	Married
19	Female	25-34	30,000-39,000	Bachelor	Administrator	Married
20	Male	45-54	100,000 and +	Doctorate	Environmental Scientist	Married
21	Female	25-34	20,000-29,000	Master's	Research Associate	Married
22	Male	45-54	N/A	Master's	Management Accountant	Married
23	Male	25-34	30,000-39,000	Bachelor	Computer Science Analyst	Single
24	Male	35-44	30,000-39,000	Bachelor	Student Affairs Coordinator	Married
25	Female	25-34	20,000-29,000	Bachelor	Secretary	Single
26	Male	35-44	50,000-74,999	Doctorate	University Professor	Married
27	Male	25-34	50,000-74,999	Doctorate	Scientist	Married
28	Female	25-34	40,000-49,999	Master's	Technical Recruiter	Married
29	Female	25-34	50,000-74,999	Doctorate	University Professor	Single
30	Male	45-54	75,000-99,999	Master's	Computer Consultant	Married
31	Male	35-44	50,000-74,999	Master's	University Professor	Married
32	Female	25-34	50,000-74,999	Bachelor	Accounts Supervisor	Living w/another
33	Male	25-34	N/A	Bachelor	Support Engineer	Single
34	Male	45-54	100,000 and +	Master's	V.P. of Development	Divorced
35	Male	25-34	10,000-19,999	Bachelor	Accountant	Married
36	Male	35-44	50,000-74,999	Doctorate	University Professor	Single
37	Male	35-44	50,000-74,999	Master's	General Manager	Married
38	Male	35-44	30,000-39,999	High School	President of Company	Married
39	Male	25-34	50,000-74,999	Master's	Product Manager for ISP	Single
40	Male	35-44	50,000-74,999	Master's	University Assistant Professor	Married
41	Male	45-54	N/A	Master's	President of Company	Married
42	Female	35-44	N/A	High School	Research Coordinator	Married
43	Male	45-54	100,000 and +	Bachelor	Salesperson	Married

## **Exhibit #2: The Interview Questionnaire**

Hello, my name is Wendy and I'm an M.Sc. student at Concordia University. I am currently conducting research on my thesis which deals with consumer behavior on the World Wide Web. I am interested in finding out why people use the Web, how they search for Web sites, as well any possible effects that the Web may have on peoples' current use of television, newspapers, and magazines.

Do you have a few minutes right now? I was wondering if it was possible for you to answer a few questions. It will only take about 20 to 25 minutes of your time. I would really appreciate your help and your opinions on these issues. Your responses are important and will remain completely confidential and anonymous.

Do you mind if I tape this interview? Your responses will inputted by me into a computer after the interview.

### **A. General Questions**

I will now ask you some general questions about your Web access, Web use, and feelings about the Web.

1. Are you at the computer where you primarily use the Web? If yes, are you at work or at home? If no, can I call you back when you are at the location in which you most often use the Web?
2. Could you please turn on your computer (if it is not already on) and access your browser?
3. Which browser do you use? Which version? (Microsoft - favorites; Netscape - bookmarks; CompuServe)

## **Exhibit #2 - Continued**

4. How long have you had Web access?
5. From where do you have access to the Web? (location and percentage)
6. How often do you access the Web per week?
7. How many hours in a week, on average, do you estimate you spend on the Web?
8. How do you feel about the Web? What do you like about the Web? How do you like it? Is it meeting your expectations? How satisfied are you with the Web? Do you think the Web offers some unique value? How do you feel the Web benefits you?
9. What are some of the things you do on the Web? (Purchase, chat rooms,...)
10. How do you use the Web? Do you always have a clear idea of the sites you will go to, or do you tend to visit sites that you had not necessarily planned?

That is the end of the general questions section. Now, I would like to ask you a few questions on the methods you use to visit Web sites and find new Web sites as well as your frequently visited sites.

### **B. Web Site Questions**

1. In general (not when you first log onto the Web), how much of your time spent on the Web is accounted for by your bookmarks/favorites? How much of your time spent on the Web is accounted for by sites accessed through typing in addresses? How much of your time spent on the Web is accounted for by sites accessed through search engines? How much of your time spent on the Web is accounted for by sites accessed through links?



## **Exhibit #2 - Continued**

2. Which sites do you frequently visit? Please list 5 or 6 sites.

3. I would now like to spend a couple of minutes asking you about each of these sites. Is that alright with you?

My question is: What attracts you to each of the above sites?

4. How do you usually find out/learn about new Web sites?

That's the end of this section. I would now like to ask you a few questions pertaining to your use of bookmarks/favorites.

### **C. Bookmarks/Favorites Questions**

1. Do you have bookmarks/favorites?

2. Are all your frequently visited sites in your bookmarks/favorites?

3. How many sites in total do you have on your bookmarks/favorites? Please check.

4. In the past month, how many Web sites have you added to your bookmarks/favorites?

5. How do you decide to add a site to your bookmarks/favorites?

6. In the past month, how many Web sites have you deleted from your bookmarks/favorites?

7. How do you decide to delete a site from your bookmarks/favorites?

## **Exhibit #2 - Continued**

8. How do you organize your bookmarks/favorites? Are they categorized? Are they alphabetized? How many categories do you have? Which ones?

That's the end of this section. I would now like to ask you a couple of questions on your feelings about the level of difficulty of using the Web.

### **D. Cognitive Effort Questions**

1. In general, how easy/difficult do you find it is to use the Web?

2. Do you find that bookmarks/favorites make the Web a lot easier to use? How?

That's the end of this section. I will now go on to ask you questions about your television, newspaper, and magazine use, and any effects that the Web has had on your media use.

### **E. Media Questions**

1. Do you watch television? How many hours per week? Has your Web use affected your television use? How? Do you use the Web instead of watching television or in addition to it? Under what conditions?

2. Do you subscribe to newspapers? How many and how many per month? Do you buy newspapers? How many per month? Has your Web use affected your newspaper readership? How? Do you use the Web instead of reading newspapers or in addition to it? Under what conditions?

3. Do you subscribe to magazines/professional journals? How many and how many per month? Do you buy magazines/professional journals? How many per month? Has your Web use affected your magazine readership? How? Do you use the Web instead of reading magazines or in addition to it? Under what conditions?

**Exhibit #2 - Continued**

I will now ask you a couple of questions about your own personal Web page.

**F. Questions on Personal Web Pages**

1. Do you have your own Web page? How long have you had your own Web page? How often do you maintain it? If you don't have your own Web page, do you plan on creating one? When? Is there anything else that you would like to mention about your Web page?

That's the end of that section. I will now go on to the last section of this interview and ask you a few demographic questions.

**G. Demographic Information**

1. Gender: Female or male

2. Please indicate your age bracket:

\_\_\_ under 18

\_\_\_ 18 to 24

\_\_\_ 25 to 34

\_\_\_ 35 to 44

\_\_\_ 45 to 54

\_\_\_ 55 to 64

\_\_\_ 65 and over

**Exhibit #2 - Continued**

3. Please indicate your gross income bracket:

- under \$10,000
- \$10,000 to 19,999
- \$20,000 to 29,999
- \$30,000 to 39,999
- \$40,000 to 49,999
- \$50,000 to 74,999
- \$75,000 to 99,999
- \$100,000 and above

4. Please indicate your highest level of education completed:

- High School
- CEGEP/College
- Undergraduate university degree
- Graduate university degree
- Doctorate university degree

5. What is your occupation?

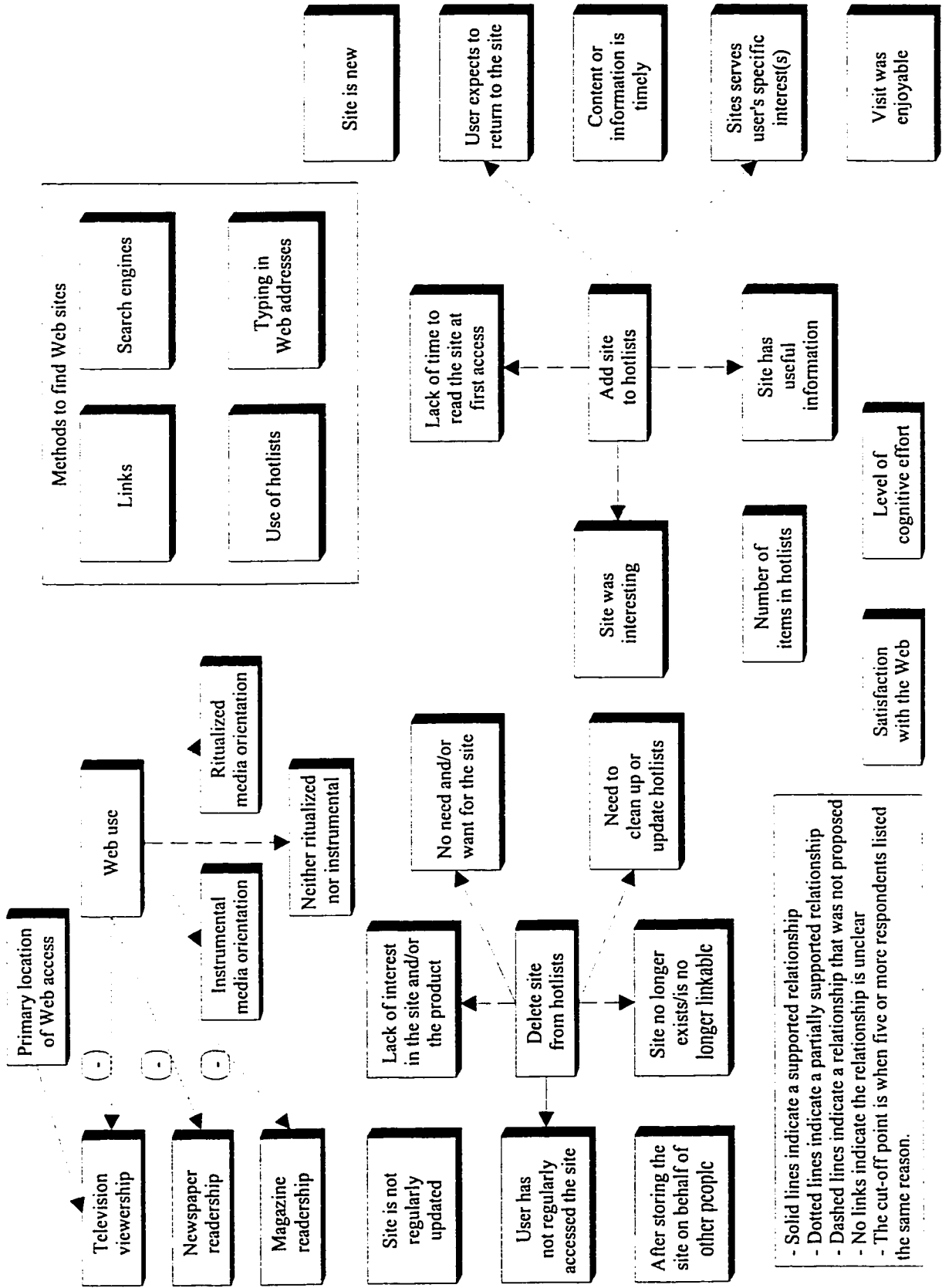
6. What is your marital status?

That concludes the interview. Again, I would like to thank you for your participation and time. Your answers are very useful and important to me in my current research.

I will be typing in your answers into a computer within the next couple of days. However, during this time, I may come across something that was said in the interview that I don't understand. In this case, would it be possible to call you back in the future to clarify certain issues? It would only take a few minutes. Thank you.

## **Appendix III**

**Figure #2: Post-interview Network**



**Exhibit #3: Demographics, Web Use, and Media Usage Matrix**

Resp.	Gender	Age	Income (\$)	Education	Occupation	Marital Status
1	Male	25-34	20,000-29,999	Master's	Research Assistant	Married
2	Male	35-44	75,000-99,999	Bachelor	Systems Engineer	Married
3	Male	25-34	30,000-39,999	Bachelor	Software Testing Analyst	Single
4	Female	25-34	20,000-29,000	Bachelor	Assistant to Financial Planner	Single
5	Female	25-34	20,000-29,000	Bachelor	Clerk	Single
6	Male	45-54	50,000-74,999	Master's	Mechanical Engineer	Married
7	Male	25-34	N/A	Master's	Pres. of E-Commerce Company	Single
8	Female	25-34	20,000-29,000	Master's	Research Technician	Single
9	Male	45-54	N/A	Doctorate	Medical Research Scientist	Married
10	Female	25-34	20,000-29,000	Master's	Research Assistant	Married
11	Male	25-34	50,000-74,999	Master's	Systems Engineer	Married
12	Female	25-34	30,000-39,000	Bachelor	Statistician	Single
13	Male	45-54	100,000 and +	Bachelor	Owner of Advertising Agency	Married
14	Male	25-34	N/A	Bachelor	Food Supervisor	Single
15	Female	25-34	30,000-39,000	Master's	Project Consultant	Married
16	Male	45-54	N/A	Master's	Real Estate Developer	Married
17	Male	45-54	75,000-99,999	Master's	Univ. Prof/Mkting Consultant	Separated
18	Female	25-34	20,000-29,000	Bachelor	Research Assistant	Married
19	Female	25-34	30,000-39,000	Bachelor	Administrator	Married
20	Male	45-54	100,000 and +	Doctorate	Environmental Scientist	Married
21	Female	25-34	20,000-29,000	Master's	Research Associate	Married
22	Male	45-54	N/A	Master's	Management Accountant	Married
23	Male	25-34	30,000-39,000	Bachelor	Computer Science Analyst	Single
24	Male	35-44	30,000-39,000	Bachelor	Student Affairs Coordinator	Married
25	Female	25-34	20,000-29,000	Bachelor	Secretary	Single
26	Male	35-44	50,000-74,999	Doctorate	University Professor	Married
27	Male	25-34	50,000-74,999	Doctorate	Scientist	Married
28	Female	25-34	40,000-49,999	Master's	Technical Recruiter	Married
29	Female	25-34	50,000-74,999	Doctorate	University Professor	Single
30	Male	45-54	75,000-99,999	Master's	Computer Consultant	Married
31	Male	35-44	50,000-74,999	Master's	University Professor	Married
32	Female	25-34	50,000-74,999	Bachelor	Accounts Supervisor	Living w/another
33	Male	25-34	N/A	Bachelor	Support Engineer	Single
34	Male	45-54	100,000 and +	Master's	V.P. of Development	Divorced
35	Male	25-34	10,000-19,999	Bachelor	Accountant	Married
36	Male	35-44	50,000-74,999	Doctorate	University Professor	Single
37	Male	35-44	50,000-74,999	Master's	General Manager	Married
38	Male	35-44	30,000-39,999	High School	President of Company	Married
39	Male	25-34	50,000-74,999	Master's	Product Manager for ISP	Single
40	Male	35-44	50,000-74,999	Master's	University Assistant Professor	Married
41	Male	45-54	N/A	Master's	President of Company	Married
42	Female	35-44	N/A	High School	Research Coordinator	Married
43	Male	45-54	100,000 and +	Bachelor	Salesperson	Married

**Exhibit #3 - Continued**

Resp.	Web Access in Years	Access From Work/Home in %	Times Accessed the Web per Week	Web Use in Hours per Week	Use of Search Engines in %	Use of Links in %
1	1	W: 100	1-2	1	60	40
2	4	W: 50, H: 50	7	10-25	10	0
3	4	W: 10, H: 90	2-3	6	30	50
4	1-2	H: 100	1	1	45	45
5	1	W: 100	5	2-2.5	30	10
6	1-2	W=H: 100	3.5	5	50	35
7	3	W: 95, H/Other: 5	5	15-20	15	10
8	2	W: 20, H: 80	1	3	30	10
9	2	W: 100	1	1	13	60
10	1	W: 100	2-3	1-2	0	0
11	3	W: 70, H: 30	14-21	2-3	10	10
12	4	W: 100	10	7-8	30	10
13	1	W:80, H:20	20	7	2.5	2.5
14	2	H: 100	0.25-0.50	0.50-1.5	75	10
15	14 months	W: 100	5	1	25	5
16	14 months	H: 99, Other: 1	5-10	2	25	20
17	14 months	W: 50, H: 50	5-6	1	60	10
18	1-1.5	W: 97, H: 3	5-7.5	1.25-1.88	10	5
19	1.5-2	W: 98, H: 2	15-20	2.5	20	5
20	3.5	W: 20, H: 80	7	6-11	80	10
21	4	W: 100	10-15	1.5-2	15	5
22	5 months	H: 100	2-3	10	15	70
23	2-2.5	H: 100	14	14	15	10
24	2	W: 100	5	2	20	10
25	1	W: 100	3-4	<1	10	10
26	1.5	W: 100	10	2	7.5	7.5
27	4	W: 70, H: 30	7-15	2.5-3	40	5
28	6 months	W: 100	15-20	10-12	10	5
29	2	W: 100	<1	2	5	15
30	2	W=H: 100	5	5	10	75
31	4	W: 60, H: 40	44	15	5	10
32	1	W: 100	2-3	3	35	10
33	2	W: 80, H: 20	25	6	20	20
34	3	W: 40, H: 60	21	5	35	5
35	2	W:30, H: 70	3	2-3	25	10
36	2.5-3	W: 40, H: 60	40	7-10	30	9
37	1.5	W: 90, H: 10	5-10	2.5-5	18	0
38	1.5	W: 95, H: 5	0.5	7.5-10 minutes	0	20
39	3	W: 20, H: 80	2-5	1-6	25	50
40	N/A	W: 95, H: 5	10-15	2	17	17
41	13 months	H: 100	2-3	10-15	50	25
42	2	W: 65, H: 35	5	3-5	20	20
43	2	H: 100	7	2	20	4



**Exhibit #3 - Continued**

Resp.	Typing in Addresses in %	Use of Hotlists in %	Number of Items in Hotlists	TV Use in Hours per Week	Number of Newspapers Subscribed to	Number of Newspapers Bought per Month
1	0	0	0	10	0	0
2	30	60	75	10	1d	0
3	0	20	20	5	0	5
4	0	10	10	10	0	1
5	50	10	10	20	1 2xw, 1w	0
6	0	15	161	15-20	3w, 1d	0
7	5	70	20	3-4	0	0
8	10	50	86	3	1d	0
9	13	14	6	6	2w	0
10	0	100	2	7-14	0	0
11	50	30	240	8	0	4
12	20	40	169	10-15	0	10
13	15	80	20	7	1d	0
14	15	0	2	4-5	2d	1
15	20	50	4	10	0	4
16	5	50	85	2	1d	0.25
17	30	0	0	1	0	12-16
18	20	65	35	15	1d, 1w	0
19	5	70	201	10	1d	0
20	5	5	1000	7-10	1d	0
21	30	50	8	30	1 (Sat. only)	0
22	15	0	0	5-6	2d, 1w	0
23	5	70	100	4	1d	0
24	20	50	20	1	1d	4
25	15	65	52	3	2d	0
26	5	80	7	1	0	0
27	5	50	8	20-40	1d	2
28	5	80	12	5	1d	0
29	40	40	12	5-10	0	0
30	5	10	219	3	1d, 4w	2
31	5	80	135	10	1d	10
32	35	20	26	5	1d	1
33	10	50	15	3	0	4-8
34	25	35	100	5-6	1d	12
35	60	5	10	10	1d	0
36	1	60	79	10	0	0
37	2	80	26	4-5	1(Sat & Sun)	0
38	0	80	7	21	1(Sat & Sun)	0
39	5	20	2	2	1d	2
40	33	33	27	5-10	1d	0
41	25	0	0	5-10	1d	0
42	60	0	0	10-12	1d	0
43	1	75	220	2-40	1d, 2w	0

**Exhibit #3 - Continued**

Resp.	Number of Mags.and/or Professional Journals Subscribed to	Number of Mags. and/or Professional Journals Bought per Month
1	0	0.5
2	12m	0
3	5m	0
4	0	0
5	1m	1-2
6	5m	<0.25
7	0	2
8	0	< 1
9	1w	0
10	1m	N/A
11	2bw, 3m	4-5
12	1w	5
13	0	0
14	2w, 1m	0.5
15	0	2
16	2m, 1q	2-3
17	3-4 m	0
18	0	0
19	0	8-12
20	4m	0
21	6m	3
22	4m	0
23	0	0.5
24	4m	0.5
25	0	2-3
26	5 (m and q)	0
27	4m	1
28	1w	0
29	12 (m and q)	0
30	8m	2
31	12 (m, q, a)	3
32	7 ( w and m)	2-3
33	3m	0
34	3bm, 1m	2-3
35	0	3-5
36	1m	0
37	2w, 1bm, 3m	1
38	6 or 7 (most m)	0
39	2bm, 2m, 3q	< 2
40	6 (most m)	Almost never
41	1w, 2m	0
42	3m	2
43	2w, 1m, 1q	1-2
	<b>Legend:</b>	
d=daily	bw=bi-weekly	w=weekly
bm=bi-monthly	m=monthly	q=quarterly
	a=annually	

## **Appendix IV:**

### **Web Users' Use of Hotlists**

**Exhibit #4: The Number of Hotlist Items and the Level of Web Satisfaction**

No. of Items in Hotlists	Satisfaction With The Web
0	He is somewhat satisfied. "I wish that I could find stuff quicker. The waiting time is a factor: the nicer the Web pages, the longer the user has to wait for the site to load."
75	Not given.
20	He is very satisfied with the Web.
10	She is "... generally satisfied, but it needs improvement in the way to get around and the time it takes to get around (depends on the speed of the modem) and to find the stuff you need."
10	She is very satisfied with the Web.
161	"I'm satisfied in the way that it provides a gateway for information. The trick, however, is finding what you need when you need it. This can be a problem."
20	He is very satisfied with the Web. "I know that it's improving all the time and I expect the Web to continue to improve. I would still like it to evolve. I'm very impressed. It still needs some improvement, like anything else out there."
86	She is very satisfied with the Web. "It could be improved by faster connections. I'm always waiting for stuff to load. I don't have a problem finding the information, but I find that I don't often have the time to read everything."
6	He is very satisfied with the Web. "... For example, I save \$500 right away because I used to have to buy on diskette literature search documents for information and now it's available to the public, free on the Web. It's very quick access for me."
2	She is satisfied ... (but) "there's a lot of room for improvement, for the search engines in particular. There's a lot of junk on the Web and it's increasing at an exponential rate. I don't care about the junk as long as it's not in my way when I'm looking for something. But, I find that the junk is becoming more and more cumbersome, so it makes everything less efficient."
240	He is very satisfied with the Web. "It is revolutionizing the way people communicate with each other. The Web introduces a new level of communication ... The Web is great for information, but the single biggest factor of the Internet is the e-mail ... Downloading information, transferring information, electronic commerce, and the WWW are all secondary to e-mail."
169	She is pretty satisfied with the Web. However, she finds that the Web can be slow because of waiting and loading time.
20	He is very satisfied with the Web.
2	He is neither satisfied nor dissatisfied with the Web. "For me, it's no big deal as it's just another way to get information. It's a tool that I use ... I use it when I need to."
4	She is very satisfied with the Web.
85	Not given.
0	He is somewhere between fairly satisfied and very satisfied with the Web. However, he feels that speeds needs improvement.
35	She is pretty satisfied with the Web. However, there is room for improvement.
201	She is pretty satisfied with the Web. She finds that the Web is fun and she loves and enjoys it. "... Every once in a while, I feel the Web falls a bit short, but in general, I find that the Web is a great thing ... I do sometimes find that searching is a bit frustrating. Sometimes I get really obscure responses to what I thought were really specific parameters."

**Exhibit #4 - Continued**

Resp.	No. of Items in Hotlists	Satisfaction With The Web
20	1000	He is extremely satisfied with the Web and is overwhelmed by it. "It's the next best thing to sliced bread! ... I'm very impressed with the Web and I have been so over and over again since I started with the Web ..."
21	8	She is very satisfied with the Web.
22	0	He is moderately satisfied with the Web. The Web needs improvement, though.
23	100	He is pretty satisfied (80%) with the Web. He faces a couple of problems: he gets too many hits when searching (information overload) and there is slow access to sites (graphics). It can therefore take too long to access information.
24	20	He has never been dissatisfied and he finds that the Web is great.
25	52	She is very satisfied with the Web.
26	7	He is averagely satisfied with the Web. "I'm overwhelmed with information, more than anything else. Sorting through it and trying to find out what I want takes more time than actually finding what I want."
27	8	He is "very much satisfied with the Web. As an information source, it gives me most of the time what I want. The other times, I have to do some legwork and go to the library."
28	12	She is quite satisfied with the Web.
29	12	She is somewhat satisfied with the Web. "I find that the Web is a good form of information. But, many times there are too many things you have to pay for, so instead of being an information highway, it feels like a toll road - you have to stop, sign up, and pay for every-thing."
30	219	He is very satisfied with the Web, except for the speed issue. "The speed has been improving, but it still needs improvement."
31	135	Generally, he is satisfied with the Web. "... This is because the majority of my Web use is at work and I have a T1 connection, so bandwidth or speed is not a problem ..."
32	26	She is satisfied with the Web. "However, I do find that the Web is confusing sometimes. There's a lot of different information you can look at. It's hard to find yourself around this and there's too much information."
33	15	He is satisfied with the Web, but it needs improvement. He wants the Web to have more variety and be more in-depth.
34	100	He is very satisfied with the Web.
35	10	He is fairly satisfied with the Web. However, he was more satisfied at the beginning.
36	79	He is very satisfied with the Web. "The only thing is that there's a hardware problem - bandwidth. I'm not getting as fast access as I would like to have."
37	26	Every week, he is more and more satisfied with the Web. "At first, I had a problem with the equipment that I was using. My equipment is now better, I have faster and better access and a better machine, so I get less frustrated."
38	7	He is somewhat satisfied with the Web and there is room for improvement. He finds that it should be more user-friendly as he finds it hard to get around.

**Exhibit #4 - Continued**

Resp.	No. of Items in Hotlists	Satisfaction With The Web
39	2	"... I'm extremely satisfied about having access to the Web. I'm not as much satisfied with the Web because I don't always find the information that I'm looking for and it's not always in the format that I want it. Sometimes I have to spend a long time to find what I'm interested in."
40	27	He is pretty satisfied with the Web. He feels that it needs to be faster, but it's improving ... "It's the next best thing to sliced bread!"
41	0	He is very satisfied with the Web.
42	0	She is satisfied with the Web, but wants faster access, especially during the day.
43	220	He is relatively satisfied. "... It's a medium where you wish things would happen quickly and it doesn't happen quickly .... I would ideally prefer that things would happen faster, but it's improving."

**Exhibit #5: The Number of Hotlist Items and the Level of Cognitive Effort**

Resp.	No. of Items in Hotlists	Level of Cognitive Effort
1	0	He finds it very easy to use the Web. ... "But, using the Web is hard if you don't know an address and you just get on, you don't know where to go. I think that addresses should be standardized and clearer ..."
2	75	He finds it fairly easy to use the Web. He has been using the Web since its development, so he is used to it.
3	20	He finds that the Web is very easy to use. "It's a joke!" He has been using the Web since its development.
4	10	She finds it very frustrating and annoying. She finds it useful when she is looking for something specific, but not useful when she does not have anything specific to find (too many links and different places).
5	10	She finds it very easy to find things and get around. "... I have problems in getting what I'm looking for, but not any that I have not been able to figure out or get help with."
6	161	He finds it easy to use the Web, but difficult to find what you want. "...The question is that once you're on, it's hard to find exactly what you want ... Search engines give you too many entries. You want to minimize this amount ..."
7	20	He finds it very easy to use the Web.
8	86	She finds it very easy to use the Web and has no problem of getting around.
9	6	He finds that the Web is easy to use. If he has a problem, he asks people who are more experienced than him. "To use bookmarks is straightforward. To find things is tricky. It's not always straightforward to find something new. (Depending on) the links and keywords you use, sometimes you end up getting to a place that has minimal information and not really what you want ... Narrowing down the number of entries given in a search is the key."
10	2	She finds it very easy to use the Web.
11	240	He finds it easy to use the Web. "I find it pretty difficult for the average person who is going on the Web for the first time ... Once you have the concept and with a couple of hours of training, there should be no problem. It's hard to learn, but it's easy to be an expert at it."
12	169	She finds it very easy to use the Web. "I rarely have problems getting around and finding things that I'm looking for."
13	20	He finds it very easy to use the Web, but it can be difficult to find things. He finds that you get too many entries when you do a search.
14	2	Generally, he finds that it is easy to use the Web. However, there are too many graphics and they slow everything down.
15	4	She finds that it is very easy to use the Web. She does not have any problems finding things. "... Because of the work I did in the past, I'm very good at narrowing down my searches."

**Exhibit #5 - Continued**

Resp.	No. of Items in Hotlists	Level of Cognitive Effort
16	85	He finds it easy to use the Web, but moderately difficult to find things.
17	0	He finds the Web neither easy nor difficult. He taught himself how to use the Web. He finds it relatively easy to get around, but sometimes it is difficult to find specific information (too many entries from the search engines).
18	35	She finds it very easy to use, but difficult to find exactly what she is looking for.
19	201	She finds it very easy to use the Web, but it can be difficult to find things. "Sometimes, some of the results of searches are a little obscure, not very relevant."
20	1000	He finds that the Web is very easy to use and it's also relatively easy to find the information that he is looking for.
21	8	She finds that it is very easy to use the Web. Generally, she also finds that it is easy to find things on the Web. However, search engines will give too many entries. She tries to limit her searches, but sometimes to no avail.
22	0	He finds that it is very easy to use the Web. He finds that it is difficult to find things on the Web as there are too many things to look at. "... You have to sort out the good stuff from the crap (advertising)."
23	100	He finds it very easy to use the Web. He finds that it is difficult to find things. He is overloaded with information and gets too many entries from a search. He gets information, "... but you might miss out on something that would be more relevant, more catered to your needs."
24	20	He finds it very easy to use the Web. It can also get confusing to find things because of links.
25	52	She finds it easy to use the Web. She also finds it easy to find things on the Web.
26	7	He finds that it is moderately easy to use the Web. "... Since I normally do some kind of a guided search and I start off with some Web sites, it becomes easy. If it's a totally blind search, then it takes time ... Sorting through it and trying to find out what I want takes more time than actually finding what I want."
27	8	He finds it extremely easy to use the Web and extremely easy to find things. "This is because more often than not I know what I'm looking for."
28	12	She finds that it is very easy to use the Web. She does not have problems finding things that she is looking for.
29	12	She finds it fairly easy to use the Web. ... With Yahoo, I find that it's easy to find find what I'm looking for ..."
30	219	He finds it easy to use the Web. "Sometimes it's easy to find information, while other times it's difficult. Depending on the information I'm looking for, some things are easy to find, while some things I have never found ... Most of the time, I find what I'm looking for. However, sometimes it could take me a long time."



**Exhibit #5 - Continued**

Resp.	No. of Items in Hotlists	Level of Cognitive Effort
31	135	He finds it very easy to use the Web and very easy to find things. He has learned how to narrow down searches with his experiences using electronic databases.
32	26	She finds it fairly easy to use the Web, but she finds it difficult to find things - search engines give too many entries and there is too much to look at.
33	15	He finds it very easy to use the Web and easy to find things.
34	100	He finds it very easy to use the Web and easy to find things.
35	10	He finds it easy to use the Web and difficult to find things, due to speed and the fact that the Web is unorganized.
36	79	He finds it extremely easy to use the Web. Generally, he finds it easy to find what he is looking for, but he sometimes finds it difficult. It depends on what he is looking for.
37	26	He finds it very easy to use the Web. He finds it relatively easy to find things. "... With my experience, I have learned what to do and what not to do when doing a search."
38	7	He does not find it very difficult to get around on the Web. He finds it very difficult to find things that he is looking for, as searches give you too many references. "Sometimes I get frustrated doing searches because of the slow speed and I will shut the computer down."
39	2	He finds it easy to use the Web and easy to find things. "... If I have problems with the fact that I was given too many references, it's because I have not provided enough. I don't mind scrolling down 100 sites."
40	27	He finds it easy to use the Web, but it is time consuming. "There are so many things available to be found on the Web, that you have to be precise in your searches to find what you're looking for."
41	0	He finds it very easy to use the Web and quite easy to find things, though it may take time.
42	0	She finds that the Web is not easy to use. This is because she has not gained enough experience. She sometimes finds it difficult to find what she is looking for. "If I go to sites that I usually go to, that are work-related, then I have no problem and I find it easy. However, if I were to log on and browse, I would find it very difficult." However, "once you get familiar with the Web, it's easy."
43	220	He finds it very easy to get around the Web (at the beginning, he found it very intimidating). "... I find that if I'm looking for a specific thing, the Web will sometimes give you general information and it becomes very difficult to get exactly to the place you're going. In an encyclopedia, it's relatively easy to find something specific. Whereas on the Web, there's so much information that you can't necessarily get to the area that's out there that might have exactly what you want ... Sometimes I will get fed up and shut the computer off."

**Exhibit #6: The Number of Hotlist Items and the Level of Usage of Hotlists**

Resp.	No. of Items in Hotlists	Level of Usage of Hotlists (%)	Resp.	No. of Items in Hotlists	Level of Usage of Hotlists (%)
2	75	60	23	100	70
3	20	20	24	20	50
4	10	10	25	52	65
5	10	10	26	7	80
6	161	15	27	8	50
7	20	70	28	12	80
8	86	50	29	12	40
9	6	14	30	219	10
10	2	100	31	135	80
11	240	30	32	26	20
12	169	40	33	15	50
13	20	80	34	100	35
14	2	0	35	10	5
15	4	50	36	79	60
16	85	50	37	26	80
18	35	65	38	7	80
19	201	70	39	2	20
20	1000	5	40	27	33
21	8	50	43	220	75

### **Exhibit #7: Reasons to Add a Site to Hotlists**

Resp.	Reasons Why a Site is Added to Hotlists
2	For information, if it's interesting, "something catches my eye," or if he expects to return.
3	It's impulse, if he finds it interesting, or if he wants to go back to it. "It hits me and then it's like as if I get a jerk out of a tv commercial. I will just bookmark it."
4	It looks interesting and she expects to return to it.
5	It is interesting and she expects to return to the site someday (for the information), also if she has not had enough time to get through the whole thing.
6	It is interesting.
7	He expects to return to the site.
8	She does not have enough time to look at the site at first.
9	He wants to return (for information).
10	It is interesting, up-to-date, and she will want to go back to it.
11	He expects to go back to the site.
12	It is interesting that she will be going back to or that she wants to show someone else.
13	It is interesting and he can gain more information from the site.
14	The content is of interest to him.
15	She liked what the site did (its functions).
16	It is interesting and he would like to go back.
18	It is interesting and she does not have the time to look at it.
19	She has a need for them (job hunting, house hunting, and for work purposes).
20	For the information that he is in fear of losing. Also, when he does not have the time to look at a site in detail, and when the site is interesting. Also, if he needs to remember something and also just in case he needs the information at some point.
21	It is interesting.
23	He is in fear of losing the site, and it is interesting
24	He wants to keep the address because it is interesting or he wants to refer back to it.
25	She needs it (travel purposes, for example). For a specific interest.
26	It serves his interests (research, teaching, and entertainment), expects to go back to it, and it is frequently visited.
27	He expects to return to it, it is frequently visited, it is of interest to him, and so he does not have to type in the address (quicker access).
28	It is interesting and something new.
29	It has useful information.
30	He wants to be able to get back there.
31	It has interesting content and he wants to visit the site again.
32	It is interesting and she wants to visit the site again.
33	He expects to come back to the site.
34	It is interesting.
35	He expects to return (he might forget how he got to the site).
36	It is interesting, he might visit it again, and it serves a specific interest.

**Exhibit #7 - Continued**

Resp.	Reasons Why a Site is Added to Hotlists
37	He expects to return to the site.
38	It is interesting.
39	He expects to return to the site (he visits them regularly), or he does not have the time to look at it. "I add it to use as a reference for later on."
40	It is convenient for him.
43	It is interesting, he may go back to the site one day, and he is in fear of losing it.

**Exhibit #8: Reasons to Delete a Site From Hotlists**

Resp.	Reasons Why a Site is Deleted From Hotlists
2	The site does not exist anymore.
3	The site is dead (it no longer exists and does not have an updated link) or it becomes boring, or if he has not visited the site in a while.
4	She does not return to it regularly.
7	He finds that after going back to check the site, he no longer needs it.
8	The site is boring and it does not interest her anymore.
11	The site was outdated or he was not interested in the site/product anymore.
12	She does not regularly access the site and she does not need it.
13	He does not need the site.
14	He does not need/want the site.
15	She does not need the site. "I had a site on antique shopping because I was going to New England but after the trip, I didn't need it anymore. I didn't keep it even for later reference, because I know the sites where I can find the shops. I like to keep my computer as neat as possible, so I generally don't leave a lot stuff in memory."
16	The site was no longer interesting.
18	The site was no longer working and she no longer needs it.
19	The site is redundant, no longer exists, or is no longer relevant.
20	The site is redundant or of little interest ("house cleaning").
21	She does not regularly access the site.
24	The site was no longer interesting.
25	She does not need the site anymore. "When I come back from a vacation, I will delete all those sites related to that location." She deletes personal sites, but she keeps the work-related ones.
27	His hotlists become too overcrowded and "I was looking for what to select from my bookmarks."
28	She does not regularly access the site (recipe sites and screen savers, for example).
30	The site is a duplicate, or it was obsolete, or he was no longer interested in it.
31	He does not regularly access the site. "I did not recognize them anymore. I forgot why they were there/why I had them in the first place."
32	She does not regularly access the site.
33	He does not regularly access the site.
34	He does not regularly access the site or it is no longer of interest to him.
35	He updates his browser and will delete the old sites.
36	He no longer needs the site (a specific interest site).
39	He does not regularly access the site and to ease his navigation. "With a list of 20 sites, it's more difficult to find the site that you want than with a list of five sites."

**Appendix V:**  
**Instrumental and Ritualized Media Use**

**Exhibit #9: Description of Web Motivations**

Resp.	Description of Web Motivations
1	He likes to explore, to search for information, and has never purchased anything off the Web. "I usually start off with a specific goal in mind for my exploration, but not a specific site." He does go to places that are unplanned, but he finds "that this is not a good thing" because he usually gets to places that he does not want to be.
2	He uses the Web basically for information and also for entertainment purposes. He has never purchased anything off the Web and has never used chat rooms. He uses the Web mostly for business purposes and then he has a very good idea of the sites he will visit. If he using the Web for entertainment purposes, then he just may browse and visit sites that he had not planned.
3	He looks for information on the Web. It keeps him up-to-date. He browses a lot and has never purchased anything. He has used chat rooms in the past. "I am always clicking on links and going to places that I have never been before." He may start off going to sites he knows and then he will get to sites that he had not planned to visit.
4	She mostly uses the Web to look for specific information (vacation, for example). She will not, however, just browse around. "I don't say, oh, this is a nice site. Let me look around a bit! I don't waste my time." She starts off with a specific idea in mind. She sometimes, however, tends to get "lost on the Web" and gets sidetracked. She has never purchased anything off the Web.
5	She mostly searches for information and has never purchased anything online. She will, however, enter contests. "Most of the time when I do a search for something, it's because I'm looking for something specific, and then, other times, like on my lunch hour, I will go through and see whatever I will stumble upon." She therefore starts off knowing where she wants to go, but often ends up at sites that she has not planned to visit.
6	He uses the Web to search for specific information (new products, for example), for e-mail, for technical support, but not for entertainment purposes. He has never bought anything online and has never used chat rooms. "Sometimes, as a sidetrack, when I'm looking up information, I see something from a completely different section, so sometimes I could drift off. So, that's a downer." Also, sometimes he knows what he wants, but does not know the site go to. Then, he will use a search engine (Yahoo).
7	He mainly uses the Web for information/news (personal and work-related) to keep up-to-date on trends. A maximum of 10% is spent for entertainment. He has bought books and software over the Web and has used chat rooms. He will enter contests or will request information about electronic commerce. "I almost always start off with a clear intention/specific purpose. I rarely just go in to explore randomly." However, he may click on some links and go to sites that he had not planned to visit.

**Exhibit #9 - Continued**

Resp.	Description of Web Motivations
8	She uses the Web for information, personal (travel) and work-related and for entertainment purposes (getting games). She has never purchased anything off the Web and has used chat room a couple of times. She will sometimes have a specific idea in mind when she starts off on the Web, while other times she will get on the Web "for fun, to see what's new."
9	He searches the Web for information about medical research and colleagues. He does not use the Web for entertainment purposes. He has never bought anything off the Web, but e-mails from the Web. Most of the time, he has a clear idea of where he wants to go, but sometimes he will go visit sites that he had not planned.
10	She searches for information and nothing entertainment-related. She has never bought anything off the Web and has never used chat rooms. Generally, she is looking for references (science/work-related) and "it's always the same sites that I go to. So, I know where I'm going."
11	He searches for information (products, travel) and also uses the Web for entertainment (video games and movies). He has bought software over the Web. Most of the time he goes to sites that he is looking for. "From there, I might go off in a different direction, if I have the time. Most of the time, I don't have the time, so I rarely do it." At the beginning, he used to browse more. "The novelty of the Web has worn off."
12	She usually searches for information, entertainment (news), specific interest/hobbies, sports, movie listings, and also work-related information. She has never bought anything over the Web and has used chat rooms a couple of times. "50% of the time, I have a clear idea of the sites that I will go to, while 50% of the time I visit sites that I had not necessarily planned ... I tend to wander off in Internet space."
13	He uses the Web for information (business), not for recreation. He has never bought anything off the Web and has never used chat rooms. "Most of the time, I start off a search by going into something specific ... I tend to go off on tangents as well and access sites that I did not plan to visit."
14	He looks for information and sometimes for research, but mostly for entertainment purposes (Star Trek). He has never bought anything off the Web and has never used chat lines. "If I'm looking for a specific topic, I will do a search. On occasion, I will also end up at sites that I had not planned to visit."
15	She uses the Web for very specific purposes - mostly for information, but also for entertainment (TV, movies). She has never bought anything off the Web nor used chat rooms. "Usually, I look up a keyword (on Infoseek) and then I will get a list of sites and I will look at the ones that I'm interested in. I may therefore go to sites that I had not necessarily planned to visit. I know the topic that I'm looking for, but I don't know what I will find."



Exhibit #9 - Continued

Resp.	Description of Web Motivations
16	He uses the Web for information (business and personal), not entertainment. He accesses Jewish sites. He has purchased religious commentary and used to use chat rooms. He uses e-mail and is also responsible for a synagogue's Web site. "I usually know where I'm going to go. I sometimes end up at places that I had not necessarily planned to be."
17	He mostly searches for information (research opportunities, products, companies) and a bit for entertainment. He has got some business over the Web. He has never bought anything over the Web. "It is rare that I go to a site that I know. I most often go to sites that I had not necessarily planned."
18	She searches mostly for information (science, for example) and will browse, looking for "fun sites." She will occasionally use the Web for entertainment/specific interests, such as gardening. Usually, she has a specific purposes in mind when she goes onto the Web (work-related, usually). She will sometimes visit sites that she had not planned. "For recreation purposes, you can haphazardly look for anything that might interest you." She has never bought anything over the Web and has never used chat rooms.
19	She uses the Web mostly for information, but sometimes for entertainment. She looks for information on her personal interests (sewing, knitting, cooking, photography, plants, animals) and has sent birthday cards. She has also consulted a veterinarian for one of her pets. She never really purchased anything. She reserved a train ticket once. She is not interested in chat rooms. She belongs to the society of musicians and it has a Web site (you can send e-mail and ask questions). "Frequently, I get online to look for something specific, but often I will get off track and notice other sites that are interesting ... I just don't get on and surf aimlessly."
20	He uses the Web for information and non-work purposes. He exchanges information with other people in the field (environmental engineering) and posed questions on a bulletin board. He uses the Web for non-work/personal purposes as he accesses it for amateur science. He has purchased subscriptions and registrations for software updates, software, and books. He has never used chat rooms. Most of the time, he goes to sites that he has planned to visit. However, once in a while, he will go off on tangents and "end up on sites that he had no idea that they existed." Also, he regularly monitors sites that have updates and are related to his hobbies (solar activity, stocks).
21	She searches for information (not much for work) and entertainment. She downloads crossword puzzles and browses through catalogs and comic strips, and looks for books. She has purchased a pair of shoes off the Web. She uses the catalogue to contact the company to get a paper catalogue (not to buy). She has never used chat rooms, but uses e-mail. If she is browsing, she will stumble across sites that she did not plan to visit. "When I'm looking for something more specific, I know where I want to go," but she can still get sidetracked.

**Exhibit #9 - Continued**

Resp.	Description of Web Motivations
22	He mainly uses the Web for specific information and for e-mail. He has searched for information on travel as well as for programmers and hardware suppliers. He has never bought anything off the Web. He usually knows what he wants, but always gets to sites that he did not plan to visit.
23	He mostly uses the Web for information (1% entertainment). He uses the Web mostly for research on specific topics (genealogy). He has not purchased anything off the Web and used chat rooms once. He generally visits sites that deal with a topic that he is researching. So, most of the time, he has a specific idea in mind. He does not end up visiting sites that he had not planned.
24	He uses the Web mostly for specific information and also for his hobbies (rock climbing and hiking). He will use the Web to locate people in other cities. He has never bought anything off the Web and has never used chat rooms. He does not always have a clear idea of the sites that he is going to go to. "If I'm looking for something in particular, I will usually use a search engine, and that will inevitably put me onto a site that I didn't know existed ... I will browse through those sites." Mostly, however, he is looking for something specific, but he will go off on tangents (links).
25	Most of the time, she is looking for something specific. She searches for information for work (currency exchanges) and for personal use (travel, weather). She has never purchased anything off the Web and has not used chat rooms. But, she has requested travel brochures. In the beginning, she did not know which sites to access for her purposes. Now, she has a clear idea where and what to look at (she has sites in her hotlists). If she has time, she may visit sites that she had not planned.
26	He searches for information (he reads newspapers online) and for entertainment/his hobbies (music, movie reviews). He has never bought anything off the Web, but has registered for conferences. He has never used chat rooms. "If I'm looking for something academic, I normally start out with the site that I want to visit. But, 50% of the time, it might lead me to some other site." When he is looking for entertainment sites, he does not start off with a site in mind.
27	He uses the Web mostly for information for work and for computing. He has never bought anything off the Web and has never used chat rooms. He has a specific goal in mind when he uses the Web. "I just don't browse the Web for the fun of it." He does not visit sites that he had not planned, but he does not always know which sites he needs.
28	She uses the Web mostly for work-related purposes and very rarely for hobbies or entertainment. She gathers information and posts jobs (work-related) on the Web. She will also search for resumes and check out her clients. She has never purchased anything off the Web and has never used chat rooms. She mostly has an idea of where she is going. She rarely ends up at a place that she did not plan to be.

**Exhibit #9 - Continued**

Resp.	Description of Web Motivations
29	She uses the Web to search for information (used to search for entertainment). She gets information about other universities and grant opportunities. She has never bought anything and has never used chat rooms. She starts off with a clear idea of where she will go, but may get sidetracked (links).
30	He uses the Web for information and entertainment/hobby-related (Stephen King, people with 3D cameras on their heads that broadcast live on the Web, travel, music). He has purchased books and software off the Web. He has used chat rooms once. He also communicates with other companies through the Web, inquires about products and services, and asks questions and responds to others in forum sites. "50% of the time, I start off with a specific goal in mind, and 50% of the time, I don't. I always go off on tangents."
31	He uses the Web for information (work-related) and entertainment (movie reviews). He has purchased hotel accommodations, photographic equipment, and an antique fountain pen. He also banks over the Web. He is not a frequent user of chat rooms. He will also check out products and services and request information. Most of the time, he knows where he is going because he visits the same sites over and over (he has a specific purpose in mind). "I just don't randomly surf. I don't browse that often." He will sometimes get sidetracked.
32	She uses the Web for information and entertainment/hobbies (travel, culture, movies, museums). She has purchased a subscription to <i>Yahoo</i> magazine. She has never used chat rooms. She will request information from companies through the Web. When she has the direct address, she knows exactly where she is going. However, she will not always have the address and will have to do a search. Sometimes she will go off on tangents. She will browse more when she is searching for her own pleasure, while she knows more where she is going when she needs information.
33	He uses the Web for information (90% is work-related) and for entertainment. He will look up information on his accounts and searches for financial information for his personal use. He has never purchased anything off the Web, but he has filled out forms to collect airmiles. He has never used chat rooms. He has used the Web quite a lot for travel information. 50% of the time he will have a clear idea of the sites that he wants to visit, and 50% of the time he will not. Sometimes he goes off on tangents. If he has more time to spend, he will browse more.
34	He searches for information and for entertainment/hobby (car racing, travel, ski conditions). He looks up specific information on the Web relating to the apparel and fashion industries as well as government financial assistance programs. At the beginning he used to do a lot of surfing. Now, he knows what he is looking for and gets sidetracked less and less. He has never purchased anything off the Web.

**Exhibit #9 - Continued**

Resp.	Description of Web Motivations
35	He mostly looks for information and some entertainment. He has never bought anything off the Web. He conducts research for papers and downloads software. "Most of the time, it's not planned. I have one site that I want to go to, but after that I browse around. Generally, I don't have a clear idea of where I'm going." When he starts off, he has a specific goal in mind, but then goes off on tangents.
36	He uses the Web for information and entertainment (comic strips). He will look up products that he wants to order, check the price/models of cars, and his hometown newspaper. He uses the Web for work-purposes - he will get information on information systems, on conferences, and job listings. He has paid for a conference through the Web. He does not use the Web for chat rooms. He does not always have a clear idea of where he is going to go, but there are sites that he regularly accesses. He does get sidetracked (even if he did not intend to).
37	He uses the Web mostly for commercial purposes and not really for entertainment. He has purchased airline tickets and requested for travel information. He does not surf the Web very often. He reads many newspapers online and follows NHL standings. He will also e-mail companies/clients to request more information on products and services. He does not use chat rooms. He always has a specific idea in mind when he goes on the Web, and he rarely goes off on tangents (by clicking on ads).
38	He looks for information and for his hobbies (such as fishing). He also looks for business-related information. He has never purchased anything off the Web and does not use chat rooms. He used to browse a lot more at the beginning. Now, he looks for things that are more precise. He always starts off with a clear idea of where he wants to go, but he does not go to the Web "just to fool around." He will sometimes go to sites that he had not planned to visit. However, he does not really visit sites, but looks for products and will type in keywords.
39	He mostly searches for work-related and hobby-related information, but not much entertainment. He has used the Web to find information about a computer (but did not purchase it online). He does not regularly use chat rooms. He would like to spend more time on them because he finds them "fun." He also trades securities over the Web. Most of the time, he is not sure of where exactly he is going. He will go off on tangents. However, there are some sites that he regularly accesses.
40	He uses the Web for information and entertainment/leisure (movies, travel). He will e-mail other professors on the Web. He has made reservations over the Web (no credit card number given). He does not use chat rooms. There are times that he has a clear idea of the sites he will go to and there are times that he visits sites that he had not planned. He very easily gets sidetracked.

**Exhibit #9 - Continued**

Resp.	Description of Web Motivations
41	He uses the Web mostly for personal interest (90%) such as geography, travel, and books. He will also use the Web for information/work purposes. He has bought airline tickets and has made reservations for hotels, car rentals, and airlines. He does not use chat rooms. He is interested in getting together a group people in his business so they can chat, ask questions, and help one another.
42	At work, she looks for work-related information (research grants and health, for example). At home, she looks up entertainment-related information, mostly for her children. She has never purchased anything off the Web and has never used chat rooms. She has ordered a woman's clothing catalogue over the Web. At work, because she has very little time, she has a specific idea in mind and knows what she wants. At home, she gets sidetracked more and browses more.
43	He will use the Web mostly for information, but some entertainment. He has never bought anything off the Web, but has subscribed to Web Mag over the Web. He also looks for product information. Most of the time, he will have a specific idea in mind when he logs onto the Web (uses his hotlists). "On the occasion that I'm in a more playful mood, I will use a search engine and I will randomly put in things and see where it takes me." When he browses, and even when he is looking for something specific, he will go off on tangents and get "lost on the Web."

**Exhibit #10: The Types of Methods Used and the Type of Media Orientation**

Resp.	Media Orientation	Use of Search Engines in %	Use of Links in %	Typing in Addresses in %	Use of Holists in %
1	Somewhat Instrumental	60	40	0	0
2	Somewhat Instrumental	10	0	30	60
3	Ritualized	30	50	0	20
4	Instrumental	45	45	0	10
5	Somewhat Instrumental	30	10	50	10
6	Instrumental	50	35	0	15
7	Instrumental	15	10	5	70
8	Somewhat Ritualized	30	10	10	50
9	Instrumental	13	60	13	14
10	Highly Instrumental	0	0	0	100
11	Somewhat Instrumental	10	10	50	30
12	Somewhat Ritualized	30	10	20	40
13	Instrumental	2.5	2.5	15	80
14	Neither Ritualized nor Instrumental	75	10	15	0
15	Instrumental	25	5	20	50
16	Somewhat Instrumental	25	20	5	50
17	Somewhat Instrumental	60	10	30	0
18	Somewhat Instrumental	10	5	20	65
19	Somewhat Instrumental	20	5	5	70
20	Instrumental	80	10	5	5
21	Ritualized	15	5	30	50
22	Somewhat Instrumental	15	70	15	0
23	Highly Instrumental	15	10	5	70
24	Neither Ritualized nor Instrumental	20	10	20	50
25	Instrumental	10	10	15	65
26	Neither Ritualized nor Instrumental	7.5	7.5	5	80
27	Highly Instrumental	40	5	5	50
28	Highly Instrumental	10	5	5	80
29	Instrumental	5	15	40	40
30	Neither Ritualized nor Instrumental	10	75	5	10
31	Somewhat Instrumental	5	10	5	80
32	Neither Ritualized nor Instrumental	35	10	35	20
33	Somewhat Instrumental	20	20	10	50
34	Instrumental	35	5	25	35
35	Neither Ritualized nor Instrumental	25	10	60	5
36	Somewhat Instrumental	30	9	1	60
37	Instrumental	18	0	2	80
38	Instrumental	0	20	0	80
39	Somewhat Instrumental	25	50	5	20
40	Somewhat Ritualized	17	17	33	33
41	Neither Ritualized nor Instrumental	50	25	25	0
42	Somewhat Instrumental	20	20	60	0
43	Neither Ritualized nor Instrumental	20	4	1	75

**Exhibit #11: The Type of Media Orientation and the Number of Hotlist Items**

Resp.	Media Orientation	Number of Items in Hotlists
1	Somewhat Instrumental	0
2	Somewhat Instrumental	75
3	Ritualized	20
4	Instrumental	10
5	Somewhat Instrumental	10
6	Instrumental	161
7	Instrumental	20
8	Somewhat Ritualized	86
9	Instrumental	6
10	Highly Instrumental	2
11	Somewhat Instrumental	240
12	Somewhat Ritualized	169
13	Instrumental	20
14	Neither Ritualized nor Instrumental	2
15	Instrumental	4
16	Somewhat Instrumental	85
17	Somewhat Instrumental	0
18	Somewhat Instrumental	35
19	Somewhat Instrumental	201
20	Instrumental	1000
21	Ritualized	8
22	Somewhat Instrumental	0
23	Highly Instrumental	100
24	Neither Ritualized nor Instrumental	20
25	Instrumental	52
26	Neither Ritualized nor Instrumental	7
27	Highly Instrumental	8
28	Highly Instrumental	12
29	Instrumental	12
30	Neither Ritualized nor Instrumental	219
31	Somewhat Instrumental	135
32	Neither Ritualized nor Instrumental	26
33	Somewhat Instrumental	15
34	Instrumental	100
35	Neither Ritualized nor Instrumental	10
36	Somewhat Instrumental	79
37	Instrumental	26
38	Instrumental	7
39	Somewhat Instrumental	2
40	Somewhat Ritualized	27
41	Neither Ritualized nor Instrumental	0
42	Somewhat Instrumental	0
43	Neither Ritualized nor Instrumental	220

**Exhibit #12: The Type of Media Orientation and the Number of Additions and/or Deletions of Hotlist Items**

Resp.	Media Orientation	Number of Items In Hotlists	Number of Sites Added Within the Past Month	Number of Sites Deleted Within the Past Month
1	Somewhat Instrumental	0	N/A	N/A
2	Somewhat Instrumental	75	12	3
3	Ritualized	20	12	20
4	Instrumental	10	0	0
5	Somewhat Instrumental	10	2	Has never deleted
6	Instrumental	161	10	Has never deleted
7	Instrumental	20	3	4
8	Somewhat Ritualized	86	10	0
9	Instrumental	6	0	Has never deleted
10	Highly Instrumental	2	0	Has never deleted
11	Somewhat Instrumental	240	16	4
12	Somewhat Ritualized	169	12	0
13	Instrumental	20	3	1
14	Neither Ritualized nor Instrumental	2	0	0
15	Instrumental	4	1	5
16	Somewhat Instrumental	85	22	0
17	Somewhat Instrumental	0	N/A	N/A
18	Somewhat Instrumental	35	4	9
19	Somewhat Instrumental	201	20	2
20	Instrumental	1000	37	3
21	Ritualized	8	1	0
22	Somewhat Instrumental	0	N/A	N/A
23	Highly Instrumental	100	10	Has never deleted
24	Neither Ritualized nor Instrumental	20	5	2
25	Instrumental	52	10	6
26	Neither Ritualized nor Instrumental	7	0	Has never deleted
27	Highly Instrumental	8	0	0



Exhibit #12 - Continued

Resp.	Media Orientation	Number of Items		Number of Sites Added		Number of Sites Deleted	
		In Hotlists		Within the Past Month		Within the Past Month	
28	Highly Instrumental	12		3		5	
29	Instrumental	12		1		Has never deleted	
30	Neither Ritualized nor Instrumental	219		12		12	
31	Somewhat Instrumental	135		6		6	
32	Neither Ritualized nor Instrumental	26		5		0	
33	Somewhat Instrumental	15		3		3	
34	Instrumental	100		10		20	
35	Neither Ritualized nor Instrumental	10		0		0	
36	Somewhat Instrumental	79		4		0	
37	Instrumental	26		0		Has never deleted	
38	Instrumental	7		0		Has never deleted	
39	Somewhat Instrumental	2		0		0	
40	Somewhat Ritualized	27		0		Has never deleted	
41	Neither Ritualized nor Instrumental	0		N/A		N/A	
42	Somewhat Instrumental	0		N/A		N/A	
43	Neither Ritualized nor Instrumental	220		15		Has never deleted	

## **Appendix VI:**

# **The Web's Effects on the Consumption of Traditional Media**

**Exhibit #13: The Web's Effects on Television Viewership**

Resp.	Web Use Hrs/Wk	TV Use Hrs/Wk	Web's Effect on TV Use	Is the Web Used Instead of or in Addition to Watching TV?
1	1	10	No effect	In addition. "The Web and TV are used for very different purposes. TV is used as passive viewing, for entertainment, and for information. On the other hand, the Web is more for a precise/specific interest."
2	10-25	10	No effect	Neither instead of nor in addition to TV.
3	6	5	Decline in TV use	Instead of watching TV.
4	1	10	No effect	Neither instead of nor in addition to TV. "The Web is more annoying and requires more concentration."
5	2-2.5	20	No effect	Neither instead of nor in addition to TV. She has the Web at work and she watches TV at home.
6	5	15-20	No effect	In addition. He uses the Web as part of his work.
7	15-20	3-4	Decline in TV use (6-7 hrs/wk before)	Instead. He watches TV for the news. "... If I can get the news that I want on the Web, then I don't bother getting it from TV ... I get the news on the Web whenever I want it and I can also choose what I want to see."
8	3	3	No effect (she used to watch less TV)	In addition. "... If there's nothing on TV, I'll go to the Web."
9	1	6	No effect	In addition. He uses the Web at work and watches TV at home.
10	1-2	7-14	No effect	In addition. She has the Web at work and TV at home.
11	2-3	8	No effect (he used to watch less TV)	In addition, as a supplementary form of information. "When what I find on TV is not sufficient, I may go to the Web."
12	7-8	10-15	No effect	In addition. She has the Web at work and TV at home.
13	7	7	No effect	In addition.
14	0.50-1.5	4-5	No effect	Instead of when he is on the Web and he may not watch TV. "... TV is only a partial substitute for the Web." He may also use the Web if repeats are on TV. In addition to because he will still watch TV.
15	1	10	No effect	In addition. She has TV at home and the Web at work.
16	2	2	Decline in TV use	Instead. "I will go to the Web and have less time for TV."
17	1	1	No effect	In addition. He hardly watches TV at all.
18	1.25-1.88	15	No effect	In addition. She uses the Web mostly at work and watches TV at home.
19	2.5	10	No effect	In addition. She uses the Web mostly at work and watches TV at home.
20	6-11	7-10	Decline in TV use	In addition. "I watch less TV as I use the Web mostly from home ... TV does not replace the Web."
21	1.5-2	30	No effect	In addition. She uses the Web at work and watches TV at home (for the news).

**Exhibit #13 - Continued**

Resp.	Web Use Hrs/Wk	TV Use Hrs/Wk	Web's Effect on TV Use	Is the Web Used Instead of or in Addition to Watching TV?
22	10	5-6	Decline in TV use	In addition. "I watch less TV ... This is because what I'm looking for is not on TV. I look for specific information on the Web ..."
23	14	4	No effect	In addition. "... when I go to the Web, I'm looking for research (genealogical related information)."
24	2	1	No effect	In addition. He uses the Web at work and watches TV at home (they are unrelated). He finds that the Web is another form of information.
25	< 1	3	No effect	In addition. She has the Web at work and TV at home.
26	2	1	No effect	In addition. He has the Web at work and TV at home. They have different types of information.
27	2.5-3	20-40	No effect	In addition. "TV is a lot more entertaining than the Web."
28	10-12	5	No effect	In addition. She has the Web at work and TV at home.
29	2	5-10	No effect (she used to watch less TV)	Neither instead of nor in addition to. She has the Web at work and TV at home. She finds that they are unrelated.
30	5	3	No effect	Neither instead of nor in addition to. He watches a couple of TV programs and the Web does not affect the time he spends watching them.
31	15	10	No effect	In addition. He finds supplementary information on the Web. He will use the Web to find out about TV shows. If they are repeats, he may not watch them. He still watches the programs he likes.
32	3	5	No effect	In addition. "... I watch TV for pleasure. I use the Web more for information, such as travel tips, that I won't find on TV." Also, she uses the Web at work and watches TV at home.
33	6	3	No effect	Neither instead of nor in addition to. He finds that they are unrelated and he watches very little TV.
34	5	5-6	No effect	In addition. "... you don't find on TV what you find on the Web. They are two different media."
35	2-3	10	Decline in TV use	Instead, as sometimes he will use the Web instead of watching TV.
36	7-10	10	Decline in TV use	Instead of when there is nothing good on TV. In addition to because he still watches the shows that he wants to watch. He does not use the Web in place of watching TV. It depends on the information and the issue as well as what he likes to watch. He mostly watches TV for news.

**Exhibit #13 - Continued**

Resp.	Web Use Hrs/Wk	TV Use Hrs/Wk	Web's Effect on TV Use	Is the Web Used Instead of or in Addition to Watching TV?
37	2.5-5	4-5	No effect	In addition. " ... I want to keep watching the shows that I watch. The Web is becoming a way to find information that I need to have at a particular point in time."
38	7.5-10 minutes	21	No effect	Neither instead of nor in addition to. He uses the Web mostly at work.
39	1-6	2	No effect	Neither instead of nor in addition to. He does not really watch TV and he finds them unrelated.
40	2	5-10	No effect	In addition. "I use TV for news and entertainment. On the other hand, I use the Web mostly for work purposes and a bit of leisure."
41	10-15	5-10	Decline in TV use	Instead of when there is nothing good on TV. In addition to because they give different types of information. The Web somewhat replaces TV.
42	3-5	10-12	No effect	Instead. If she is on the Web, she is not watching TV.
43	2	2-40	Decline in TV use	Instead of when he is on the Web and is not interested in what is on TV. In addition to because he leaves the TV on in the background and will watch TV when something interesting comes on.

**Exhibit #14: The Web's Effects on Newspaper Readership**

Resp.	Web Use Hrs/Wk	No. of Subscriptions	No. Bought per Month	Web's Effect on Newspaper Readership	Is the Web Used Instead of or in Addition to Reading Newspapers?
1	1	0	0	No effect	Neither instead of nor in addition to.
2	10-25	1d	0	No effect	Neither instead of nor in addition to.
3	6	0	5	Decline in readership	Instead of because he will read on the Web rather than in the newspaper. "... I don't have to pay for the paper that way (and) the Web gives me more control over what I want to read." He also uses the Web in addition to the newspaper.
4	1	0	1	No effect	In addition. "If I found something interesting in the newspaper or I heard of something in current events that I did not see in the newspaper that day, I would look it up on the Web."
5	2-2.5	1 2xw, 1w	0	No effect	In addition. It is easier to get up-to-date information in the newspaper and it is more convenient.
6	5	3w, 1 d	0	No effect	In addition.
7	15-20	0	0	No effect	In addition. The paper is convenient. He will also read newspapers at a library or at a bookstore.
8	3	1d	0	No effect	In addition. "... newspapers are easy to read in the morning, otherwise I would have to turn on the computer ..."
9	1	2w	0	No effect	In addition. "... I love newspapers. I don't see myself sitting in front of a screen and reading newspapers ..."
10	1-2	0	0	No effect	Neither instead of nor in addition to because she does not read them. But, her husband does. "... He will tell me about anything interesting that's in the newspaper ... I will check it out on the Web."
11	2-3	0	4	No effect	In addition. "... If what I find in the newspapers is not sufficient, I will go to the Web to get more information on a particular subject."
12	7-8	0	10	Decline in readership	Instead of because "... I will buy less newspapers now for movies and entertainment purposes. In addition to because she still buys newspapers as they "... still have greater coverage. But, for up-to-date information, the Web is better ..."

**Exhibit #14 - Continued**

Resp.	Web Use Hrs/Wk	No. of Subscriptions	No. Bought per Month	Web's Effect on Newspaper Readership	Is the Web Used Instead of or in Addition to Reading Newspapers?
13	7	1d	0	No effect	In addition. They have different types of news. "I'm a newspaper fanatic, so that I most likely will never give up reading newspapers altogether.."
14	0.50-1.5	2d	1	No effect	In addition. He will get a Web site in the paper that he may check out.
15	1	0	4	No effect (the Web does not replace newspapers)	In addition. She gets the paper at home and uses the Web only at work. But, she buys the paper only for the TV schedule.
16	2	1d	0.25	No effect	In addition. The Web is used as a supplementary form of information because the paper is more portable.
17	1	0	12-16	No effect	In addition. They have different types of information. He does not access newspapers over the Web because "... Reading newspapers lets me get away from it all."
18	1.25-1.88	1d, 1w	0	Decline in readership	In addition. She will read the news on the Web at work and will then read the paper at home. "... whatever I read online, I won't read when I have it front of me ... what is online is very limited with respect to the rest of the newspaper ..."
19	2.5	1d	0	No effect	Neither instead of nor in addition to. "I have never been a very big newspaper reader. Now I can access <i>BBC</i> and <i>CNN</i> news on the Web, so now I'm more informed than before."
20	6-11	1d	0	No effect	In addition. They give him different types of information. He does not read newspapers online.
21	1.5-2	1 (Sat. only)	0	No effect	In addition. She does not look at the daily news on the Web.
22	10	2d, 1w	0	No effect	In addition. "... newspapers are more up-to-date and more in-depth than the news on the Web. The Web has headlines, but not the stories behind them. I feel that it's very hard to read on the screen ..."
23	14	1d	0	No effect	Instead of when he wants information that is not available in the newspaper. In addition as he still reads the paper.

**Exhibit #14 - Continued**

Resp.	Web Use Hrs/Wk	No. of Subscriptions	No. Bought per Month	Web's Effect on Newspaper Readership	Is the Web Used Instead of or in Addition to Reading Newspapers?
24	2	1d	4	No effect	In addition. He has easy access to information on the Web. He does not read newspapers online and "... The Web does not replace the newspaper at all."
25	< 1	2d	0	No effect	In addition. She does not have time to browse through the Web at work. She has Web access at work only and receives newspapers at work.
26	2	0	0	No effect	Instead of because he canceled his subscription to an Indian newspaper and reads it daily on the Web. He also uses the Web in addition to the paper because he still likes to read it (from work). He will also read <i>The Gazette</i> online.
27	2.5-3	1d	2	No effect	In addition. "They contain different types of information and one does not replace the other." He does not like reading newspapers online.
28	10-12	1d	0	No effect	In addition. "... The Web doesn't replace the newspaper. I like to feel the paper I'm reading. I don't read newspapers online even though I know that they exist."
29	2	0	0	No effect	"I don't really read newspapers ... I will only read a newspaper if I'm at a friend's house and they have it there. I do access newspapers online, rarely though."
30	5	1d, 4w	2	Decline in readership	Instead of because he goes to <i>CNN</i> and Ziff-Davis to get the news that he would get in the newspaper. In addition to because he still reads newspapers.
31	15	1d	10	No effect	In addition. Newspapers' Web sites have supplementary information. He accesses newspapers online.
32	3	1d	1	Decline in readership	Instead of because she will find what she is looking for on the Web and will not have to read newspapers. She will read the online version of <i>Voir</i> instead of the paper version. She also uses the Web in addition to the newspaper because they complete each other.



**Exhibit #14 - Continued**

Resp.	Web Use Hrs/Wk	No. of Subscriptions	No. Bought per Month	Web's Effect on Newspaper Readership	Is the Web Used Instead of or in Addition to Reading Newspapers?
33	6	0	4-8	No effect	In addition. He will read <i>CNN</i> and <i>The Gazette</i> online. "... I prefer to buy the newspaper because you get an actual hard copy. I feel that I get more on the hard copy version than the online version of <i>The Gazette</i> ... The Web does not really replace the newspaper."
34	5	1d	12	Decline in readership	Instead of because he no longer buys <i>USA Today</i> (he reads it on the Web). He also reads <i>Le Monde</i> , <i>Le Figaro</i> , and <i>El Tiempo</i> online. In addition because he still reads newspapers.
35	2-3	1d	0	No effect	In addition. "... they give different types of information. I use the Web more for stock and quote prices."
36	7-10	0	0	No effect	Neither instead of nor in addition to. He does not like to read newspapers. "I figure that I can get most of the news I need on the Web or on TV or on the radio. I will frequently access my home-town newspaper on the Web. Once in a while, I will access <i>The Gazette</i> Web site."
37	2.5-5	1(Sat & Sun)	0	Decline in readership.	Instead. He used to get <i>The Gazette</i> seven days a week, but he now reads it online during the week. On weekends, he still reads the paper version.
38	7.5-10 minutes	1(Sat & Sun)	0	No effect	In addition. They have different types of information and "... The Web does not replace the newspaper." He does not like reading newspapers online. "... I found that the pages were too slow to load."
39	1-6	1d	2	Decline in readership	It depends on the type of news. He will use the Web instead of the paper for financial and computer-related news. He will use the Web in addition to the paper for politics and social issues.
40	2	1d	2	No effect	Neither instead of nor in addition to. He finds them unrelated. He does read <i>The Financial Times</i> online.

**Exhibit #14 - Continued**

Resp.	Web Use Hrs/Wk	No. of Subscriptions	No. Bought per Month	Web's Effect on Newspaper Readership	Is the Web Used Instead of or in Addition to Reading Newspapers?
41	10-15	1d	0	No effect	In addition. They give different types of information. He does not read newspapers online because he prefers the hard copy version. "... I cannot put the Web on my LA-Z-Boy!"
42	3-5	1d	0	No effect	In addition. "... anything I can read in the newspaper, I will read in the newspaper and I won't go to the Web." She also finds it a lot faster to open a newspaper than to use the Web.
43	2	1d, 2w	0	No effect	In addition. The newspaper is more portable than is the Web. He also reads a newspaper that they get at work. "I find that the newspaper has old information and that there's more updated information on the Web. However, if I go on the Web to <i>The New York Times</i> Web site, I have to pay for it ... the Web will not replace the newspaper."
<b>Legend:</b>  d=daily  w=weekly  m=monthly					

**Exhibit #15: The Web's Effects on Magazine Readership**

Resp.	Web Use Hrs/Wk	No. of Subscriptions	No. Bought per Month	Web's Effect on Magazine Readership	Is the Web Used Instead of or in Addition to Reading Magazines?
1	1	0	0.5	Decline in readership	Instead. However, he still buys mags. because they are more portable than the computer.
2	10-25	12m	0	Decline in readership	In addition. If he does not have time to read an article in a mag., he will read it online. He will also download articles off the Web instead of cutting them out of the mag.
3	6	5m	0	No effect	In addition, as a supplementary form of information. He will read mags. at work, off newsstands, or at bookstores without buying them. "... The nice thing about the magazine is that you have all the information on a given topic, especially computer magazines. It's often a question of getting all the information in one place, and that's not always possible on the Web ..."
4	1	0	0	No effect	Neither instead of nor in addition to.
5	2-2.5	1	1-2	No effect	In addition. "I like to read, so I will never give up reading magazines ..."
6	5	5m	< 0.25	No effect	"Instead of looking at magazines to try and find something, I try to find it on the Web. This is because I always know where my computer is, but I can never find where I put my magazines."
7	15-20	0	2	Rise in readership	In addition. The Web is another information source. He will read mags. in bookstores, libraries, and at work (they subscribe). He reads mags. because they are more current than the Web or because they have interesting articles.
8	3	0	< 1	No effect	In addition. She buys <i>Shape</i> , "... and it's hard to see this type of stuff on the Web. There are some weight sites, but they deal more with what kind of exercise people should do rather than showing you pictures of how to do it."
9	1	1w	0	No effect	In addition. He does not buy any mags. because he finds them too expensive. He does read prof. journals. He does not read mags. online. "... However, if I had a very specific piece of information that I want and I don't have the printed journal, I would go onto the Web ..."

**Exhibit #15 - Continued**

Resp.	Web Use Hrs/Wk	No. of Subscriptions	No. Bought per Month	Web's Effect on Magazine Readership	Is the Web Used Instead of or in Addition to Reading Magazines?
10	1-2	1m	N/A	No effect	In addition. They give different kinds of information.
11	2-3	2 bw, 3m	4-5	Decline in readership	Instead of because he canceled his subscription to <i>PC Magazine</i> and now reads it on the Web. He also uses the Web in addition to reading mags. "... I still read some magazines. But it's still hard to use the Web in bed."
12	7-8	1w	5	Decline in readership	Instead. "... The Web is free, whereas you have to buy magazines. You can access all the magazines and information on the Web ... I don't buy any entertainment magazines anymore because of that ..."
13	7	0	0	No effect	In addition. He gets free mags (he can get up to 150 a month). Both media give different types of information. He prefers to browse through mags. over the Web.
14	0.50-1.5	2w, 1m	0.5	No effect	In addition. The Web is a used as a supplementary form of information as they both give different kinds of information.
15	1	0	2	No effect	In addition. "The Web gives me information that I'm looking for on a whim. Magazines don't always have what I want and I'm therefore limited to what is in the table of contents in any particular month ... the Web has all the information, all the time ..." She also finds that the Web does not replace mags.
16	2	2m, 1q	2-3	Decline in readership	In addition. They have different types of information. He reads less mags, but he buys more mags. related to the Web.
17	1	3-4m	0	Decline in readership	In addition. "... the Web is there. I have only so many hours in a day that if I spend an hour a week on the Web, it's an hour less that I spend doing other things."
18	1.25-1.88	0	0	No effect	She uses the Web to read biologically-related journals.
19	2.5	0	8-12	No effect	In addition. She accesses <i>CNet</i> (a cyber mag.) on the Web. She also buys <i>Mac Addict</i> , but does not access their Web site (her Mac is at home, not at work).

**Exhibit #15 - Continued**

Resp.	Web Use Hrs/Wk	No. of Subscriptions	No. Bought per Month	Web's Effect on Magazine Readership	Is the Web Used Instead of or in Addition to Reading Magazines?
20	6-11	4m	0	No effect	In addition. "... the Web complements what I get in journals, but I get direct access to information that I need and when I need it ..." He will use the Web when he needs information on a specific topic. He does not reads mags. online.
21	1.5-2	6m	3	No effect	In addition. The Web does not replace mags.
22	10	4m	0	Decline in readership	In addition. "... I'm looking for more information than what I saw in the magazine. With magazines, I get an idea of what I'm looking for, who has got it, or something that's going on, and I will use the Web to get some more information. The magazines are a basis for my Web use."
23	14	0	0.5	Decline in readership	Instead. "I don't need the information that's usually available in a magazine because I can find the information over the Web. I therefore buy and read less magazines ..."
24	2	4m	0.5	No effect	In addition. He reads many mags online because mags are expensive to buy. He will even read a couple online that he subscribes to. "... Sometimes I don't like to buy a magazine because there's only one interesting article in it."
25	< 1	0	2-3	No effect	In addition. "I'm sure the information I want is on the Web as well, but I don't have time for it. Whereas, I can read a magazine on the train or any other location."
26	2	5 (m and q)	0	No effect	In addition. He has to pay for most of the journals that he reads. He can either subscribe to them by mail or electronically. He is not able to read them for free over the Web. He will, however, look for information that he cannot find in journals over the Web (information about conferences, for example).
27	2.5-3	4m	1	No effect	In addition. "... they are mutually exclusive." He prefers to read the paper version over the online version.

**Exhibit #15 - Continued**

Resp.	Web Use Hrs/Wk	No. of Subscriptions	No. Bought per Month	Web's Effect on Magazine Readership	Is the Web Used Instead of or in Addition to Reading Magazines?
28	10-12	1w	0	No effect	In addition. "... I still prefer paper. The Web doesn't replace the magazine. I like to feel the paper I'm reading. I don't read magazines online even though I know that they exist." She also reads a couple of mags. that are subscribed to at work.
29	2	12 (m and q)	0	No effect	Neither instead of or in addition to. She finds that they are unrelated. "The Web is mostly business-related and I will only read a magazine if I'm at a friend's house and they have it there ... I don't access magazines or professional journal online."
30	5	8m	2	Decline in readership	In addition. Mags. are more portable than the Web is. Some of the mags. that he subscribes to he will read over the Web.
31	15	12 (m, q, a)	3	No effect	In addition. "I read mags. online in addition to reading the paper version."
32	3	7 (w and m)	2-3	Decline in readership	Instead because she may read online mags. instead of buying them. In addition to because she finds that the Web complements mags.
33	6	3m	0	No effect	In addition. "... magazines are at my fingertips. When I'm at my desk, it's more convenient to go to the Web." He will also read other mags./prof. journals at the library. The Web does not replace mags. "... the Web is just another tool and I will use it in addition to what I currently use."
34	5	3 bm, 1m	2-3	No effect	In addition. The Web complements the information he gets in mags. He does not read mags. online.
35	2-3	0	3-5	No effect	In addition. "... most of the information in magazines you cannot get on the Web ... I still prefer the paper version."
36	7-10	1	0	No effect	Instead of because he canceled his subscription to <i>PC World</i> (he moved from the US and it is too expensive in Canada) and now accesses it on the Web. In addition to because they have different forms of information. Some things he can only get in the paper version.
37	2.5-5	2w, 1bm, 3m	1	No effect	In addition. He still wants to buy mags. He accesses some mags. online (not the ones he gets).

**Exhibit #15 - Continued**

Resp.	Web Use Hrs/Wk	No. of Subscriptions	No. Bought per Month	Web's Effect on Magazine Readership	Is the Web Used Instead of or in Addition to Reading Magazines?
38	7.5-10 minutes	6-7 (most m)	0	No effect	In addition. He really does not use the Web at home. He does not read online mags.
39	1-6	2bm, 2m, 3q	< 2	Decline in readership	Instead of because he no longer buys computer-related and financial mags. In addition to reading mags for issues like general social news and politics.
40	2	6 (most m)	Almost never	No effect	In addition. They are separate and have different types of information. "... I find that the Web is superficial and won't spend half my time reading on the Web. I'll use magazines instead. I see the Web as a different media, not as a substitute for other forms of media. Magazines have more depth, are more in-depth with respect to their coverage ... The Web has the widest breadth of any of the other media ..."
41	10-15	1w, 2m	0	No effect	In addition. "I cannot put the Web on my LA-Z-Boy! .... I don't read magazines online because I prefer the hard copy version."
42	3-5	3m	2	No effect	In addition. "I still prefer to read the paper version of the magazine rather than the online version."
43	2	2w, 1m, 1q	1-2	No effect	Neither instead of nor in addition to. He finds them unrelated. He will occasionally read mags. online. He also subscribes to a Web Mag. and gets an American Express mag. once in a while (it is free).
<b>Legend:</b>					
	d=daily	bw=bi-weekly	w=weekly		
	bm=bi-monthly	m=monthly	q=quarterly		
		a=annually			