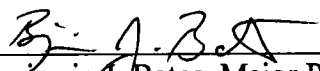
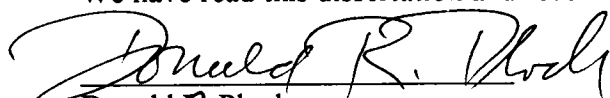


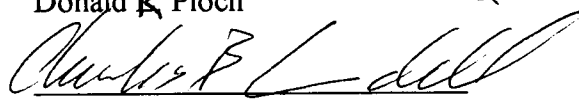
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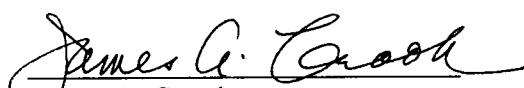
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Benjamin J. Bates, Major Professor

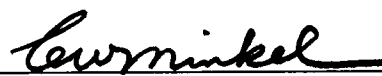
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Associate Vice Chancellor and
Dean of the Graduate School

**THE USES AND GRATIFICATIONS OF
THE WORLD WIDE WEB:
AN AUDIENCE ANALYSIS FOR
LOCAL TELEVISION BROADCASTERS**

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Randall E. King
August 1998

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The dissertation is meant to introduce one to the world of scholarship and I have learned in this process that scholarship is not as much about individual achievement as it is a collaborative effort. I could not have finished the task without the support, guidance and hard work of many people who shared this experience professionally and personally.

Dr. Benjamin J. Bates was the principal advisor and committee chair for the dissertation. His vast media research experience and interest in my professional development was invaluable. His advice has been encouraging, and his criticism always well-focused. I would also like to thank the other members of my committee, Dr. Edward Caudill and Dr. James Crook of the Journalism School, and Dr. Donald Ploch, who remained on the committee even after retiring from the Sociology department early in 1998.

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ABSTRACT

The World Wide Web poses significant challenges for traditional media companies who must design Web sites to meet the needs of the online audience. This exploratory study focused on visitors to local television station Web sites, surveying their uses and gratifications, Web design preferences, and Web content usage.

Twenty-eight U.S. television stations promoted an online survey, accessible from station Web sites. 2634 responses were gathered over a two-month period in 1997. The sample was non-random and self-selected, yet appeared demographically representative of the Internet audience as compared to other published surveys.

Thirty uses and gratifications agreement items were adapted from television uses and gratifications studies of the 1980's. Six gratification factors emerged and were given exploratory labels: "Entertainment," "Pass Time/Habit", "Information/Learning," "Companionship," "Social Interaction," and "Site Preference." "Site Preference," or using the Web to access specific sites and information, was the most dominant reason respondents said they used the medium.

Web Design elements such as color, photographs and search tools were evaluated by degree of preference. Exploratory factor analysis grouped these aspects into three dimensions: "Aesthetics," "Interactivity," and "Multimedia." "Interactivity," or the ability for the user to control the navigation experience, was most highly preferred.

Web content elements or activities such as "Browsing," "Checking news headlines," and "Online shopping" were rated by frequency of use. Exploratory factor analysis grouped the activities into five content categories: "News," "Research," "Leisure," "TV," and "Music." The dimensions of "TV" - visiting television related sites - and "News" were most dominant.

Items in the three major areas: uses and gratifications, design, and content were

assigned to summated scales for correlational analysis. "Site Preference" gratifications were positively correlated with the "Interactivity" design feature ($r = .25$) and "Research" content ($r = .20$). "Entertainment" gratifications were positively correlated with the "Aesthetics" design aspect ($r = .28$) and "Leisure" content ($r = .36$).

Conclusions for the uses and gratifications field include the need for Web-specific measures with Web use possibly explained by fewer factors. Conclusions for television stations include understanding the uniqueness of the Web medium and designing content that is complementary to broadcast programming.

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CHAPTER 1

INTRODUCTION

THE WORLD WIDE WEB CHALLENGES TRADITIONAL MEDIA

Communication history will remember the Twentieth Century for the development of mass media - messages transmitted instantaneously to millions of people around the world. But the end of this century brings technological breakthroughs that are changing these modes of distribution and the nature of media messages themselves. The personal computer revolution gave rise to the mainstream acceptance of the Internet and its most visible form - the World Wide Web. No longer is it necessary to send messages through massive printing production plants or broadcast transmitters. The digitization of any "medium"- text, audio or video and its transmission through a global, public network potentially transforms mass communication in each of its critical dimensions.

Amidst all the talk of "potential" and "revolution" are the very powerful structures of what could be termed traditional media. Throughout the century, newspapers, magazines, radio and television have established themselves in the United States not only as the dominant means of mass communication, but also as key players in the economic system. If the century is characterized by innovation technologically, for these media companies it has also been a period of increasing change. At each juncture, most of the dominant media players have managed to survive in an economic system that really only changed the shape of its products, not its basic nature. The product (information, entertainment, news) is produced by financially able entities (networks, stations, newspaper companies), is made available through expensive means (printing, broadcasting) to enough consumers (audience) who will pay minimal costs (fees, subscriptions) and allow the bulk of the expense to be shared by advertisers. If the product is good enough, the advertiser reaps the

benefit of communicating sales messages, the media company covers the distribution and production costs and earns a profit, and the consumer receives a product with temporal value which must be replenished.

Although the World Wide Web can mimic this traditional American media system, it also can diverge significantly. The product can be produced by a lone individual with a computer and Internet connection. The distribution means are more affordable and diverse, even given the expense of larger computers and high speed connections. Audiences for the Web are severely fragmented by the nature of the technology and the multiple functions of the Internet. The Internet also has a history of free distribution - economically and legally, so fees of any type are anathema to many users. And advertisers, accustomed to predominant systems of counting eyeballs and costs per thousand, are reluctant to fund Web content in anywhere near the ratios common to other media. In short, much of the control over this new means of "mass" communication is rather democratically placed in the hands of the user. Traditional media companies know they cannot ignore change, but strategies based on passive, or straight sender-to-audience models of communication may not be readily transferrable to the new medium.

This study brings the challenge of dealing with this new interactive medium down to the individual media company - television stations in particular. Specifically, it examines the use of the World Wide Web from the perspective of the audience for television station Web sites. Local television stations face one of the greater tests among traditional media because their Web roles are more difficult to define and their audiences are not well understood. Because the computer and the Internet, unlike the television set or broadsheet newspaper, were invented for reasons other than carrying mass media messages, the dynamic of the communication experience can be quite different. This argues for fundamentally different communication strategies and business models. From an academic standpoint, there is much to be learned about Web audiences and the nature of this

communication phenomenon. If some incarnation of the Internet is to be the main point of connection for an information society in the next century, as many futurists contend, scholars must look in many places now to understand whether this mode of communication mirrors those of the past or changes the sender, medium and receiver relationship in important ways.

The Web Explosion

The mid 1990's were, if nothing else, a great period of promotion for the Internet. By early 1997, the number of World Wide Web users in the United States was estimated in a range from 40 million ("More than one...", 1997) to 62 million people ("Latest Intelliquist Survey...", 1998). Some of these studies, because they differ so widely, have been subject to debate from marketers and academic researchers. A prominent example came when Nielsen Media research conducted the first random sample study trying to estimate the total Web population. The survey estimated some 24 million people regularly using the Internet in North America ("Nielsen Internet...", 1995). Critics took aim at the phone methodology and Nielsen's definition of regular Web use. Six months later, Nielsen took the criticism into account and still reported significant growth. The number of North Americans over age 16 with "access" to the Internet climbed from 17 to 22-24 percent of the population. But Nielsen also found the growth coming from newcomers who were older, less affluent, less educated and generally spent less time online. It also found 20 percent of users in the 1995 survey no longer accessed the Internet (Lewis, 1996). Despite different numbers the one consistency across the studies was the continual growth.

While it was clear more people were interested in being online, what they were doing with that online time was somewhat harder to track. Simple e-mail ranked near the top of reported Internet activities, while other personal communications such as chat rooms or bulletin boards occupied the time of less than 50% of users (Fawcett, 1996). News and information sources ranked high among users in one survey (Tedesco, 1996c) but other

studies noted that "information" browsing included advertiser sites offering extensive product information ("Study Suggests...", 1996, Esters, 1996). Still another study showed consumer interest leveling off, because the content became stale for mainstream users after their initial Web enthusiasm (Miller, 1996).

Each piece of this Internet puzzle is significant as traditional media companies try to forecast the future. Not only is the Internet a new vehicle for message distribution, but it is also a potential threat to the existing form. A Pew Research study conducted in mid-1996 (Mifflin, 1996) gave the first hint of this in reporting a significant one-year drop in television news viewing by young people. Among those under 30, only 22 percent watched network news and those who use personal computers at home frequently said they watched television less often than those not using computers. By 1997, various surveys continued to show some patterns of erosion directly impacting television viewing. One survey of 10,000 households showed online users more likely to be heavy newspaper readers or radio listeners than heavy television viewers (Consoli, 1997). Meanwhile, as network television ratings showed a steady decrease in 1997, other surveys showed the Internet to be a prime culprit, while radio listening held steady (Taylor, 1997). Conflicting information, however, came from a 1997 study targeting Internet users that found them watching 6% more prime time television and 21% more late night television than non-users. In general, net users were found to be bigger consumers of all media (Goldblatt, 1997).

Print Media Make the Transition

In the technological infancy of the Internet, print media appears to be the most successful in terms of launching and maintaining popular sites. Magazine publishers were among the first to go online and now virtually all the major magazine groups have some Web presence (Kelly, 1995). Newspaper companies also found easy portability of their content to the textual environment of the Web. By the end of 1996, nearly 1600 newspapers were online, more than 800 of them operated by U.S. newspaper companies

(Levins, 1997).

But for each of these online efforts there were significant challenges. Most online newspapers remained unprofitable as of early 1997 (Levins, 1997), and profits for online magazines are likewise difficult to generate (Kelly, 1996). New competitors, such as computer giant Microsoft, have moved into the information business in the electronic realm through such efforts as Slate magazine (Waltner, 1996), and Cityscape, an information service in major cities competing directly with newspapers for local advertising dollars ("Microsoft Planning...", 1996).

Unique Challenges for Broadcasters

The strategies for Web use by broadcasters have been less obvious, if not less successful because of technical limitations of the Internet. Some radio stations, particularly educational and non-commercial firms, put up Web sites simply to inform listeners about the station or community events. An estimated 900 radio stations in the U.S. had a Web presence by mid-1996 (Petrozello, 1996). Real time audio transmission became possible in 1995 with the release of Real Audio, a software product freely distributed to receivers. Within months, major networks such as ABC, CBS and National Public Radio were offering content (Berniker, 1995). By the summer of 1996, Billboard reported three to five broadcasters worldwide were signing up weekly for RealAudio transmission, the majority of which were music programmers (Taylor, 1996b).

The lack of real-time video capability did not keep television stations and networks away from the Internet. Each of the big networks and cable channels took their first test drives online in 1994 with such features as ABC's Super Bowl site on America On Line, which set a record early in 1995 with more than 250,000 visits. Other tie-ins included an Oscar Awards site, which allowed viewers to vote for awards interactively (Mandese, 1995). As the Web took critical mass away from online services, the networks turned their attention to individualized home pages. Most tried to tie in Web information to their existing

broadcast content and give viewers a type of value-added experience. Some of the cable networks such as ESPN and The Discovery Channel found success, in terms of audience response, because they already attracted niche audiences and could tie in Web content with a more focused approach than the broadcast networks (Hodges, 1995). By the end of 1996, figuring out how to use the Web was still a challenge for the big four networks. While NBC saw the Web as a totally new business, for ABC, CBS and FOX the Web was still very much a promotional tool for what was on television (Ross, 1996).

Local television stations lacked online direction because, in most cases, their only local production is news. Without entertainment program tie-ins, or the local personnel to re-work newscast material in Web form, many stations were left with simple promotion. A content analysis of early television station sites in 1995 revealed a great deal of promotional content and dated material. The sites were visually attractive, but offered little to bring the user back a second time (Bates and King, 1996). A follow up study the next year showed major improvements in all categories, but still a predominance of promotional content rather than frequently updated news and information (Bates, et.al., 1997). Despite these few successes, analysts seemed to agree that the learning curve was still great for these stations. One said, "It's very hard for TV people to see this as much different from television." (Tedesco, 1996b, 30). In a 1997 study of 15,000 U.S. Homes, nearly 40% of those with PC's were likely to have the computer and television in the same room, in use at the same time. This finding calls into question an assumption that the TV and PC can be merged and may argue instead for functional differentiation between the two mediums ("40% of Home PC...", 1997).

Therein lies the central challenge of this study. Assuming the Web will become like television, and thus will be used the same way does not necessarily take into account that the habits and uses of the medium that are being set by its users now. Knowing how and why the Web is used now, rather than in the future, may be the best way to understand any

future use. And if those uses for the Web are different than those of television, stations that do not produce Web sites in accordance may still be searching for success.

THE PROBLEM

Understanding the Web Audience

The first rule of any communication strategy is to know your audience. This study contends that traditional broadcasters still have much to learn about those who visit their Web sites. Numerous studies are being conducted on Web users, but most of them stop short of the kind of psychographic information that explains why those users are online at all. While information seeking, including news, is at or near the top in most of these surveys, the qualitative dimensions of why such sites are popular is rarely explored. If Web use is indeed a different experience, then different rules must apply for the production of content and the kinds of information made available. Broadcasters need to know why someone might come to their home pages for a visit in order to develop strategies to make them return.

Marshall McLuhan had an interesting perspective on change in media technologies. He called the event when a new medium meets an old the "hybrid...a moment of freedom from which new form is born." (McLuhan, 1964, 55). As with many McLuhan ideas, it is his creative sense of expression that is more useful than any concrete finding. This study will use the term "hybrid" or "TV Web" to describe television station efforts to place content on the World Wide Web. These sites, in most cases, embrace aspects of the new technology while attaching themselves to the familiar trappings of the old. A network's news division site uses the logos and design style of its on-air product. Categories of information may be organized in the same way newscasts are divided. Recognizable talent may contribute to Web content, attempting a crossover promotional effect. A television station Web site cannot be television, but it may mimic it. In any case, the regular visitor to such a site could be labeled part of the "hybrid" audience. The choice to visit a traditional media site, among

the vast number of options on the Internet, implies a certain relationship between that user and the traditional form. As broadcasters increasingly cross-promote their Web efforts on-air, the concept of a "hybrid" audience is strengthened. More knowledge is needed on this niche of a niche, to inform professional and scholarly understandings of the user's communication activities.

Attempted Strategies

It is noteworthy at the outset of this study that even in only two years of Web efforts, traditional media companies have learned many lessons already. Whereas print media initially dumped their most recent editions on the Web, they later made a more subtle shift to capitalizing on the Web's strengths as an interactive medium. Editors included chat and bulletin board functions, more links between content, and developed new content not available in hard copy - all in an effort to give the online product its own identity (Kelly, 1995). Newspapers such as The Boston Globe positioned their Web sites from more than a newspaper standpoint. "Boston.Com" is a comprehensive site that is a front end for numerous media, community service agencies and information providers. It carries the brand name value of the Globe but is much more than an online newspaper (Cohen, 1996).

Broadcasters have also found alliances useful. NBC and Microsoft launched MSNBC the Web site and the cable channel simultaneously. Microsoft handles the online portion, but the efforts are intertwined financially, technologically, promotionally and in editorial production (Taylor, 1996a). Local television stations are also discovering the value of partnerships, in some cases working with their newspaper counterparts or through the synergy of their corporate owners. Cox Communications, a diverse company with TV and radio stations, newspapers and cable systems formed an interactive division specifically to help develop Web sites on the local level for their various entities (Hall, 1996). NBC broadened its reach to include the "Interactive Neighborhood" service developing local content through affiliates and search engine company Infoseek ("Infoseek Search and

Navigation...", 1997). And ABC expanded partnerships with its popular sites "ABCNews.com", "ESPN Sportzone", and "Mr. Showbiz" to local stations, allowing them to effectively point local users to the national content, and in turn using the national content to point users to the local station ("ABC News Internet...", 1998).

The most repeated form of partnership still being tested on the Web is advertiser supported content. Advertising revenue across all Web content for the first half of 1996 was over 70 million dollars, but most media sites were still barely breaking even in that time period (Tedesco, 1996a). By 1997, net advertising had risen to more than 340 million dollars for the same six month period ("Internet ad spending...", 1997). For the entire year of 1997, Web advertising soared to 597 million dollars, up 152.6 percent over the previous year ("1997 Web Ad Market...", 1998). But while some of the larger media sites were reaping the benefits of this growing revenue pool, it was less certain how many of those dollars benefitted localized media sites.

In 1997 there was also a large scale introduction of "push" technology - services that assemble daily packages of available Web content and download them directly to a personal computer, minimizing the need to browse for content. The push services, such as PointCast, are typically free to the user, but necessarily come on the screen with banner ads and related advertising (Kitrick, 1997). By early 1998, it was still uncertain how successful push approaches would ultimately be. The online industry reported a backlash against push technology, and stagnant membership by its largest proponent - Pointcast ("Pointcast battles...", 1997). These approaches to advertising are all experimental at this stage, and the marketplace reflects the uncertainty. Web users surveyed by Advertising Age said they were not too interested in online banner advertising. Half of the sample said they never click on ad banners. However, more than 70 percent were at least somewhat interested in visiting the home page of a marketer (Fawcett, 1996). As a result of this unclear direction for advertising, some major media companies continued to seek a mix of subscription fees

and banner ads, with questionable results. There were 600,000 registrants for The Wall Street Journal online just before Labor Day. Just two weeks later that number dropped to 30,000 when the paper began charging an annual fee (Hodges, 1996). By mid-1997, the number of paying customers had climbed back to over 100,000, a hopeful sign for other media ("Wall Street Journal...", 1997).

Television stations and networks, particularly, are looking to technological rather than marketing solutions. Late in 1996, products such as "WebTV" sought to bring the Internet and television viewing experience together in one device. Enthusiasts, such as one Warner Brothers official hoped "People will be checking their e-mail during the commercial breaks in Friends." (Littleton, 1996). That view is unproven. A study by the Dataquest computer research firm found only four percent of Americans interested in viewing the Internet using their television sets, and most of those who expressed an interest already owned computers ("Can the Internet..." 1997). One year after the first WebTV appliances hit the shelf, only about 130,000 units had been sold - that after a 25 million dollar marketing campaign (Thomas, 1997). WebTV picked up some marketing and technological muscle in 1997 when it was acquired by Microsoft, and an upgraded version of the system showed strong sales during the late 1997 holiday season ("Limited WebTV Units...", 1997). Other manufacturers were considering Web TV type devices to launch in 1998.

If TV Web browsing does not catch on, the next development could likewise be useless - Inter casting. Television broadcasters plan to use spare bandwidth to send additional Internet information along with an over the air signal (Browning, 1996). The boom, some television executives believe, will come when real-time, full motion video can be sent through the sophisticated Internet of the future. Already VDOnet Corporation is "webcasting" rock concerts and sporting events worldwide through its video streaming software, and cable companies are showing particular interest because of its potential synergy with cable modems ("VDO expands...", 1996). Other companies involved in

streaming video include Real Networks and Vivo Active, yet efforts remain limited while technology and bandwidth develop.

Some analysts believe the future of the Internet is reaching a critical juncture now, and those interested in developing an online business cannot wait for technological improvements. Even though Internet use continues to grow, the Yankelovich Partners firm concludes that the rate of growth is declining, partly because many users do not have the capabilities to enjoy the highest tech, interactive features. Thus, investment by all interested parties must become more selective (Trigoboff, 1996). The assumption remains that television and the Web will somehow join, and that viewers will embrace such a union. But if these communication experiences are significantly different now in terms of the gratifications gained, will the future uses be any different?

Scholarly Insights

Communication scholarship has much to contribute to understanding the challenges facing traditional media from the Web. From the earliest studies of how new media affect old, to more refined concepts such as "relative constancy" and diffusion of innovation, communication scholarship has always been interested in the media marketplace as a dynamic, evolving phenomenon. So far, the impact of the Web has not seriously eroded the traditional forms. A 1996 Pew Research report found people who use computers to catch up with news do not give up watching television news, listening to radio reports, or reading newspapers ("Internet news...", 1996). An academic study (Stempel and Hargrove, 1996) found traditional media still very dominant as the public's news sources, with online sources used by less than 3 percent of the respondents as their primary source of news. The study did, however, find only a modest degree of overlapping use across media, giving support to the idea that media serve different functions.

In the areas of media choice, audience involvement and content characteristics, the uses and gratifications perspective has proven quite useful. When broadcast networks sought to

understand their audiences in more depth in the early days of radio, researchers approached the questions from the audience perspective - asking listeners why they chose particular programs (Rogers, 1994). As methods improved, common sets of gratifications were developed and the approach gained more rigor through the 60's and 70's. Simply put, uses and gratifications assumes people use media for specific purposes. An active audience makes active choices, and as gratifications are satisfied they impact future choices. Further, the audience members can be asked directly about their media use and their responses are valid (Katz, Blumler and Gurevitch, 1974).

The World Wide Web audience is considered more active because of a technology which requires them to forge their own paths through content. Because Web content is usually available at all times, even deciding to log on is an active choice when contrasted with the passivity of television viewing. The link between use and gratification is more clear as the audience member forges through non-linear choices. Relationships with content are formed not on the basis of a metastructure of broadcast networks or publishers, but by the interests of the user (Morris and Ogan, 1996). Thus, some scholars are suggesting it is time to "dust off" uses and gratifications because it deals with the mutability of the medium, its ability to serve a number of uses all within the same technology. In calling for more attention to Internet-related phenomena, they believe "The Internet and its use are likely to be the venue for a rejuvenation of the uses and gratifications type of study...it offers a vehicle to lay out a taxonomy of just what goes on in cyberspace." (Newhagen and Rafaeli, 1996, 7). Not only do scholars need to know more about what goes on in cyberspace, television station Web designers need that knowledge as well. If they know why users go online and what they seek, they can effectively design sites which will serve audience interests.

This study thus seeks to advance both communication scholarship and the professional field of broadcasting by exploring relationships that advance uses and gratifications

research into a new technology, and by finding descriptive information about the “TV Web” audience that can be useful to television station content creators and management planning strategies for the future.

RESEARCH OVERVIEW

Goals

This study can be expressed with the simple research questions: Who is online? Why?, and What do they want? The first question seeks a thorough picture of the “hybrid” audience - those online users who visit television station sites. Given that such a unique audience exists: What are their demographic characteristics? What are their patterns of media use? Why do they use the Web or Internet? These descriptive findings are useful to the overall understanding of the niche.

Second this study explores gratifications associated with Web use - the “Why?” of being online. This is examined using standardized gratification measures and seeing how they apply to online communication. Scholars are beginning to examine the Web as a mass medium. One recent effort, (Kaye, 1996) assumed the Web will become more like television in its presentation, so gratifications associated with television viewing were applied. The study found some similarities between television viewing and Web gratifications, but also differences. More extensive research is needed to consider Web gratifications as a separate experience.

Third - “what do they want?” is seen through the relationship between gratifications and aspects of Web content. Uses and gratification research has a substantive strand that relates gratifications to content choice and characteristics of that content. A benchmark for these relationships comes from a 1973 study showing different gratifications indeed related differently to different media (Katz, Gurevitch and Haas, 1973). Clusters of gratifications have also been found to be intertwined with content channel attributes in determining media choice (Lometti, Reeves and Bybee, 1977). And television uses and gratifications have

been analyzed quite extensively for their potential explaining program choices, message perception, and demographic characteristics of viewers (Rubin, 1979, 1981, 1983, Rubin and Rubin, 1982). This study applies these strands of the research literature to the content and design attributes of the Web. While popular Web studies, such as those conducted by Nielsen Media Research and Georgia Tech University have ranked content preferences by users, little has been done to show how certain types of sites might be related, and how that content preference is impacted by such things as aesthetics of the site or the usability of the interactive features.

Design Plan

This study was conducted in an on-line Web page survey. Gratification items form a central part of the on-line survey, to be factor analyzed into typologies. Careful consideration is given to existing typologies in the uses and gratifications field and commonly reported reasons for Web use as documented by existing surveys.

The Web survey was posted and linked to participating television station Web sites. Stations with sites were asked to promote the survey on their home pages and provide links to the survey page. A simple interface allowed respondents to answer questions with minimal effort and data was collected passively.

In addition to gratification analysis, an extensive picture of this niche audience is developed in terms of demographics and media use. These characteristics then are instrumental in making the key comparisons between demographics, gratifications, design characteristics and content choices.

Limitations

There are three critical issues which are problematic to the findings and are addressed in later chapters. First, the method of on-line surveying is subject to generalizability problems. As a self-selected method, on-line survey results are not necessarily generalizable to a larger population. But saying that a sample is not random does not mean

it is not representative of a particular population. This study is mainly limited to Web users, who visit broadcasting sites and choose to answer a survey. The results may not say much about those who do not fit that pattern but it may say a lot about those who do if it is drawn in a representative way. By seeking out those users who already visit TV Web sites, the goal of representing that audience is more attainable. Also, this audience can be compared with other studies of the Internet population to determine how the demographics, preference and Web usage patterns match. The broadcaster creating Web content may precisely want to reach the user who is inclined to visit such sites. These are the users who may be most interested in a "hybrid" approach to Web content, playing off their familiarity with other programming. Further, for uses and gratifications researchers, the Web users may yield the most detailed information in learning typologies of Web use. What is often most important in social research is the relationship between variables in a use/choice model, rather than making generalizations about some larger audience.

A second limitation are the assumptions of uses and gratifications and criticisms of the field. Whether this perspective is truly theoretic is an issue to be addressed in Chapter 2. It is fair to criticize this approach to research as being primarily descriptive, with little predictive value. The design of this study will attempt to go beyond mere typologies by comparing gratifications and choices, but the true opportunities for prediction are limited.

Finally, the nature of the Web itself and computer based communication is in tremendous flux at the time of this writing and continued to change between the planning and execution of the survey. Already, certain aspects of Web sites are merely functions of technological limitations and have little to do with communicative value. The issues of infrastructure, usability, growth and economics will continue to impact the nature of content on the Web, and these issues will be taken into account as the results are analyzed and discussed.

CHAPTER 2
REVIEW OF LITERATURE
MASS MEDIA AND EMERGING TECHNOLOGIES

Media History and the Constancy of Change

The need to study the online audience is justified by the constant changes throughout mass media history. In one sense, the story of American mass media is a story of technology. Gutenberg's printing press was significant enough in its time, but it was the mid-nineteenth century introduction of the telegraph that introduced electrical communication and can be viewed as a starting point for the mass media of the next century (Marvin, 1988). While printed communication predates the Industrial Revolution, it was the interplay of technology, growth in manufacturing as a whole and continued urbanization that led to rapid newspaper expansion following the Civil War (Folkerts and Teeter, 1989). And the newspaper circulation wars, aided by technological improvements in production and distribution helped create the reading public that fueled the popularity of magazines.

These early examples show a pattern. Media enterprises face technological change, technological challenge, and technological choice. Technology inevitably evolves, and it seems at no time more rapidly than the twentieth century. Established media companies always face change - new technologies that potentially offer improvements to their existing business. The challenge of technology comes when the innovation has the potential not only of improving business, but fundamentally reshaping it. As a result, companies must choose whether to embrace the technology, or allow some other entity to use it. Thus, the change in printing technology that allowed better use of photography and visual images presented a challenge to the dominant newspaper industry. But the choice for newspapers,

in this case, was to use the technology rather than leave it for the upstart magazine industry.

The challenge of technology was not problematic for the print industries until the invention of radio in the early twentieth century. Newspapers such as The Detroit News were involved early in starting radio stations to sell papers, but many other players soon came on the scene once it was clear money could be made. As early as 1922, the Associated Press decided radio might be a major threat to the newspaper business so it ruled AP reports could not be broadcast. When station owning publishers rebelled, AP gave in several years later (Sandman, Rubin, and Sachsman, 1982). But this only laid the groundwork for a full scale press-radio war in the 1930's when the Depression cut heavily into the revenues of all media. Radio and newspapers confronted each other directly at the 1932 national political conventions, with the American Newspaper Publisher's Association asking all wire services to stop selling to the broadcasters (Folkerts and Teeter, 1989). Although this battle was short lived, it was clear during this time that radio news might eventually influence slightly some time honored press traditions like the extra edition or the mad rush to print scoops or exclusives. But it was also clear radio's influence would not diminish the need most Americans felt for the special attractions of newspapers (Gordon, 1977). Both found methods of co-existence. Newspaper had dabbled with technological change (over the air broadcasting) considered the challenge (new sources for news) and largely made the choice to let others (emerging broadcasting companies) use the technology. Legal regulation of cross ownership would later limit this choice, but by the early 1950's, only 19% of standard AM radio stations were affiliated with newspapers (Levin, 1954).

The choices were far different for radio broadcasters when the technological innovation of television posed a challenge. Rather than ignore the potential of radio with pictures, NBC, CBS, and ABC recognized early on the visual signal would replace network radio as the dominant broadcasting medium. After World War II, the networks milked radio of its

last dollar to pay for expansion into video (Gordon, 1977). As early as 1948, NBC's Director of Research was heralding the growth of local radio advertising as a sign the "new" media of that age - primarily television - would be able to prosper economically (Beville, 1948). His comments foreshadowed the changes in radio of the coming decade, primarily the emphasis on local radio programming that would be its salvation. One by one, the large network radio shows bit the dust during the 1950's, but radio itself was in the midst of a boom (Gordon, 1977). With resources tight, the networks also encouraged local stations to experiment with multiple sponsorships, increasing their level of independence economically and programmatically (Folkerts and Teeter, 1989). Each media firm - network and local broadcasters - chose differently when faced with technological challenge. While the networks embraced the new to the detriment of the old, local stations largely embraced and refined the old. Radio never regained its "importance" but did manage to retain its popularity and by 1980 was a healthy industry (Sandman, et al., 1982).

The examples of this process are more apt when the innovation has some similarities with the established form. The choice for networks to move from radio to television was natural because both media shared the qualities of immediacy and mass audiences. The motion picture industry, meanwhile, went through a panic period with profits plummeting dramatically in the early 1950's. The film industry's choice was first to leave television to itself and produce the kind of movie experience broadcasters could not replicate. Later, of course, Hollywood and the networks recognized they were both in the "picture" business and forged alliances that remain beneficial to this day (Gordon, 1977).

Television is often blamed, however, for the demise of national magazines such as Life and Look, an assessment that is largely true in pure economic terms due to the migration of national advertising to television. As a technological choice, however, these magazine companies could not "do" television, so they turned to increased specialization (Folkerts and Teeter, 1989). While mass circulation magazines lost money, new ventures into niche

publications carved out another piece of the media pie and the choice was validated.

Redundant examples abound to the present. As the once threatening force of network television finds its own power diluted by the multiple channel capabilities of cable and satellite, the network companies now choose to invest in cable networks. Technology inevitably brings change, challenge and choice. Yet what is argued here is not strictly technological determinism. Each of the media companies that faced survival challenges also confronted economic, political and demographic realities. What is evident is that technology is often the catalyst which forces otherwise comfortable, profitable media entities to reevaluate their core businesses which can peak, decline, and change. Some have argued this trend is inevitable. Shaw (1991) contends all media reach a point of maximum market penetration and then decline, at times unnoticed by their own leaders. Only when new technology breeds new media that attract audiences or advertisers do those leaders recognize their medium is on a downward slope. The end result is specialization. A decade before network television reached its peak, Maisel (1973) found all mass media shrinking in size relative to the total economy. In both print and electronic communications, he found specialized media expanding, arguing for study focused on the individual receptor of multiple messages.

The Promise of the Information Age

The key question that emerges is whether new online media constitute a straightforward challenge to the traditional media, or whether the nature of this innovation is radically different from the basic mass communication model. At this point some scholars might part company with history because of the belief that digitalization is more than another technology to deliver mass media content. Rather, the ability to manipulate, transmit and store any kind of information - text, audio, video - has been regarded for several decades as the vanguard of a new sociological order. Frustrated with the problems of "mass society," some essayists began in the 1960's writing of a new "information

society.” The common denominator for these discussions was an emphasis on telecommunication systems and the easy access to information (Salvaggio, 1983). Major components included “wired cities” with a universal system of communication going further than traditional television and telephone systems to convey a wide range of services (Dutton, Blumler and Kramer, 1987). And on the critical end of the system was an “information utility” described as, “...looking like a combination of a television set and a typewriter, functioning like a combination of a newspaper and a library and permitting a communication network that is something of a combination of a telephone and telegraphy system.” (Parker, 1970, 53).

The one important distinction of the information utility from traditional media is that what is transmitted over the communication channel is controlled more by the receiver than the sender of the message. The promise, as opposed to the controlling gloom of “mass society” was the hope of unmediated media enabling the user to contact the audience directly and for information to be less a product and more a liberating social good (Abramson, Arterton and Orren, 1988, Masuda, 1980). For the most hopeful, this wiring of society had transcendent characteristics, creating a better world where information was not power but understanding. One Japanese visionary predicted, “...moving towards the twenty-first century with the very great goal of building a Computopia on earth, the historical monument of which will be only several chips one inch square in a small box” (Masuda, 1980, 156). It is clear for these utopians, the dream of an information society went far beyond having multiple channels of mass media content.

As the information concept moved from grand idea to media appliance, the actual services were given a variety of names. One reviewer (Case, 1994) uses the generic term “videotex” to apply to all the end user information services which would be tried from the early 70’s through late 80’s, “incorporating the idea that no intermediary would stand in-between the information and its ultimate user (484).” This includes teletext - used mainly in

Britain to provide passively used textual information in the vertical blanking interval of television broadcast signals, and videotex/videotext wired based services which were employed in other countries and in limited trials in the United States. Case's umbrella approach is found in other reviews of the era, but belie the vast differences in these systems, both in technology, content and the policy environments that surrounded them.

The British teletext service, launched experimentally as "CEEFAQ" in 1973 is characterized most clearly for being first, and for being quite limited in terms of user interaction (Case, 1994, Nyhan, Johansen and Plummer, 1979). Many pages of data tied directly to a program airing were available to the user with a remote control, but control over the variety and scope of those pages was minimal once accessed. Despite improvements to the system and upgrades in usability as the decade progressed, the British system failed to meet expectations, claiming only 90,000 customers by 1989 (Case, 1994).

It was a different story in France. The French government-run Postal, Telegraph and Telephone (PTT) company in 1978 was looking for ways to increase line usage and decrease costs for printed phone directories and directory assistance. The solution was Minitel, low cost terminals distributed to households free along with simplified, per-minute billing for an array of services including directory information, news, banking and e-mail (Hall and Terren, 1987). Although the government-run telephone utility was behind the service, French newspaper companies and other media gained a monopoly providing real-time dialogue, or messengeries. These features allowed people to converse by typing into their terminals. It turned out what people liked to talk about a great deal was sex (McMane, 1993). Driven by the impetus of the on-line phone directory - print versions were no longer available - messengeries, e-mail and other popular services, over 5 million Minitel terminals were online by the early 1990's (Hawkins, 1991).

U.S. Videotex Efforts

The European videotex efforts did not go unnoticed in the United States, but the

differing approaches to media systems took American development along a different path. While other countries naturally found communication policy the responsibility of the centralized government, in the U.S. the hope for a new information medium was initially placed by some planners in an emerging, free-market medium - cable television. Ralph Lee Smith, a journalist covering the issues of new technologies tried to explain the significance of the wired city to a broad public in The Nation. His work convinced key people at the FCC that it was worth risks to the broadcast industry to knock down regulatory barriers to the development of cable so the technical infrastructure could be built (Dutton, Blumler and Kramer, 1987). Other general articles followed promising cable as the beginning of the information utility and showing its usefulness for education (Parker and Dunn, 1972, Kay, 1976). Typically, the fledgling industry promised more than it could deliver. Given that major content providers such as HBO and WTBS were just beginning to experiment with satellite delivery, by the mid-seventies weak consumer response caused the industry to abandon the risky endeavor of information services and refocus on traditional, broadcast type programming (Dutton, Blumler and Kramer, 1987).

One notable exception to cable's trend away from utopian visions was the QUBE experiment of the early 1980's conducted by Warner Cable in Columbus, Ohio. Homes were wired with boxes allowing feedback on programming and other functions. In an analysis of this experiment, Meehan (1988) concluded QUBE was far removed from the vision of a wired society, but was the closest approximation of that vision in the cable industry. Her study found Warner using the interactivity far more frequently to test market programming than for less commercial demands. Thus, she concluded, the spread of new technologies will be limited by the direct interests of corporations, their capabilities will suit those interest and the content will be tied to the producer's ability to recycle it over many other outlets. Laudon (1987) calls such a conclusion the "dark side" of the cable promise. Even with the hope of utopia, cable television was still one of many technologies subject to

political regulation, economic forces and institutional restrictions.

With cable all but abandoning the dreams of an interactive utopia, the implementation of the information utility fell to governments and traditional media. The concept of the utility was the same regardless of technology - two way interactive communication by means of a telephone link between a modem, a processor enhanced TV screen and a local or distant computer data base (Rice, 1984). Short of a high speed network of computers, these types of equipment were seen as the base tools needed for information exchange. Since personal computers were not yet mainstream, videotex was generally implemented via low cost dumb terminals, or adapters allowing the text to be viewed on standard televisions.

The push for videotex using the overseas models gained critical mass in the early 80's. Scholars and journalists began writing about the European efforts and directing attention to U.S. Policy directions concerning information utilities. Videotex was described as a major innovation for delivering text and other information services into the home (Criner, 1980). One journalism professor returned from Britain proclaiming videotex a "medium of the future that should interest and excite journalism educators (Snider, 1981, 190)." Some policy writers urged government involvement, doubting the ability of private media to serve the diverse information needs of the public while maintaining economic viability. One information society advocate said a government-funded policy towards building information services would "determine the health and ability of our political and economic institutions to serve the needs of their constituents (Jones, 1981, 51)."

Nevertheless, the U.S. government's posture towards the information society then appeared to be allowing the private sector to do the investing - a posture which still resonates in the information infrastructure policies of the 1990's. Many newspaper companies thus got involved in interactive information services, for reasons that had less to do with societal interest and more to do with survival. Forecasters predicted such databases services would actually jeopardize the traditional format - paper - for receiving daily

information (Smith, 1980). Newspaper companies had already found success in the 70's and 80's selling their content to news retrieval services such as NEXIS. But when it came to newspapers directly selling their information electronically to homes, the consumer market was slow to respond (Baer and Greenberger, 1987).

One of the first bold efforts into videotex was undertaken by the Knight-Ridder and Times-Mirror newspaper groups in 1979. A member of the development team, Roger Fidler (1997) wrote years later of secret visits to London to observe Britain's Prestel teletext service. Those surreptitious trips evolved into the Viewtron service developed by the newspaper companies and AT&T. The newspapers developed content, while Bell Labs designed specialized dumb terminals to access the information through a supposedly simple interface. The market trials were conducted in Coral Gables, Florida, providing the service to 35 families. From that experience, the whole service was launched to South Florida in 1983 with much fanfare. Two and half years later, Knight-Ridder declared it a failure and shut it down. Times-Mirror closed down its concurrent service in Southern California the same month (Fidler, 1997).

While media companies were trying to find economic viability in videotex, academic researchers were, as always, turning their attention to the new communication phenomenon. Some research was interested in the simple questions of who would adopt the technology, and for what reasons. Ettema (1984) examined how farmers used an experimental videotex system and found younger, better educated farmers with more innovative farms generally used the system more and derived more benefit from it. It was an affirmation of the information rich getting a little richer. The Alternate Media Center at New York University was involved in both controlled experiments and field tests of broadcast teletext in Washington, D.C in the early 80's. Although the field tests found some enthusiasm for the service even among those groups typically not considered technology adopters, there were notable problems with computer "literacy" in the general

public, the slow delivery speed of information pages, and the content presentation of graphics. Nevertheless, the researchers predicted the establishment of teletext sooner than more computer based technologies requiring greater technical sophistication, such as videotex (Elton and Carey, 1983).

Knight-Ridder's Viewtron service itself was studied, during its short run in South Florida. Researchers found subjects closely identified it with using a computer, and for those with less computer experience such identification was a barrier to understanding. In these experiments, entertainment uses were clearly secondary to information seeking needs. A uses and gratifications type analysis revealed high usage for news, sports, messages and suggested many of the subjects saw the service only as an information source (Atwater, Heeter and Brown, 1985). A companion study by the same research team found videotex services extremely competitive in terms of content. While they did no original reporting in the study period, they were consistently faster with breaking stories than newspapers and gave more attention to event oriented topics, rather than issue-related coverage - placing value on immediacy (Brown and Atwater, 1986). Videotex content was also shown to aid greater recall of information than television news presentations (Edwardson, Kent and McConnell, 1985).

The value of videotex as a news service tied to traditional media sources was a hopeful finding in several studies, which in some way foreshadows the relationship of the Internet to traditional media in the late 90's. A panel study of a Taft teletext system - tied to television stations - showed a "novelty" effect across all demographic groups - meaning use peaks, then declines after initial introduction. However, in that decline, viewing of the host television's station's local news actually increased, an effect that persisted three months after installation of the teletext service. One conclusion, then, was that teletext was perceived as a secondary news medium in a symbiotic relationship with the host station (Henke and Donohue, 1986). The difference may lie in technologies, since teletext uses

existing channels of television to tie-in background content, while videotex services used dedicated terminals where the tie-in to a station or newspaper might not be as clear. In a study that simply described videotex to subjects in an interview (Heikkinen and Reese, 1986), some indicated they would drop their newspaper for the new services, while others remained loyal to the paper form. In the main, however, the researchers suggested their results indicate complementary use of newspapers and videotex to be more likely.

Lessons from Failure

Despite the hopeful analyses from both market researchers and academic journals, videotex, in the various forms tried was largely not an American media success story through this time period. One analyst estimates some 2.5 billion dollars were spent on videotex in the 1980's, generating only 400 million in annual revenue by 1990. Television broadcasters, including the major networks, kept trying teletext. But uncertainty over competing standards and the reluctance to commit funds for hardware to activate the national network feeds were continually problematic. Add to this the growing competition of cable and the ability to zap away from programs or commercials using remote control devices, and it is clear the climate was not good for broadcasters to test ways to make viewers switch away from regular broadcasts (Aumente, 1987).

In the aftermath, critics tried to identify why so many trials failed so miserably. Carey (1982) argued early in the developmental roll-outs of videotex, that the service would develop slowly as a service for businesses and professionals, and not as a broad-based information utility. His arguments were based on media history, which frequently proves a more useful guide than market tests. Others point to the general social, political and economic system in which media must operate as parameters on how new services will evolve. Bates (1989) argued that any evolution towards an information society must be seen in the context of such social factors as work, access and political variations. In other words, a society may use information as an economic tool, without actually being an

information society where empowerment based on information cuts across all levels of the social system. In this sense, the rather decentralized approach of the U.S. videotex efforts mediates against any short-term, massive adoption of the service. When information is simply a commodity, typically available in other forms, rather than a necessary component of existing and working in the society, it is natural to assume many consumers will opt out of buying the product.

Key differences exist when comparing the commodity approach to information to the French example of structurally replacing the phone book with Minitel. In one case, there is a product to be bought, in another necessary information to be accessed. While the French model cannot be replicated in the United States, several key factors of the French success could be applied to U.S. Policy, including the removal of regulatory barriers and the development of interconnection standards (Lansing and Bates, 1992). Comparisons between the European and U.S. Communications policies led one researcher to conclude the U.S. Information providers would ultimately be far behind their global counterparts in the information age because the government had decided to leave the work of communication policy, standards and information utilities to the free, competitive market (Branscomb, 1988). Opinions varied based in part on political philosophies, and the understandings of media. Nevertheless, it appears the U.S. public was simply not ready for videotex in its initial American incarnation.

More practical problems included the lack of an identifiable receiver for the technology. Rather than focus on a Minitel-type terminal, videotex innovators attempted to merge the delivery of information with the television, telephone and PC (Major, 1990). Without a standard receptacle, videotex existed on a localized basis and a critical mass in people or perception never materialized. The personal computer, which sent shock waves throughout the industry began selling rapidly in the 1980's, and the assumption that a stand-alone, single function videotex terminal would dominate was upended by the PC's arrival

(Aumente, 1987).

Likewise, the French content, cost and usability lessons didn't make their way across the Atlantic. Many videotex systems of the 1980's offered electronic access only to news, stock quotes, sports scores, etc. All of this information was available elsewhere, in cheaper, easier to use forms (Hawkins, 1991). The interactive, personal features that made Minitel boom were notably lacking. Instead, the databases relied on massive and mostly static storage of information with thousands of frames (Aumente, 1987).

With the wisdom of hindsight, Viewtron developer Roger Fidler (1997) believes the traditional media of the time simply misunderstood the nature of what became cyber-media. Early promotions of Viewtron showed whole families gathered around watching a Viewtron monitor, with each member patiently waiting their turn to access their content. In real homes, videotex was a personal experience used like a reference library or interpersonal message center. Some developers saw the service as an extension of newspaper, others more like television. In fact, it was neither but the marketing did not match the reality.

Ironically, by late 1980's, the principles behind videotex, such as instant information retrieval, were actually starting to catch on through the use of computers, but media companies were no longer funding the business. A few newspaper based online services, such as The Fort Worth Star Telegram's Startext were profitable, but emerging commercial online service providers such as CompuServe and Prodigy were taking over the videotex concept and giving it new life, and a new name (Cutler, 1990).

Once again, media companies' choices about technology influenced their competitive position vis-a-vis a potential new medium. While these companies - cable, newspapers, broadcasters - did not ignore the potential of an information society for their business, their apparent ambivalence towards developing unified standards, investing in proper networking or developing unique interactive content limited the success of their early

efforts. There was also little understanding of interactive media as a new way to communicate, opening up new ways to create content and provide value added experiences for the audience. Traditional media companies kept some focus on the potential of interactivity, but their choice after the failures of the 70's and 80's appeared to be "wait and see."

Perspectives on the Challenge of Change

If technological change and economic realities historically contribute to the rise and fall of mass media, what are the mechanisms that explain this dynamic that could give insight to the future of online media? Harvard economist Joseph Schumpeter introduced the idea of "creative destruction" in the 1930's to explain the historical rise and fall of capitalistic manufacturing industries. For Schumpeter, this process was the,

"...essential fact about capitalism...(which is) by nature a form or method of economic change and not only never is but never can be stationary...The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumer's goods, the new methods of production or transportation, the new market, the new forms of industrial organization that capitalist enterprise creates." (Schumpeter, 1950, 83).

Because the new must push out the old, the new is by default the greatest threat to the old. For Schumpeter, this changed the typical economic analysis of competition which always sees price as the first factor influencing choice. For example, the retailer in town has less to fear from another similar store than from a new competitor that offers a different way to receive the same services:

"In capitalist reality as distinguished from its textbook picture, it is not that kind of competition which counts but the competition from the new commodity, the new technology, the new source of supply, the new type of organization - competition which commands a decisive cost or quality advantage and which strikes not at the

margins of the profits and the outputs of the existing firms but at their very foundations and their very lives. (Schumpeter, 1950, 84)."

The analogy to media industries is apt. When newspapers were king, there was significant competition for readers among the papers and some did better than others. But, in general, well-managed newspapers all made money. The decline in newspaper circulation began after 1920, when radio offered something radically different (Shaw, 1991). Network television had its greatest audiences in 1980, after which an erosion of audience began which continues to this time, due to the influence of cable television and alternative television forms such as the VCR (Auletta, 1991). Although the big three jockeyed for ratings positions, each was profitable and powerful in its heyday and are still the dominant, if slightly less powerful, players in national broadcasting.

DeFleur (1970) would have much in common with Schumpeter explaining how new media impact the old. DeFleur examined standard diffusion curves for four major media and suggested a complementary relationship in terms of "functional alternatives," or equivalence. If a mass medium serves a social or psychological need in the audience, then the appearance of another medium which serves that need better will cause shifts in the audience. Merrill and Lowenstein (1971) take much the same view, putting media evolution in a set of theoretical stages. Media go through an elite stage, where the educated audience members with financial resources embrace it; a mass stage, with lower costs and mass content; and a specialized stage, when a new medium arises with greater technological appeal for the same content. All of these views place the individual user in the nexus of media competition and argues for a deeper understanding of needs and gratifications. But needs alone do not explain consumer choice in a system where media information is also a commodity.

Media Spending and Use

One of the richest strands of research examining media competition and audience use

comes from economic analysis. As communication research matured in the post-World War II years, a topic of interest to the media industries and the academy was the increasing diversity of communication outlets competing for the public's time and money. Kinter (1948) found U.S. income allocated to communications more stable than individual disposable incomes or expenditures in general - a statistic that held fairly stable even through the Depression years. Several years later, additional analysis showed additional growth in overall communication spending, supporting the idea that television might not make headway solely at the expense of the other media. This study, however, did find some limits to the possible growth of media spending (Kinter, 1952).

One of the most conceptually fruitful explanations of this spending limitation was put forward by Charles E. Scripps (1965) as a "constancy hypothesis." He stated that the pattern of economic support has been relatively constant, tied to the general economy rather than changes in the media field. McCombs (1972) tested and refined the concept empirically across four decades of data and found consistent support. In applying this "principle of relative constancy" to the advent of new media, McCombs explained,

"Over the years the pie has grown, but at the same rate as the economy which produced the pie was growing. New media in the marketplace did not produce a bigger pie, instead, the old pie was resliced to feed the newcomer. Some of the new communication technologies now on the horizon require such large dollar support, such a large slice of the pie, that they must drastically reduce the share of several existing competitors if they are to survive in the marketplace." (61)

At the time of that writing, interactive information technologies were just beginning to gain mass attention, and most of the visions of the "wired nation" required huge, expensive infrastructures to succeed. Nearly a decade later, McCombs was able to use similar data to support the idea that spending for print media was relatively stable, and was not yielding to the impact of technology (McCombs and Eyal, 1980). Inevitably, critics took issue with

McCombs' statistics and his predictions about new interactive technologies. Wood (1986) concluded that the "principle" was not that constant and, in fact, customers could devote a greater share of income in the future to buy a new technology. In other words, the pie could grow. Wood and O'Hare (1991) supported this prediction with an analysis of cable and home video diffusion. They suggested the possibility of a "long-term departure from constancy," (30) that could leave room in the economy for old and new media.

While long term departure from constancy is as yet unmeasured, Son and McCombs (1993) did more recently find an expansion of consumer spending from 1976 to 1987, a period when VCR's and cable were experiencing marked growth in the American marketplace. Seen through differing economic models, constancy is either supported or not supported during this time period in a long term analysis. Nevertheless, this more recent data gives some hope to media companies hoping for consumers to expand their share of the financial pie given to media. What is not known is whether this "departure" is an anomaly in an otherwise stable principle, or an indication that consumers really will see greater media choice as worthy of taking time and money away from other spending choices.

One of the more developed extensions of the constancy principle comes from Dimmick and Rothenbuhler (1984), proposing to examine evolving media systems in ecological terms - a theory of the niche. In their analysis, new media cause "competitive displacement" in the marketplace, to which the other media must respond. Where the media are "generalized"- such as radio's rather broad programming style pre-television - they can respond to the displacement by utilizing a more specialized resource more intensively. Failure to specialize or adapt to a niche can result in competitive extinction. In this theory, the key questions in determining the outcome of competition, "...revolve around the number and characteristics of consumers who choose to allocate their time and money to the various media alternatives." (303) Once again, audience needs, choices and perhaps,

gratifications, are central to understanding the potential of a new medium. The market is never static. Evolutionary change, within fixed boundaries of time and money, is inevitable.

Managing Change and Choice

Television broadcasters through the 1990's appear to be responding to technological change with some understanding of history and the economic challenges posed by a new medium. This is why media companies are still seeking the right economic formula for profitable Web sites, as discussed in Chapter One. Publishers know that audiences will only pay a certain cost, particularly if they already pay for the print version of the same online content. The reality of functional equivalence is apparently driving these companies towards a "both, and" strategy, rather than an "either, or." Newspaper, magazines and television outlets are not abandoning their traditional formats, but neither are they ignoring the potential of the new territory offered by the Web.

Even within the constraints of the constancy principle and competitive marketplace, there is support for this dual strategy. Levin (1954) found evidence that the long term effect of radio on newspapers was to help stabilize and improve the print medium both in content and economic management. Radio, television and newspapers were stable as a result of competition. Bogart (1968) found that people were not making exclusionary choices between media when seeking sources of news. In that time period, he found tremendous overlap between news consumers who read newspapers, watch television news, and listen to news on radio. Grotta and Newsom (1982) found people with cable in their home tended to actually use other news media more than do those without special television services. Robinson (1981) put forth the notion that media have complementary and competitive uses. In some cases, if people are given more options they might consume more of what they like but not at the expense of traditional media use. Reagan (1989) confirmed Robinson's model in a later study of multiple media users. More recently, a case study of a wired

community with free Internet access found no change in use of traditional media due to the online offerings (Bromley and Bowles, 1995). The findings were similar in Stempel and Hargrove's (1996) examination of media sources for news.

While competition is an ongoing reality and technology always imposes choices, media companies may have some grounds to straddle the fence between old and new, at least for now. But it is noteworthy that the medium of focus here, the World Wide Web, did not enter the marketplace as a mass medium. Whereas radio, television and cable experienced their most rapid diffusion with the backing of companies interested in mass audiences and revenues, the Internet medium evolved as an extension of computer networks joining research and educational institutions. Radio programs sold radio sets - likewise for television. But the computer was not sold initially as a receptor of media content, nor was the Internet a medium of mass media distribution. If the differences in these technologies impact their use today, then applications of media history, research and history may not be entirely valid. A closer examination of the personal computer and the network it fueled is necessary for more understanding.

THE PERSONAL COMPUTER AND COMMUNICATION

The Age of the Smart Machine

The computer's diffusion in modern society as a work tool is, by now, part of the technological lore of the twentieth century. What is often in dispute is the notion of a computer "revolution." Cortada (1993) puts forth the rather conventional wisdom that the computer changes everything, a view trumpeted in popular publications ever since the technology made its way into the work force. In contrast, Weizenbaum (1976) says the computer arrived just in time to save the industrialized world from spinning out of control. Instead, it entrenched and stabilized the economic, social and political order that was likely to drown in information. Similar ideas are confronted by Beniger (1986), who designates computers as merely the latest incarnation of a process put in place in the later decades of

the nineteenth century. In his view, this "control revolution" was a response to the Industrial Revolution - harnessing of energy and mass production of goods created crises of distribution, resource management, and economic transaction that could only be remedied by increased management of information and communication. As a result, the period from the 1840's to the early 1900's brought the development of virtually every basic information processing and communication technology still in use a century later (Beniger, 1988).

When computers entered the work force, they were largely extensions of existing office machinery performing the same jobs faster, and usually involving numerical calculations. While Cortada (1993) says the computer changed things, the argument was generally that the transformation was more evolutionary than revolutionary. Only in time was the smart machine seen as transformational, largely as more machines could be linked to perform common tasks and store vast amounts of data (Garson, 1988, Zuboff, 1988).

Beniger's insights (1986) are most relevant to this study, as they place the computer at the center of a communications revolution. In his view, such an evolution is inevitable:

"Inseparable from control are the twin activities of information processing and reciprocal communication. Information processing is essential to all purposive activity, which is by definition goal directed and must therefore involve the continual comparison of current states to future goals. Two way interaction between controller and controlled must also occur to communicate influence from the former to the latter and to communicate back (as feedback) the results of this action." (434)

Just as change in technology is inevitable, Beniger (1988) suggests technological change inevitably begets more control which harnesses more energy and begets improved technology. This "co-evolving spiral" can be seen as the mechanism behind the linkage of computers. If one smart machine is good, two are better. If one office is linked to another, greater control will result. At the center of information control is communication of

business data, but the infrastructure created would lay the groundwork for human communication via computer, and ultimately a potential mass medium.

From Numbers to Notes

While companies were using computers to crunch numbers, other developers saw computers connecting people. Douglas Engelbart lead research at the Stanford Research Institute in the early 1960's that developed the computer as a tool for shared interaction and work by employees. With his team he created innovations such as e-mail, graphical user interfaces and windows (Nielsen, 1990). For Engelbart, these tools were designed to support human work, not replace it, and he imagined people interacting around visual displays connected to a computer complex (Engelbart, 1995). Other pioneers saw the computer as the in home utility of the information society. Licklider and Taylor (1968) published a general interest article on the computer as a communication device, and echoed the utopian visions already bubbling around the emerging power of information.

What the utopians were dreaming about was already happening within the corporations that made computers standard issue. The increased networking capabilities made possible by mainframe systems also brought electronic mail capabilities to many large offices in the 1970's. By mid decade, communication researchers were recognizing e-mail as the vanguard of "computer-mediated communication," (CMC) a new form of interpersonal interaction that carried unique qualities of its own. Hiltz and Turoff (1978) conducted an intensive case study of a networked office and concluded that CMC could not be understood in strict task related terms, but as a social process. Key factors in communicating via e-mail included the level of autonomy of the user - they choose when and where to participate, and the level of openness - lack of visual cues lead to more open workplace communication than face to face interaction. More social psychological studies of this new phenomenon followed. Kiesler, Siegel and McGuire (1984) found more consensus and less authoritarian leadership when groups interacted through e-mail, but

more impulsive and assertive communication across all participants due to the email communication environment.

In time, CMC would include more personal uses apart from the workplace. Even before the expansion of the Internet, individual bulletin boards such as San Francisco's WELL facilitated highly personal forms of interaction among early adopters of personal computers. The notion of "virtual community" was popularized by Rheingold (1993) in his writings about relationships formed on the WELL. But researchers had already found community a powerful force on e-mail networks. Steinfeld (1986) related the social uses of e-mail to a theory of "social presence," finding use of the system driven by the degree of perception that the receiver is socially and psychologically present. Hiltz (1984) found that scientists using e-mail continued using it even after questioning its impact on productivity. The notion of a substitute for genuine human interaction naturally brought questions. Some found CMC to be less friendly, emotional and more businesslike than face-to-face communication (Hiltz, Johnson and Turoff, 1986, Rice and Love, 1987). But Walther (1992) reviewed much of the research to date and concluded these negative relational effects were only found in narrow situational conditions.

At this time, the social factors of CMC appear to have general consensus in the literature. Even though it may not replace face-to-face interaction, it can complement the more direct method for some individuals (Rice, Grant and Schmitz and Torobin, 1990) and may greatly enhance the interaction for others, making for "hyperpersonal" communication (Walther, 1996). Even the technical limitations, initially thought to limit the text driven channel have been overcome by some users developing ASCII symbols to communicate emotion and other personal concepts. Online relationships can progress to other forms of communication such as conventional mail, telephone and face-to-face (Parks and Floyd, 1996).

Studying CMC is important in understanding the present state of the Web because

interpersonal use has never lost its power to drive adoption and use. Just as newspapers failed to understand the interactive dynamics of videotex, media companies today may misunderstand what drives people to dial their modems. Whether the audience is in the next office or around the world, individual users still want to “talk” to each other. The Internet has taken that basic personal feature and expanded it to a much higher level.

The Internet and Interactivity

The history of the Internet as a network for the Defense Department is often recounted in contemporary discussions of the online boom. What is sometimes missed in the history is an understanding that the Advanced Research Projects Agency (ARPA) was a Defense department funding mechanism for a group of computer programmers who wanted to fundamentally change the ways people interacted with computers. Instead of laboring through punch cards and printouts, many of these programmers desired “interactive” computing, with keyboards screens and graphics. Early planning for ARPANET in the mid and late 1960’s included such things as e-mail, data sharing and remote log in to other computers - all features designed for human compatability and shared work. Once they had created their devices, they discovered they also wanted to use those computers as communication tools (Rheingold, 1993, Roberts, 1988). So while cold war concerns over the threat of nuclear war may have been the impetus for a unified communication system, making the computer a more human friendly and supportive machine was behind the implementation.

The conceptual roots of this dream almost pre-date the electronic computer itself. Vannevar Bush is one who saw what was not yet possible. While working as Director of the Office of Scientific Research and Development for the government during World War II, Bush published an article in the Atlantic Monthly titled “As We May Think” (Bush, 1945). Considering what was then a rapid explosion of scientific knowledge, Bush proposed a super machine he called a “memex” that would allow a researcher to find

information quickly and efficiently in a style mimicking the way the human mind works. Information could be accessed by the memex through associative trails rather than linear documents. All the information would be available through the push of a button, following the wishes of the user.

Bush's article spurred a great deal of interest, even if it never resulted in a memex being built. Douglas Engelbart, then a young Army radar technician, was waiting for a ship home from the Philippines when he read "As We May Think" and the concept added to his growing interest in the potential of computers. Years later, his Stanford work included a shared "journal" facility that allowed researchers to cross reference to other works in their own writings (Nielsen, 1990). In time, the idea of linking information together got a name, "hypertext," referring to the ability to jump between pieces of information. The actual word "hypertext" was coined in the mid 60's by frustrated film maker turned computer thinker, Ted Nelson. After taking a computer course, Nelson saw the machine as a "clockwork of arbitrary abstractions, designable any which way," and a "theater of all media turned interactive," (Nelson, 1995, 1). For Nelson, hypertext was a literary medium, enabling humans to link all of the world's great literature in a vast online universe. This grand scheme came to be known as "Xanadu", a repository for everything that anybody has ever written. It still hasn't been built, yet Nelson and other true believers continue to try with an ongoing "Project Xanadu" effort (Nielsen, 1990).

Nelson's ideas have ultimately been more powerful than any actual manifestations of Xanadu. By the late 60's and early 70's, hypertext was implemented on a smaller scale as part of mainframe systems first at Brown University, then at Carnegie-Mellon. Such implementation of hypertext gained acceptance as mainframes became more commonplace. As personal computers became the machine of choice, hypertext applications such as Apple's "Hypercard" for the Macintosh put the means for linking information into more lay hands who essentially wrote programs meeting their information needs and those who

might network PC's with them (Devlin and Berk, 1991).

Meanwhile, a separate culture was developing with the early adoption of the personal computer. Local bulletin board services (BBS) sprang up as computer owners found ways to talk to each other using phone lines and modems. By the 1980's, ARPANET was succeeded by the Internet. Since research universities were already part of the original mix, more educational institutions and private industries were connected. Students soon had dial-in access and e-mail, newsgroups and world wide chat grew exponentially. The Internet culture took on a global, youthful culture, again driven more by human communication possibilities than strict computing related data (Rheingold, 1993). The natural evolution of technology continued to make the system more efficient, even as the growth strained the network's capability. This phenomenon converged with BBS growth, and online services which were gaining more commercial appeal through such brand names as Prodigy and America On-Line. Although these companies specialized in proprietary interfaces and content, the genie unleashed by a new form of communication and the interactive tools of the PC would demand even more connectivity. The Internet was the logical next step for these new interactive participants.

The World Wide Interactive Web

While many sources were offering Internet access in the late 1980's, the Internet remained a text driven and often cumbersome experience for users. In the short history of the Internet explosion, it is now fairly clear the introduction of the World Wide Web - another innovation developed for collaborative work - was the key factor fueling its growth. The Web is a concept deeply rooted in the tradition of hypertext and the need for interactivity. Tim Berners-Lee first proposed a small hypertext system when he was a fellow at the CERN physics lab in Switzerland. The young scientist was involved in a number of technological developments with computers and was trying to find a way to link various pools of information together in the multiplatform, multifaceted computing

environments at CERN. What he proposed was a “web of information nodes” with individual computers acting as servers and other computers receiving the information through “browsers.” A key to the system was that it did not require users to conform to one particular type of software or network environment. Rather, it allowed for those connected to use the tools they were most familiar with and provided a simple protocol for requesting human readable information stored at a remote system (Berners-Lee and Cailliau, 1990).

With the concept of a hypertext Web in place, the network used to link the computers in Berners-Lee’s plan was actually the Internet, meaning an idea developed for one particular institution had world wide exposure (Segal, 1995). As the Web’s software and ideas became available to a larger audience, the concept grew beyond CERN. Berners-Lee continued working on the design of the Web and in 1994 moved to MIT in Massachusetts to form the World Wide Web Consortium (Berners-Lee). Although many of the early Web efforts were focused on the technology to make the interactivity work, at its very root remained the same ideas of early innovators: shared work, shared information, linked webs and world-wide access.

Berners-Lee first envisioned the Web functioning in a graphical environment, but the real advance in Web interest came in 1993 when the National Center for Supercomputing Applications at the University of Illinois developed the graphical browser “Mosaic”, and began distributing it freely on the Internet. Here at last was a nearly complete implementation of multimedia united with hypertext. As Web protocols standardized, supply followed demand and soon institutions and companies were creating their own sites with pictures, text and links all unified by “home pages” which became the first stopping point on any visit to a new Web domain (Cailliau, 1995).

It is important to again note how this technology evolved from idea, to collaborative networks, and then, arguably, mass communication. While it may not be Xanadu, the Web is the closest thing to a global hypertext system ever created. While the notion of a global

interconnected network has the obvious potential for mass communication, it does not appear the innovators of these various technologies ever conceived it in those terms. Particularly, the concept of mass messages sent to large audiences for passive consumption seems somewhat foreign to the concepts of interactivity and collaboration advanced by Bush, Engelbart, Nelson, Berners-Lee and many others. Thus, it is the media companies who are the strangers in this new frontier. Rather than integrating online media into their offerings, perhaps the traditional media must conform their product to a mode of communication with its own culture, modes and channel attributes.

Understanding Hypermedia

If the World Wide Web is global hypertext, or hypermedia, a newer term encompassing sound and video components, then some understanding of its components is necessary. When hypermedia became a practical tool for programmers and educators, a limited amount of research developed to aid designers in learning what was most effective. Burton, Moore and Holmes (1995) surveyed the field in the early 90's and concluded much of the work on hypermedia was non-empirical and focused on the excitement of implementing the new technology. They determined that many of the guidelines for the development of hypermedia could be traced to "assumptions, intuitions, and (apparently) common sense (364)." Jacobson (1994) also concluded that designers are in the early stages of actually linking hypermedia design to relevant theoretical perspectives about learner behavior and use. Nevertheless, educational research does show, rather consistently, that hypermedia is a useful educational tool and will have a place in the classroom as progressive technological changes and the interface becomes more user friendly (Ayersman, 1996). For those reasons, what is known about hypermedia design from the educational community has relevance for communicators.

As the Web brings hypermedia to the mainstream, it is apparent that the usefulness of design features are becoming a more important area of concern. Since most hypermedia

prior to the Internet's growth existed in closed loop systems, design issues were limited to the context of a particular application and the programmer could maintain consistency. Those issues are somewhat less manageable in designing Web pages, because one can only control those items within the site, and the rest of the networked world might do things very differently. The HTML code developed and modified by Berners-Lee has proven a useful starting point from which designers continue to develop as technology and bandwidth expands.

In the world of hypermedia users, available research does show function is as important as form. Interactivity is the key principle, which mean elements on the screen must do something as well as look good (Park and Hannafin, 1993). A study of student users of an encyclopedia type program found the notion of user control, which is the essence of hypermedia, to be very important to all the participants. Through such functions as browse, index, and visual maps the users saw the possibility of interactive control consistently more attractive than passive, linear content (Trumbull, 1992).

Another aspect of interactivity in hypermedia is the use of links - devices such as highlighted words or icons that can be clicked to access related content. Research findings differ on the effectiveness of extensive linking in actual learning. In a study of student users, a Canadian research team found limited support for the notion that "content-based" links (such as those semantically tying concepts together) as opposed to "organizational" links (such as one saying "next page") can be an effective way to lead users through meaningful content (Baron, Tague-Sutcliffe, Kinnucan and Carey, 1996). Of course, the other result of non-linear approaches is that the user may link endlessly with no definitive learning or communicative end. Organizational links, buttons or icons, such as those taking the user back to the original home page, are attempts to keep the user from being "lost in hyperspace," easily forgetting where he or she is after extensive clicking to access information (Conklin, 1987, cited in Park and Hannafin, 1993).

Another important aspect of interactive design is the use of metaphor - do the elements connote or represent something familiar to the audience? Prior to the Web, programs such as Hypercard used the metaphor of notecards to organize user designed content. Airplane training programs might use the metaphor of the cockpit (Jones, Farquhar and Surry, 1995). Researchers have found such designs most familiar when the metaphors are very familiar and convey information about systems or structures. (Waterworth, Chignell and Zhai, 1993). Researchers also found complex knowledge was most effectively communicated when multiple hypertext links were supplemented by some type of "modeling" support, suggesting design elements should include more conceptual maps to supplement the text (Jacobson, Maouri, Mishra and Kolar, 1995). A review found fairly consistent support in the literature for using maps to guide hypermedia learning. Such "hypermaps" help learners navigate the maze that can often be presented in hypermedia content (Litchfield, 1993). The familiar use of icons, or image maps for linking between pages is the one Web version of metaphor usage.

Web pages have also evolved from extensive textual information to shorter bits of information with more active linking, because critics have noted the disorienting effects of scrolling on computer screens (Horton, 1990). Pages are frequently broken up with headings, an application based on research showing that such design increases readability (Horn, 1989). And all hypermedia information is broken into nodes, a concept known as granularity, which has implications for the user (Begoray, 1990). When sites are composed of many short Web pages, the implication is that it will be more user friendly than a site with fewer, longer pages.

As technology improves, hypermedia designers have also recognized the importance of understanding the impact of graphics, made possible by better computers and sophisticated "browsers." In terms of the learning experience, one experimental study found no evidence that graphical browsers had any effect on recall, comprehension, or recall of text structure.

However the graphical browser did increase the amount of text read by users, and their efficiency in moving through documents (Wenger and Payne, 1994). Still another student-based study found learning style has a large impact on the use of graphical based search functions versus keyword, textual tools. Browsers were generally more useful to field-dependent learners, while index, text string find and other analytical tools were more efficient for field-independent learners (Leader and Klein, 1996).

In attempting to design Web content, these ideas that have been supported with empirical research must be implemented. The thrust of the research shows a series of characteristics that position hypermedia on the Web as very different from the reading experience so common in much of print media. Further, the design features that are important to television may not apply as well in the hypermedia environment. Hypermedia, of which the Web is now the largest example, is driven by interactivity, searchability, multiple small bits of content, and graphics that are more than visually pleasing but have some control function. Once again, the hypermedia literature supports an understanding of this communication form in its own context.

The personal computer revolution shows a type of communication and user interaction in place long before mass media via computer was technically possible or desirable. While media companies were envisioning information cities wired by cable and dumb terminals receiving daily content, computer programmers and network designers were creating a device that could be used by the individual for a variety of tasks. Much of what traditional media pursued was a top down approach, very much in line with more than a century of media practice. But the personal computer became a communications device whose adoption and use came from the grassroots. Users began by talking to each other on their smart machines, collaborating on work, and later adding the ability to bring in media content to their mix of computerized activities. The literature once again speaks of a communication technology that has evolved quite differently at the receiver end from many

others. Its audience is different as well.

KNOWING THE AUDIENCE

Diffusion of Innovation

Some of the most useful research explaining the growth of a new technology has come from Rogers' (1995) diffusion of innovation theory. It has been applied broadly to many different technologies throughout the last 50 years, and is quite relevant to explain the present status of Internet use. The theory suggests technologies proceed through a period of early adoption, when those who have the economic resources and the willingness to struggle through a difficult learning curve will use the technology for individual needs. As the technology grows, these adopters influence others and the innovation spreads more generally across the population as the technology develops a critical mass. What follows is a period of rapid growth, marked by lower costs, greater ease of use and general acceptance of the innovation into the mainstream of society. However, this period of growth inevitably levels out, generally conforming to an "S" shaped curve showing growth over time. Once the innovation ceases to be "new" it seems to take a specific place in the normal activities of life, as individual users integrate it into regular routines.

This theory has generally held for new communication technology through the 80's. Personal computer adoption in the early 80's was most strongly related to household income in the United States (Dutton, Sweet and Rogers, 1989). A study of the high tech Silicon Valley region of California showed home computer information diffused through interpersonal networks rather than mass media channels, and those early adopters were satisfied with computers after a brief period of frustration and generally watched less television as a result (Rogers, 1985). Still another study, however, showed that once computers were in use for some time, the initial use leveled off and the PC was used more for instrumental activities rather than entertainment (Dutton, Rogers, and Jun, 1987). In this later phase, the impact on other media was not nearly as significant as it was during

early adoption.

As interactive technology becomes more of a mainstream phenomenon, there are new approaches to explaining adoption that go beyond the demographic driven typologies of diffusion theory. Jeffres and Atkin (1996) studied user's intention to adopt ISDN - which is a higher end connection technology that speeds up computer mediated communication. Their findings show little explanatory value in the demographic variables and they suggest reconceptualizing class-driven theories of media adoption and use. Likewise, Lin (1998) found neither gender or education significant predictors for personal computer adoption. In fact, the most significant predictor for PC adoption, with other variables held constant, was the ownership of other communication technology devices. Age was a significant variable in this model, however, indicating again that technology adoption is more likely for younger families. Even though computers in the home are not yet anywhere near television's penetration level, there is tentative support that some kind of "information appliance" is becoming more central, and could be ubiquitous in the homes of the future as these adopters mature.

Snapshots of the Web Audience

Since the Internet is a hot topic, various marketing groups continue taking the pulse of the online audience in an almost dizzying parade of competing surveys. As of this writing, the Internet appears to be emerging from its early adoption period and entering into a rapid growth curve. One study reported that at the end of 1997, 43% of U.S. homes had one or more personal computers and more than 20% were online ("Survey: E Commerce...", 1998). A random survey by Intelliquest research showed that 30% of the population over age 16 - 62 million adults - were online in the same time period, amounting to a doubling of the online population since the first quarter of 1996 ("Latest Intelliquest Survey...", 1998). Differences in numbers derive from variations in counting methods, such as homes versus individuals, and differing methodologies. While totals may differ, the number of people

online in some fashion has grown consistently according to all surveys reviewed here.

One of the more controversial studies conducted by Nielsen Media Research in 1995 estimated that 24 million people regularly using the Internet in North America (Nielsen, 1995). Six months later, Nielsen took criticism of its telephone methodology into account, and still reported significant growth in the Internet population. The number of North Americans over age 16 with "access" to the Internet climbed from 17 to 22-24 percent of the population. But Nielsen also found the growth coming from newcomers who were older, less affluent, less educated and generally spent less time online. It also found 20 percent of users in the 1995 survey no longer accessed the Internet (Lewis, 1996). So while growth is still evident, and the potential of the Internet is still vastly untapped, some support of a typical diffusion curve is clear.

In general, marketers and content providers are as interested in the demographics of the Web audience as they are concerned about raw growth numbers. Although the Internet is perceived as a medium for younger people, another study found adults between 30 and 50 accounting for more than half of all users. Only 31 percent of the 8.4 million users in this survey are between the ages of 18 and 29. Further, younger and older users are more similar in terms of the number of hours on the Internet and service preferences than middle age users (Miller, 1996b).

Some of the most interesting information has come from the semi-annual online surveys of the Graphics, Visualization and Usability Center (GVU) at Georgia Tech University. GVV's findings are subject to qualification because they use online, nonprobabilistic sampling, but the high rate of response - over 15,000 respondents most recently - and the general awareness of the surveys among Internet users increases their usefulness. The average age of users responding to the Sixth survey, which ended late in 1996, is 34.9 years old. Average age has been slowly, but steadily, increasing since the Fourth survey. Demographically, GVV has found the Internet a male-dominated medium,

but a definite trend towards more female users. The gender ratio in the sixth survey is 31.4% female and 68.6% male ("GVU's 6th WWW...", 1996). GVU's most recent study, number 8 in the series, was concluded at the end of 1997 and found further evidence of closure in the gender gap. The number of older users over 50 increased in 1997, and half of the users surveyed had less than 12 months of experience ("Tech Study Shows...", 1998).

Important findings for this study include the site and content preferences found by GVU's respondents. For this question, users were allowed to mark more than one answer. The most common Web activity in 1996 was simply browsing (77.08%), followed by entertainment (63.79%), education (53.29%), and work (50.9%). In 1997, the most popular site was the search engine Yahoo ("Tech Study Shows...", 1998). In earlier GVU studies, users expressed preferences for reference sites, news sources, government and independent research sites (Pitkow and Kehoe, 1995).

In a foreboding sign for traditional media, almost 37% of respondents in 1996 claimed they daily used the Web instead of watching TV. An additional 29.03% say the Web replaces TV on a weekly basis, usually more than once a week ("GVU's 6th WWW...", 1996). Late in 1996, Nielsen research found homes that subscribe to America Online (AOL) watch 15 percent less television than the average home ("The Internet may...", 1997). But because the AOL homes also had much higher income and education levels than the national average, any causal relationship between online use and television watching could be spurious. Yet a market study in 1998 showed Web users spending as much time online as they were watching television. However, rather than suggesting an either/or relationship, this analysis finds a correlation between heavy TV users and heavy Internet users - the "media junkie" that is expected to grow with improvements in bandwidth and technology (Hu, 1998).

Another sign of changes in media usage patterns came late in 1997, when 41% of the

GVU users reported accessing the Internet from home only - indicating a shift in the Web towards more of an home information source and not just a work or school tool ("Tech Study Shows...", 1998). The idea that the Internet can be largely a home related media experience, and the evidence that some users go online instead of watching television argues particularly for the importance of this study. What is unclear from these large surveys of the general Web population is whether subsets of Internet users may be more inclined to use online media content in conjunction with the traditional broadcast form. In other words, is there a TV Web audience for whom the Web is a supplemental experience, linked to their local station or favorite network?

The Hybrid Audience

A key concept to be explored in this study is the relationship between online content and traditional media use. As has been shown, studies differ as to how new media cut into the time for old media, at least in the initial period of adoption. Nevertheless, while the Internet continues in its early growth phase, media companies will closely monitor how the online efforts impact core business. The strategy for now appears to apply Robinson's (1981) complementary approach. Networks and television station strategies apparently believe that if viewers have more information along certain areas of interest, they will seek out still more information. Robinson calls this, "the more, the more." Thus, networks point news viewers to their Web sites for more details on a story, interactive chat rooms, or e-mail responses to the on air program. Rogers (1986) argues that adoption of a new technology depends to some extent on the relative advantage of the new over the existing form. The new technology must provide a user experience that is somehow better, or more efficient. However, Fidler (1997) adds to Roger's diffusion model the characteristic of familiarity. The new must in some way provide a bridge between the new and the old, more familiar form. For example, cellular phones replicate the familiar user experience of a traditional telephone, but add the advantage of mobility. There is familiar bridge and yet a

significant improvement in the new technology.

From all of this, we can infer that if the new technology's use is compatible and complementary with other information services, and careful attention is paid to the specialized users, then the technology will be more quickly adopted. The acceptance of the new form requires some clear, advantageous distinctions, yet equivalence and familiarity with the familiar past. Hence, the strategy of relating new Web based content to the traditional broadcast form appears to be the correct course for television stations. But more information needs to be gained about the users who form the core of specialized adopters who are even now watching a station's programming and visiting their Web sites.

For our purposes, we define these targeted users as the "hybrid" audience. This concept is inspired by McLuhan's (1964) thoughts in Understanding Media. McLuhan defined the hybrid in terms of moments in history when technology caused new and old media to co-exist. He believed:

"The hybrid or the meeting of two media is a moment of truth and revelation from which new form is born...The moment of the meeting of media is a moment of freedom and release from the ordinary trance and numbness imposed by them on our senses." (55)

Naturally, McLuhan was more interested in liberating the public from the constraints of traditional media than in protecting the business interests of those companies. Nevertheless, as with much of McLuhan's work, it is his concepts and sense of expression that are more useful than his conclusions. We will later define the hybrid audience as those online users who already have a relationship to the traditional media form. This makes sense intuitively; with the vast sweep of information available on the Web, and commercial sites doubling every six months ("Number of commercial...", 1997), it is unlikely a user will visit a television station site without some prior relationship with that station. Therefore they constitute a "hybrid" audience, those who get their information from a media source

through several different channels - for our use, a television station broadcast and that station's Web site.

It will be argued this is the audience television stations must reach if they are to pursue a successful hybrid strategy. While recognizing the unique nature of the World Wide Web as a computer driven, interactive medium, the stations must know more about what drives the hybrid audience to their sites and may keep them returning. As such, this study will reach back to a research approach that allows close focus on the audience's relationship with content.

THE USES AND GRATIFICATIONS APPROACH

Early Descriptive Research

The first scientific efforts to study mass media were based in the "effects" tradition, essentially asking "what do media do to people?" The historical currents sweeping the nation prior to World War II obviously fed the notion that powerful mass media could be used for powerful means by powerful, even evil people. Yet at the same time, media industries and research foundations were increasingly interested in how people used media for certain purposes, or "what do people do with media?" Among the first to try and answer that question were sociologist Paul Lazarsfeld and future CBS President Frank Stanton. Their numerous radio research studies did more than simple market research for broadcast networks. By studying media use from the audience viewpoint, they helped inaugurate an approach that would later be termed "uses and gratifications," and their findings gave insight to more than one medium for analysis. It is interesting for this project which will examine new media with a "hybrid" audience, that one of the early Lazarsfeld studies (1940) sought to understand use by examining an established medium which was being challenged by a new one. His introduction explains:

"It has seemed advisable to confront an old, established medium, print, with a newly developed instrument, radio, partly because such a comparison is a well tested

research device and seemed likely to reveal some of the changes occurring in modern communication...By generalizing this example, one will see how important it is to study what new social and psychological factors have to be reckoned with, since radio has broken the monopoly that print once held on the communication of ideas.” (xii-xiii)

In another section of the book, Lazarsfeld explains gratifications studies with an elegance that defined the field:

“People can be asked directly what a program means to them (that is, why they listen) and their replies taken as a starting point for further research...From this first level of mere description of experience we may go to the second level, that of conceptualization. If one talks with a person just after that person has listened to a psychological program, for example, one will be able to tell whether the respondent listened mainly in order to obtain guidance for a concrete problem or mainly for consolation in a mood of dissatisfaction.” (p. 61-62)

These early writings are as important for their conceptual foundation as they are for their empirical findings. The quotes state the essence of uses and gratifications - asking the audience why they use media, and generalizing those answers to a set of useful, psychological constructs. Other scholars in the radio research studies would add insight using the same approach. Cantril's (1942) study of a radio quiz program found a multifaceted set of appeals from the program for listeners, each with their own gratifications. Herzog (1944) found daily radio serial listeners tuned in for emotional release, wishful thinking, and, surprisingly, advice on appropriate patterns of behavior. Berelson (1949) studied frustrated newspaper readers during a New York strike and found the medium shared both rational uses, such as providing news and information, and non-rational uses, such as providing social contacts and prestige. Waples, Berelson and Bradshaw (1940), compared reading content choices with types of readers based on “large clusters of attitudes” or motivations in addition to traditional demographic groupings (61). Each of

these studies contributed to the general notion that audience behavior was motivated, and that motivations had a bearing on choice. By default or design, the studies suggested strategies for program creation that were instructive for producers.

Operational Sophistication

Blumler and Katz (1974) called the uses studies of the 1950's and early 60's a transitional, second, phase in which operationalization of social and psychological variables contributing to media use were the primary achievement. In keeping with the cognitive study developments of the period, many of these scholars were more interested in the social psychological factors involved with media than they were in any understanding of mass media itself. Friedson (1953) found that the social situation, whether one was alone, with peers or with their family, was an important factor in choosing whether to read comics, go to the movies or watch television. Riley and Riley (1951) contended that such concepts as group membership, reference group and strain could say much about the selection of media and programs, the interpretation of media messages, and the nature of media influence. Operational refinement also began in this period to address a primary weakness of the early radio studies, moving from an audience defined listing of gratifications to more generalizable typologies. Schramm (1949) suggested distinctions between immediate and deferred gratifications, and between informational and entertainment materials. More influential was Lasswell's (1948) four-function typology for media use. First, audiences use the media for surveillance, knowing what's going on in the world through news and information. Second, correlation, to compare their behavior and lifestyle with that of others. Third is socialization, interacting in some way with others to provide meaning for facts. Finally came entertainment, often thought of as escaping from the realities of daily life.

It is clear by the very nature of this review, that uses and gratifications research was in its adolescence during this period, lacking any real direction or cohesion. In short, the

research milieu of the period introduced social psychological perspectives into gratification constructs, moved the field towards better, quantitatively measurable, typologies and brought paradigms from other fields, including functionalism, into use studies in an effort to begin a more theoretic, rigorous approach. The contribution of the period was the promise that these tendencies being operationalized from different directions could ultimately be quantified and connected back to the intent of the early studies - explaining content choice and use, but now in a more methodologically sound manner.

Explaining the Process

In the 1970's, uses and gratifications researchers tentatively proclaimed "an entry into maturity" for the field in a book length collection of essays and empirical studies (Blumler and Katz, 1974). Central to their assessment were efforts to use gratifications data, armed with typological and methodological refinement, to provide explanations of other facets of the communication process. A central contribution to this third wave of interest was the study of television's role in British politics (Blumler and McQuail, 1969). Far from refining typologies or connecting content to motive, this study had the bold aim of determining "how (if at all) the persuasiveness of a political message depends on an individual's motivation for receiving it." (p. 13). This connection between typology and effect placed the study in a broader context and pointed uses and gratifications in the direction of theory, with its attending requirements for explanation and prediction.

Conceptual refinement continued as researchers brought the varied strands of uses and gratifications into a more unified paradigm. Central to their thinking were these assumptions:

1. The audience is conceived of as active - an important part of mass media use is assumed to be goal directed.
2. In the mass communication process much initiative in linking need gratification and media choice lies with the audience member.

3. The media compete with other sources of need satisfaction.
4. Methodologically, many of the goals of mass media use can be derived from data supplied by individual audience members themselves.
5. Value judgments about the cultural significance of mass communication should be suspended while audience orientations are explored on their own terms.

(Katz, Blumler, Gurevitch, 1974, p. 21-22)

Armed with better concepts, unified assumptions, and efforts to construct explanatory models (Rosengren, 1974), empirical studies in this third phase brought the traditional emphasis between gratification and content to a higher level of abstraction. Katz, Gurevitch and Haas (1973) used factor analysis to group categories of individual needs and compare them to specific media types. They found different media do indeed serve different identified needs or gratifications better than other media. "Knowing oneself" was a need found to be best served by books while "enjoying oneself" was more associated with films, television and books. The newspaper contributes to "self-regulation" and "self-confidence." But in all cases, non-media sources combined were deemed to be more gratifying than mass media. Friends, holidays, lectures and work were often said to be more important sources of gratification. Factor analysis would continue to remain a preferred research method and using needs to predict content with such analytic richness set new standards for theoretical direction.

Peled and Katz (1974) used a moment of national crisis to observe how media use changed and intensified. By studying Israeli audiences during the 1973 war, the authors found an extremely active audience, "had explicit expectations of the media and an apparent ability to assess the subjective utility of different kinds of content for different kinds of expectations(66)." Radio was considered to be the most helpful source, the demand for television coverage was unrelenting and newspapers were used as an additional source of information and interpretation. Further, television use in the period involved more than

news content, and went to other utilities such as relief from tension and a feeling of social connectedness. Most interestingly, the authors found the research useful for broadcasters since they have a range of programming available to fit different needs. The researcher can provide information that will help these content providers fit supply to demand, or anticipate the kind of supply that is lacking.

Another rich addition to the explanation phase was Greenberg's (1974) study of television viewing by British children. The identified gratifications reinforced standardized typologies of gratifications as well as the methods used to assess them. Six factors (Habit, Arousal, Companionship, Relaxation, Forget and Learning) were found to account for variations in television viewing, supporting earlier groupings and their generalizability across cultures. Greenberg also suggested a direction that would become important to theory building - the balance between gratifications sought and gratifications obtained:

"...one cannot distinguish whether the response obtained from the viewer of the medium, or a fan of some specific content, is an accurate statement of what he wanted, or what he thinks he got. People go to the media to satisfy certain needs or they go to specific content within the media for those needs...Yet that same interaction occurs on the right hand side of the paradigm. People come away from the medium or the program with something. No approach has so far dealt with the parallelism or discrepancy between what was sought and what was obtained."

(Greenberg, 1974, 89)

The third phase in uses and gratifications research is important because it brought conceptual and methodological refinement to the descriptive findings. The field exhausted the usefulness of mere "charting and profiling activities," (Katz, Blumler and Gurevitch, 1974, 25) and moved researchers towards formal theory building. As the assumptions became more canonical, the typologies more consistent, and the methods more uniform, the uses and gratifications approach had the requisite tools to develop predictions of how

gratifications correlate with media use and content choice. Uses and gratifications had moved beyond its applied roots and towards more rigorous definitions in the traditions of both communication and broader social and psychological paradigms. The world of communication theory, still examining mass media effects on a broad, passive audience, would now contend with a new perspective.

Outlines of the Fourth Phase

Scholars examining the uses and gratifications field were in agreement that, in the 1970's, this simple approach to research made a turn towards formal theory building. Labeling of this development ranges from an extension of the third wave (Blumler and Katz, 1974) to a true fourth phase concerned with distinctly new directions (Palmgreen, 1984). In any case, the turn towards theory was a direct response implicitly and explicitly to the most pressing criticism of uses and gratifications, that for all its methodological and conceptual refinement, it was basically a very atheoretic approach (Elliott, 1974). Blumler (1979) answered there indeed was:

“ no such thing as a or the uses and gratifications theory, although there are plenty of theories about uses and gratifications phenomena, which may well differ with each other over many issues...Rival theories may generate conflicting predictions about how those phenomena are empirically associated, but we should not be dismayed by or critical of their profusion and variety (11-12).”

To the extent a variety of approaches signals strength through diversity, the uses and gratifications approaches of the fourth phase indeed did represent a positive advance. Despite evolving from different perspectives, most of the theories and models of the period shared complex modeling efforts which attempt to place media use in a broader social process.

Expectancy-Value

Expectancy is a concept that reoccurs in the literature, centrally tied to the idea of an

active audience. If audiences are able to choose between media and other sources of gratification, they must have some perceptions of the alternatives most likely to meet those needs. The various models take different approaches, but all view behavior, behavioral intentions, and attitudes as a function of expectancy - the perceived probability that an object possesses a particular attribute or that a behavior will have a particular consequence and evaluation - the degree of affect, positive or negative, toward an attribute or behavioral outcome (Palmgreen, 1984).

Studies apply these labels to various aspects of media use. Galloway and Meek (1981) looked at the expectancy-value equations involved with television viewing. They found media and media content are more likely to be attended to if the gratifications gained from interaction with the media are both highly expected and highly valued. In other words, one may have certain high expectations of the kind of gratifications to be obtained from watching a sitcom - relaxation, entertainment, escape - but if those gratifications are not also highly valued by the respondent then they are less likely to attend to the program. Also, in the process perspective, expected and valued gratifications which are not well fulfilled as a result of media interaction will lead to a decrease in the likelihood of subsequent exposure. The program that fails to satisfy those gratifications will less likely receive a second look.

Gratifications Sought and Obtained

Expectancy-Value is closely related to the more discrete theoretic approach looking at gratifications sought and gratifications obtained. Rayburn and Palmgreen (1984) explained the differences in these two approaches with a recursive, feedback model. For example, subjective positive beliefs about the use of television news to provide information will tend to lead to consumption of that medium. However, if that gratification obtained is at a lower level than what was expected, the resulting feedback will impact future expectations of the news medium.

The operational and empirical differences between gratifications sought and gratifications obtained was also a concern of Wenner (1982) in a study predicting dependency on network evening news programs and 60 Minutes. In this case, the discrepancy between the two types of gratifications had some explanatory value in program evaluation. High correlations between gratifications sought and gratifications obtained were found for network news. However, lower correlations were found between the two for 60 Minutes, suggesting the news magazine was providing viewers with a different kind of experience than what they expected of television news programs in general. In short, both gratifications sought and obtained approaches, and the extensions of that into expectancy value models, explain attendance and selection of media content as a dynamic process. By isolating key variables, prediction of content choice has more probabilistic, and thus more theoretic, testable implications.

Medium and Content Choice

Related to the process models are studies which extend the tradition of connecting content with gratifications in a more theoretical manner. This niche of uses and gratifications research is most relevant to the study at hand, and its guidelines will be developed further in Chapter 3. Katz, Blumler and Gurevitch (1974) called for more attention to content in their opening to a book length review of the field. In urging scholars to go beyond simple description, the authors sought explanation, "...the unique 'grammar' of different media...their specific technological and aesthetic attributes and the particular requirements of audience members that they are then capable or incapable of satisfying(25)."

As gratification measures became more standardized, researchers turned attention to how the gratifications related to media content. Katz, Gurevitch and Haas's (1973) study of gratifications and choice of medium recurs as a benchmark for studying this aspect. Lometti, Reeves and Bybee (1977) compared clusters of gratifications with medium or

content choice in an effort to bring more statistical weight to the thrust of previous studies. With cluster and factor analysis, they found no support for the idea that audiences differentiate choices based on channel attributes or content attributes alone. Rather, the relationship between gratifications and channel and content were intermixed. Bantz (1982) made similar conclusions about medium specific and program type specific uses of television, stating that respondents do not easily make the differentiations researchers expect of them. Nevertheless, the problem seems to be more operational and methodological than conceptual and both content and medium studies continue to dominate the field.

De Bock (1980) returned to Berelson's (1949) idea of studying gratifications frustrated during a media strike. His survey of a Dutch audience's reaction during both a television and newspaper strike looked at gratifications frustrated rather than obtained, but the typical gratifications sought were fairly predictive and tied to both content and medium. Two gratifications were clearly dominant for explaining frustration over not receiving the newspaper: need for information and ritualistic reading habits. For television, the results were less distinct with the need to kill time and habitual viewing accounting for lower amounts of variance. It suggested newspapers more strongly are tied to a specific gratification because of their targeted content, primarily news.

While much of the uses and gratifications research continued to focus on the dominant medium of television, some of the content-related studies isolated attention to one medium, seeking to explain usage motivations strictly within the context of one particular form. Payne, Severn, and Dozier (1988) focused on magazines, finding support for three main gratification groupings: surveillance, diversion, and interaction. The choice of magazine type was significantly predicted by one of the three, but demographic factors were not predictive. In examining radio, Towers (1987) found two main dimensions of information - based on surveillance/interaction - and an entertainment factor - based on diversion. Radio

use was fairly ritualized, but users sought different gratifications from the medium at different times.

Television-Related Studies

As a more varied medium, television uses and gratifications were more difficult to explain. Thus, some of the richest strands of research in the uses and gratifications field extend Greenberg's (1974) work into the areas of content choice, medium attributes and audience activity. A series of studies by Rubin (1981, 1983) and Rubin and Rubin (1982) found distinct patterns of viewing. A summary of these analyses (Rubin, 1984, Rubin and Perse, 1987) found a clear difference between habitual or ritualized viewing and instrumental or intentional viewing. This built on earlier work by Hawkins and Pingree (1981) and Jeffres (1978) that found a variety of uses for television, where diversity existed in content. More specifically, Rubin (1981) found positive correlations between arousal needs and adventure and sports programming on television, while viewing to pass time was negatively correlated with news and talk programming and positively correlated with comedy programming.

A number of studies have focused on television news, since uses and gratification measures appear to be useful understanding goal directed media activities. McDonald (1990) found two factors to contribute greatly to variance in television news viewing - surveillance and communicatory "utility", which was defined as seeking information to use in social interaction. Also, those who seek hard news on television tended to seek similar content in newspapers. Gantz (1978) found those watching TV for information recall did indeed recall more than those seeking diversion. In this case, the effect could be somewhat predicted by the motivation, a proposition that was more theoretic in nature. And more recently, Vincent and Basil (1997) found college students' use of news media was accurately predicted by their surveillance needs. Students with high entertainment needs were more likely to use television than print as their source of news.

As research linking gratifications with medium and content choice progresses, the explanations are becoming more complex, and perhaps less useful because they fail the standard of theoretic simplicity. More variables are introduced such as emotional involvement as predictors of news viewing (Perse, 1990) and additive models must be considered, such as Wenner's transactional model (1985), or Donohew, Palmgreen and Rayburn's (1987) complex range of demographic, social and psychological factors interacting to produce different lifestyles and patterns of media use. The resulting model is interesting to consider, yet both limiting in its stereotypical classifications and too complex in its attempt to explain by throwing so many factors into the mix. Likewise, Lin (1993) attempted to model the process of television viewing, finding support for a process that shows actively engaged viewers participating more actively while viewing and reporting greater satisfaction with the whole experience. Each of these models adds to the knowledge base, but at the price of parsimony. The possibility of such complexity is the bane of any research strand as it moves towards theory building. Clearly, uses and gratifications scholars are making strides towards true theory building, but the social psychological nature of the field's origins necessitates complex, cognitively oriented models that can be problematic.

Critique and Response

As uses and gratifications matured into theory and model building, inevitable criticism came from the academy of scholars relating to the conceptual and methodological problems inherent in the field. The former criticisms are most aptly synthesized by Swanson (1977, 1979) and in response, Blumler (1979). As discussed earlier, Elliot (1974) was quite blatant in saying that uses and gratifications was crassly atheoretical. The previous section outlined numerous more recent efforts to deal with that problem; however, theoretic developments pre-date many of the critical essays. Blumler and McQuail (1969) specifically linked gratifications to effects in the British elections. McQuail and Gurevitch (1974)

suggest three directions for theory development that can be seen through uses and gratifications. McGuire (1974) outlines 16 general paradigms for future studies of human motivation in terms of mass communication gratifications. Rosengren and Windahl (1972) put forward a theoretical position that people's media requirements derive from deficiencies in their environmental and personality capacities to realize certain universal human needs.

Much of the true criticism of the lack of theory is that uses and gratifications lacks a grand organizing theory or conceptual framework (Swanson, 1977). Blumler (1979) asks, "...is the lack of this form of grand theory all that deplorable? (12)" Since the mission of uses and gratifications is to connect with audience's experience, will a grand theory, with a set of elite presuppositions about how things work, ignore the audience's own construction of reality as valid? The audience based approach thus rejects some of the grand traditions of social science in the 20th century, yet still tries to retain the rigorous standards attached to its methods.

Swanson (1977) further accuses the field of lacking precise definitions for major concepts in uses and gratifications. Ideas such as function, use, gratification, motive and need are operationalized differently in studies, and sometimes used synonymously in discussion sections. To a large extent, scholars have not dealt with this criticism. Rosengren (1985) conceded the state of the art in typological work was not very advanced, but suggested that more recent, model building, publications begin to lay out more precise definitions that should be adopted by others.

One central concept and assumption of the field that has been clarified is audience activity. Originally assumed as a given, Blumler (1979) urged treating activity as a variable. Swanson (1979) said that the approach failed to take its most basic tenet seriously, examining audience activity in terms of perceptual or interpretive processes. Levy and Windahl (1984) took this challenge to its most sophisticated level, developing a nine part typology of audience activity positing different levels that can be measured in the resulting

models. Such conceptual refinement of this central tenet should lead to richer conceptual developments across the field (Rosengren, 1985).

There are methodological criticisms of this approach that center on a larger conceptual problem of self-reported gratifications. This research field assumes the active audience member can in some way know their inner motivations and can also report them. Swanson (1977) suggested the example of a respondent who uses the media for parasocial interaction, but would not be expected to reply to an item, "obtaining parasocial interaction." The researcher would ask that question in a different way. But the items that address "use" as a psychological construct could not also address use as a structural construct - how the person uses media for certain functions, such as surveillance. The conceptual difficulty in the terms, methodological difficulty in the items and assumptions of self reporting are all problematic. Becker (1979) empirically demonstrated audiences cannot distinguish between a surveillance motivation, which exists as a general state, and a guidance seeking motivation linked to a specific situation. Messaris (1977) argued that the prevalence of stereotyped view of the role of the mass media can lead to stock answers in a gratifications study - that people say the newspaper informs them because they think that's what it ought to do. More rigorous typologies and factor analytic techniques deal with some of those problems (Babrow, 1988, Becker, 1979, Dobos and Dimmick, 1988.), but always run the risk of imposing researcher bias on the categories of gratification, which in essence violates the intention to study phenomena from the audience's perspective. Methodology is only a partial solution, however, because the assumption that the audience can in some way know and report inner motives will constantly plague any type of cognitive research.

Applications to New Media

One of the more fruitful directions of uses and gratifications research is applying the approach to new communication technologies, a perspective immediately relevant to this

project. The multiplicity of choices available for media communication, many of them actively oriented to the demands of the user, potentially gives uses and gratifications more salience as a research approach. Williams, Phillips and Lum (1985) suggest studying new technologies in terms of these factors: expanded choice, qualities of interactivity, personalness, specific and personalized gratifications, a refined concept of audience, and an expanded theoretical focus.

When applied to new technologies in the past, such as VCR's, the findings have often shown that what was new did not achieve any special priority in terms of its perceived utility to gratify young people's needs (Cohen, Levy, and Golden, 1988). Also, Perse and Ferguson (1993) found only limited support for the notion that VCR's, remote controls and cable television would increase the benefits that people derive from television viewing. They do suggest that because such devices have become commonplace, the impression the technologies make on the user is perhaps less dramatic. Users expect multiple channels, etc., so the effect of using them is nothing special. But Walker and Bellamy (1991) found some interesting "new" gratifications associated with the use of the remote control, including zapping away from unpleasant things, such as political ads and commercials. While such "grazing" may not change the satisfaction of the viewing experience, it may create some new satisfactions of its own. How these understandings would fare with a technology that is arguably really "new", as opposed to VCR's, Cable or remotes, which are extensions of television, is an open research question.

It is precisely for this reason that Morris and Ogan (1996) and Newhagen and Rafaeli (1996) propose "dusting off" uses and gratifications, in one case suggesting, "The Internet and its use are likely to be the venue for a rejuvenation of the uses and gratifications type of study...it offers a vehicle to lay out a taxonomy of just what goes on in cyberspace (Newhagen and Rafaeli, 1996, 11)." The usefulness of the approach is obvious when considering the World Wide Web as a self-directed, active medium where users clearly

interact at some level with content. Already, Kaye (1996) has applied television viewing motivations to Web use and found some differences in the gratifications associated with the Web. Still, there are many more questions to ask through this approach. Opportunities exist for uses and gratifications to perhaps see a fifth wave of activity, but a firm understanding of the past is necessary or research could return again to just more sophisticated "charting and profiling" which describes much but explains and predicts very little.

SOME CONCLUSIONS

This current study adds to the literature on historical patterns of technological change that impact mass media. The following conclusions emerge from the literature:

1. Technological change is inevitable in media history. New technologies often become part of existing media, or create new media modes. Media companies must understand the nature of the change, the economics that govern the marketplace, and adapt strategies to manage both.
2. Although the World Wide Web appears now as a competitor to traditional mass media, it was not conceived in that vein. The Web represents a synthesis of personal computing technology, information society-driven connectivity, interactive software designs, and communities of personal communication. Traditional understandings of passive content design may not be sufficient for media company Web sites.
3. Internet technology appears to be in an early period of adoption, approaching a rapid growth period. Success in this period may depend on more focused attention and understanding of the specialized audiences that are driving the Web's adoption.
4. The specialized audience for local television station Web sites may be local users who already have some relationship to the station. We define this a "hybrid" audience, because they seek information because of its source rather than its particular form.

5. More information is needed about this specialized audience. Uses and gratifications allows for studying audiences in terms of why they choose media and content, going beyond the simple “what?” of more descriptive surveys.

While a goal of this study is to advance an exploratory understanding of Web use from the audience viewpoint, recommendations for content providers will also be a major focus. The sweep of the literature - historic, economic, and technological - places change at the vortex around which companies, audiences, economies, and content interact. This study follows a maxim central to all basic communication - know your audience. In the information age, that knowledge has many layers.

CHAPTER 3

CONCEPTUALIZATION AND DESIGN

CONCEPTUALIZATION

Study Approach

This study seeks to explore the perceptions, preferences and characteristics of the World Wide Web audience, particularly those who visit television-related Web sites. This history of technological evolution and its impact on media companies shows that focusing on this audience is especially relevant at a time when the Web is emerging as a mass medium. Building on the uses and gratifications perspective, this is a study examining the gratifications associated with a particular audience, and on the relationships between those gratifications and measures of content and design. Katz, Gurevitch and Haas (1973) in many ways set a benchmark in the uses and gratifications literature with their study of Israeli media use. They showed audience members differentiating among five media based on perceived gratifications obtained. Lometti, Reeves and Bybee (1977) was another study that showed how multidimensional scales of gratifications related to different media. Others looked at choice within a single medium, an approach more directly relevant to this study (Palmgreen, Wenner and Rayburn, 1981, Rubin, 1979, 1981, 1983, Rubin and Rubin, 1982). In each case, scholars have looked at the relationships between gratifications and content. Calls for more attention to content have echoed from various reviews of the field for more than two decades (Blumler, 1979, Blumler, Gurevitch and Katz, 1985, Katz, Blumler and Gurevitch, 1974,, Swanson, 1987) and a new mass medium now presents a new window into media use.

The World Wide Web is one medium with variable content types. Systematic content analyses have shown public relations and advertising to be dominant forms of content

found on the Web, with news and data bank information also prevalent (Aikat, 1996). Web browsers allow many capabilities, from passive reading of texts, examinations of visuals, use of e-mail, newsgroup and chat features to limited forms of role playing and gaming, and limited forms of live audio and video. These more interactive features have not been found in abundance on television station Web sites (Bates and King, 1996, Bates et al., 1997) but the technology continues to make their implementation more practical.

Some useful questions for media content providers revolve around the issues of content and mission fit. If the Web is primarily driven by information seeking motivations, broadcasters have an opportunity to add value to their broadcast materials by providing their Web sites with more in depth coverage of news and other information products. But if the Web, as a different medium with different conventions, is more driven by interactive or Web-specific forms of content, then stations may have more difficulty creating sites that will ultimately prove viable. If entertainment motivations, for example, have more of an appeal on the Web, how does a television station structure content accordingly? Also, should a Web site replicate content from on-air, or provide added value in some kind of complementary relationship? Is the future of television Web sites in servicing existing loyal viewers to a station, or drawing Web-specific visitors? As has been shown, the research to this point indicates elements of both.

Key Descriptive Concepts

Although this study is exploratory, it is grounded in the literature of the various fields that have shaped the communication technology. These key descriptive concepts for measurement emerge from that literature:

Gratifications - The uses and gratifications perspective has evolved from examining gratifications in an open-ended manner to more systematic approaches. We define gratifications as reasons people use the Web, "...to satisfy their needs and to achieve their goals." (Katz, Blumler and Gurevitch, 1974). For this study, the conceptualization will

rely heavily on the common patterns of gratifications established beginning in the early 70's.

Web Design Preferences - Design preferences are defined as features of a Web page which potentially influence the quality of communication for the user. This conceptualization includes some aesthetic qualities such as color, photographs and graphics, as well as functional elements such as links, buttons, icons, animation, sound and video (Park and Hannafin, 1993, Waterworth, Chignell and Zhai, 1993).

Content Preferences - Web content has grown in a short time to include many different types of sites. While someone may sit down to watch "television" as an end in itself, or to simply "browse," this study defines content more broadly to incorporate both specific types of sites, and Web-related activities. The GVU studies ask respondents what activities they typically use their Web browser for and include such things as browsing, chat room, reading news, etc. (Pitkow and Kehoe, 1995, "GVU's Seventh...", 1997). This study borrows from those surveys and includes information specifically tied to use of television-related sites. This concept is defined as user-expressed frequency of use for various Web sites or activities. In other words, we ask users their general frequency of usage for particular types of Web content, but discuss those responses in terms of content preference. Actual usage of a site or participation in a certain type of online activity is arguably a better indicator of content preference as opposed to the "like/dislike" measures, which are more appropriate for design issues.

Demographics - This concept is defined in standard terms, as those characteristics of the Web audience relevant to the phenomenon of interest. These include variables such as age, gender, income and education levels.

Web use - This is defined as variables relating to the duration, frequency and parameters relating to the respondents' use of the Web. Total hours on the Web and frequency of access are included, along with Web experience of the respondent and

situations in which that use occurs.

Other Media Use - This is defined as time spent with any communication medium besides the Web. It is assumed that individuals online, and this "TV Web" audience in particular, likely access other media on a regular basis.

Research Questions

As an exploratory study this survey will try to form a baseline for future research and understanding of the Web, and more testable propositions. Uses and gratifications research in the past gives some clue to how gratifications and content will relate, and the further impact of demographic variables on such media behavior. But since the Web is new, it is conceptually difficult to predict either the validity of the traditional gratification items or how they will interact with other factors. In such an exploration, research questions are the best approach. Therefore, the descriptive research questions are:

R1 - What are the demographic characteristics of this audience?

Given a self-selected sample, it is anticipated these users will differ in some ways from the general public. Other Internet surveys have shown a predominance of men online, and a skewing towards more well-educated and financially able users ("GVU's Seventh...", 1997, "Nielsen Internet...", 1995). Where possible, the demographics of this audience are compared to the general U.S. Population and other surveys of Web use to determine how representative the sample is of the targeted population.

R2 - What are the Web use characteristics of the TV Web audience?

Web use and characteristics of that use - such as experience, location and technology, are measured to compare with the general Web audience based on available surveys.

R3 - How much time do TV Web users spend with other media?

Respondents are asked about their use of other media on an average weekly basis.

R4 - What are the gratifications associated with Web sites by the TV Web audience?

Although the Web is new, its gratifications are measured with a set of TV-related items dating from the early 70's (Greenberg, 1974). This is necessary for exploratory comparison and examinations of validity. These gratification factors form the basis for analysis through the rest of the study.

R5 - What page design features are preferred by these users?

The Web is not merely print or television on a computer. It is a communication medium with characteristics and features of its own. This study explores the preferences for design issues and potential relationships among those preferences.

R6 - What types of Web content are used most often by this audience?

In its short history, the Web has evolved in a number of directions. It is both passive, interactive, attractive and dismal, mass and interpersonal - all depending on the choices of the audience. This study explores systematic relationships among different types of Web content and will identify commonalities between the disparate types of sites now available.

These questions emerge from the five major areas of inquiry: Gratifications, Page Design, Web Content, Demographics and Media Use. From these descriptions, the following analytical research questions emerge:

R7 - How are demographic variables related to Web use gratifications?

Since audience gratifications are the core of the study, demographics are compared to gratification sets to find any predictive values or strong relationships. Greenberg (1974) and Rubin (1981) have found certain demographics predictive of gratifications in previous research applied to television.

R8 - How are Web use gratifications related to Web use characteristics?

Rubin (1979) also found exposure - time spent with the medium - was related to television gratifications. The frequency, duration and situations associated with Web use may bear some relationship to the gratifications associated with it.

R9 - How are Web use gratifications related to Web content?

In previous studies with television, gratifications showed some significant relationships with certain types of programming (Rubin, 1981, Rubin and Rubin, 1982). Often these patterns are intuitive - entertainment gratifications related to sitcoms, etc. or information gratifications related to news. Although the Web is not television, if similar patterns emerge it will say something about the Web in comparison to traditional media.

R10 - How are gratifications related to design preferences?

Web design includes elements that accentuate both form and function. Identifying how these features relate to gratifications can provide some clue to content providers hoping to build successful sites for the future - particularly for TV Web site users which are the focus of the study and targeted population. Katz, Blumler and Gurevitch (1974) called for attention to the "grammar" of different media, yet little available uses and gratifications research seems to identify such relationships.

R11 - How are design preferences related to Web content?

To further extend the exploration, design preferences will be compared to Web content to see what relationships exist. For example, does a Web user who likes attractive Web sites seek out news pages or something more entertainment oriented? These relationships add to the understanding.

R12 - How does Web use relate to usage of other media?

In an ecological model (McCombs, 1972, Dimmick and Rothenbuhler, 1984) time spent with one medium competitively displaces the other media. Some Web surveys to date ("GVU's Seventh...", 1997, "The 1997 American...", 1997) have asked users directly if they are spending less time with television because of the Web and found support for the displacement argument. This study measures that relationship in an indirect manner through questions about hours spent on media usage other than the Web. Given that some studies have found complementary relationships between media in some instances (Robinson, 1981, Reagan, 1989) this should be an interesting analysis within this sample.

R13 - How are Web gratifications, design preferences and content related to usage of other media?

If we accept the premise that Web users utilize the Internet among a mix of many media activities, it is interesting to consider how gratifications, design and content associated with one medium might relate to usage of other media. Does an entertainment-oriented Web user seek similar content in other media, or are there functional distinctions? Are aesthetics on Web sites at all related to usage of television, theaters, newspapers? These questions break new ground in some ways, because the Web's content is, arguably, so diverse.

Analytical Concepts

Although it is clear the Web is distinct from television in many ways, it is similar in the sense that its content is diverse - the user can find many different types of material through one medium. Therefore, uses and gratifications studies of television provide the best foundation - conceptually and methodologically - for studying audience perceptions of the Web. Television has the most substantive lineage in the most recent strand of uses and gratifications studies, and its methods are fairly well defined.

Rubin (1979, 1981, 1983, 1984) approached television use data in a series of studies and consistently found patterns that showed two main types of viewers - those who watch television out of habit or to pass time and those who used the medium to seek information or to learn. For the habitual or entertainment-oriented viewer, the medium mattered more than the particular content. For the information seeker, the content mattered more in order to satisfy certain utilitarian needs. These information type gratifications are much more closely tied to particular programs and the result is overall higher viewing levels. Rubin concluded, "...television use motivations can effectively explain or predict viewing pattern consequences." (1983, 48). While adequate theory may not yet be established to firmly test causal relationships, this exploratory study will lay a groundwork for establishing those relationships.

Thus two additional concepts to be explored here are uses of the Web for **instrumental** activities or for **ritualized** purposes. The terms are chosen specifically because they have intuitive appeal for those producing material for television, and they borrow heavily from Rubin's synthesis (1984) of patterns of television viewing. We define instrumental use as sets of gratifications related to information-seeking use of the medium to learn or gain knowledge. Ritualized use will include use of the Web for entertainment, passing time, habitual, or companionship reasons. The available TV based typologies (Greenberg, 1974, Rubin, 1983) allow for nine categories of gratifications: relaxation, companionship, habit, pass time, entertainment, social interaction, information, arousal and escape. However all nine have not typically been found to be significant.

The support for instrumental use comes from many traditions of media understanding extending back to Lasswell's typology (1948). The Web, as an information medium, may serve the surveillance function quite well. While Lasswell's "escapist" label may be too limiting for ritualized use, as defined here, it does place the Web in the context of a long line of media use concepts. Other studies have found both instrumental and ritualized uses and gratifications satisfied in media (Hawkins and Pingree, 1981) Relating these concepts to content type and design characteristics will be the key goal of this exploratory study.

RESEARCH DESIGN

Survey Instrument

The four-section questionnaire (Appendix 1) followed established measures and question types found in the uses and gratifications literature. The first section dealt with media use, incorporating all media usage and preferences including the Web. The Web content questions in this section asked "When you go online, how often do you use the Web for these activities?" What followed were content forms typically found on the Web such as "Government sites" and "Browsing Around" and those of interest to media-related content providers such as "Visiting local TV station sites", and "Checking news headlines."

Respondents marked their level of agreement from 1 (never) to 9 (always). The scale and many of the content items in this section were based on the Gvu studies of Web users, which have been cited frequently ("Gvu's Seventh...", 1997). This created a form likely familiar to many experienced Web users and one that is user friendly for the Web technology. Another set of questions asked respondents for average hours a week spent on media activities such as "Watching local TV news" and "Reading magazines."

The second major section asked respondents about their preference for Web design features. The question asked, "When you go online, how do you like the following features on Web pages?" Responses ranged from 1 - dislike to 9 - like. The 1 to 9 scale was again based on Gvu, however the choice of items was an original construction of design features based in part on the previous experience of the researcher (Bates and King, 1996) and observation of the particulars of Web design.

The heart of the study was the third major section containing the gratification items. The items for the most part stayed consistent with the literature (Greenberg, 1974, Rubin, 1983, Dobos and Dimmick, 1988) but some adaptation was necessary to conform to the new medium. In the final analysis, Kaye's (1996) adapted items proved useful. Open ended items were also sought, allowing that respondents may use the Web in different ways, but there was no discernible pattern obtained from these responses. Respondents tended to answer regarding their Web use in very specific terms relating to content, rather than the more abstract social-psychological motivations found in the standard uses and gratifications measurement. This was an early indicator in the research process that many of these users think of the Web in very specific, task related terms.

The fourth major section was demographic and Web use related, seeking information on gender, state, education, income, Web experience, connection technology and location when accessing media-related sites. This last item was an adaptation and digression from typical Web surveys that simply ask users where they typically access the Internet. Work

related access usually receives the highest percentage in such studies although use at home has shown up strongly in more recent reports ("Tech Study Shows...", 1997). Work related use may not be of most interest to traditional media content providers, who are used to providing media products that are typically part of the home experience. The phrasing of the question specifically asked users where they are when accessing media sites.

Web Survey Methods

This survey about the World Wide Web was conducted on the Web itself. Respondents linked to an interactive form of the survey instrument located on a computer server at Dalhousie University in Nova Scotia. The survey was created using World Wide Web Survey Assistant, an interactive software tool available on the Web through Dalhousie University, created and maintained by a Ph.D. Candidate in the Psychology department (Schmidt, 1997b). Although this online survey method is new and has its limitations, it has been used to gather valuable information - most notably in the Gvu studies. In social research, online surveying has three clear advantages: access to a large population of individuals, saving time and money, and the potential to increase respondent motivation through interactive or dynamic methods (Schmidt, 1997a). Additionally, Web surveying can reduce the impact of anonymity problems or interviewer "demand characteristics" often found in face to face or telephone methodologies (Hewson, Laurent and Vogel, 1996). As more scholars pursue systematic efforts at Web surveying, new sets of problems emerge and new software solutions mediate those issues. (Smith, 1997) The work is ongoing, yet few of these problems seem insurmountable considering the large response rates possible.

The most obvious problems with this methodology is its non-random method of population sampling. The World Wide Web is a population that continues to prove difficult to measure given its rapid growth and fluidity. The differential findings of surveys noted in Chapters 1 and 2 are evidence that market researchers have not yet found a definitive way of measuring the audience of Web users. With a population difficult to define, sampling

from that population remains problematic. Without a random sample, generalizability is always questionable. Further, this study surveyed those users who chose to link to the form and take the time to answer the questions. Thus, there is a potential self-selection bias. These problems can be acknowledged, but not resolved.

The Gvu researchers are among the most prominent users of online surveying and have been at the forefront of explaining, defending and operationalizing the methodology in ways that are valid and reliable. Kehoe and Pitkow (1996) readily concede the self-selection and sampling issues, yet point out all surveys - telephone, mail, face to face - are self-selected to some extent. The larger issue is sampling. Gvu researchers rely on two strategies to minimize such issues. One is broad advertising of the survey in a variety of well-known Web sites. The other is over-sampling. While large sample sizes do not necessarily increase the degree of accuracy with random surveys, a large sample size increases credibility for self-selected, non-random approaches. This TV Web survey was posted online for an extended period of time to try and gather a large sample size, and with over 2500 responses that goal was realized.

In terms of self-selection issues, scholars pursuing the online methodology note that its validity is strongest for research domains that target specific populations (Hewson, Laurent and Vogel, 1996, Schmidt, 1997a) as this one does by gaining information from a television Web related audience. As a uses and gratifications study, a key subject of interest here is the relationship between variables - gratifications, design, and content - more than a generalizable conclusion about the population of Web users. Further, we have defined our field of interest to be those users who are most motivated to use the technology, or early adopters, as the best guide for broadcasters in designing content. These are the users who are already visiting television related sites, and that is the general population of interest.

As will be outlined in the remainder of this chapter, steps were taken to assure this sample was representative of the targeted population - TV web site users. Demographics of

the sample are compared in Chapter 4 to the more general Internet population to determine if this is an representative sub-sample of Web users. In terms of television sites, the main gateway to the survey was television station Web sites. As will be demonstrated, this is how the vast majority of participants found the study, and most could identify by call letters, channel number, or site domain name the site that lead them to the survey. While it is arguable whether these indicators constitute regular, consistent use of that station's site, we contend the local station's site is less likely to be found in casual, exploratory browsing than the more nationally recognizable sites. No sample is perfect, but this one appears to have sampled its target based on the available indicators.

With such understandings, the self-selection of the study respondents and the non-random nature of the sample is somewhat mitigated. We contend that the Web survey method is worth pursuing for its specific value in surveying targeted Web audiences and the other advantages relative to this phenomenon.

Survey Setup

The survey instrument was constructed with the "WWW Survey Assistant" software in early June, 1997. The instrument and online methodology were pre-tested throughout the month by graduate students, colleagues and friends for its user friendliness, clarity of question wording and the workability of the online form. Minor changes were made in question order and some wording to adjust to the specific demands of the Web technology and data files. WWW Survey Assistant collects data automatically once users complete and submit the survey and the open response questions caused some spacing problems in the data set. Minor adjustments generally solved the problem.

During pre-testing, final approval for the survey was granted from The Office of Research, Compliances Section at the University of Tennessee, Knoxville. The office required limiting participation to adults, age 18 and over, and required a method to determine consent. A standard introduction page was created, explaining the survey and

noting respondents could withdraw at any time (Appendix 2). This was the first page any survey respondent saw if they linked to survey from a television station site or a search engine. The page concluded with a "Continue" button that had to be clicked to continue to the main survey form. Choosing to continue implied informed consent. This introduction page also resided on a University of Tennessee server, to acknowledge the authenticity of the University's involvement through an educational (.edu) Internet domain URL (uniform resource locator).

Survey Publicity

It was clear that among the millions of Web pages available, potential respondents would not find this survey without adequate publicity. The key link guaranteeing response from users was the cooperation of television station "Webmasters" - those people responsible for creating Web content. Using the TV-related Web site "Ultimate TV", each local television station listed with a Web page was sent an electronic mail message about the survey and invited to participate. This initial mailing was sent to just over 400 stations, and 65 indicated a preliminary interest. When final approval was received in late June to proceed with the study, these 65 stations were again contacted and given instructions on the survey link to post on their pages and guidelines about ways to promote the survey. A fact sheet for the interested stations was posted on the Web, informing them of the parameters for the survey and the agreement between the researchers and stations regarding use of the data (Appendix 3). Subsequent mailings were sent to the initial 65 stations around mid-July and early August to gain additional participation. Two press releases were also issued in "Shoptalk," a daily electronic newsletter distributed to television news professionals by Don Fitzpatrick Associates, a consultancy firm. The survey was also promoted in the July edition of "TheAntenna," a monthly online magazine specifically for TV station Webmasters. Ultimately, 28 U.S. Television stations participated representing a wide diversity of market sizes and regions of the country (Table 3-1).

Table 3-1
Television Stations Participating in TV Web Survey

State	Station	Market	Affiliation
Arizona	KTVK	Phoenix	Independent
California	KCET	Los Angeles	PBS
California	KSBW	Monterey	NBC
Florida	WUFT	Gainesville	PBS
Georgia	WMAZ	Macon	CBS
Georgia	WTOC	Savannah	CBS
Illinois	WMBD	Peoria	CBS
Iowa	KTIV	Sioux City	NBC
Kentucky	WLEX	Lexington	NBC
Maine	WLBZ	Bangor	NBC
Michigan	WXMI	Grand Rapids	FOX
Missouri	KYTV	Columbia	NBC
Nebraska	KHAS	Lincoln	NBC
New York	WIVB	Buffalo	CBS
New York	WABC	New York City	ABC
Ohio	WBNX	Cleveland	FOX
Ohio	WBNS	Columbus	CBS
Oklahoma	KOCO	Oklahoma City	ABC
Pennsylvania	WCAU	Philadelphia	NBC
South Carolina	WOLO	Columbia	ABC
South Carolina	WFXB	Myrtle Beach	FOX
Tennessee	WTVN	Chattanooga	ABC
Tennessee	WATE	Knoxville	ABC
Tennessee	WVLT	Knoxville	CBS
Tennessee	WKPT	Kingsport	ABC
Texas	KHOU	Houston	CBS
Texas	KETK	Tyler	NBC
Virginia	WDBJ	Roanoke	CBS
Canada	CityTV	National	n/a

The broader publicity also gained interest from "CityTV" which is the Web site for a variety of Canadian television networks including "Muchmusic," which is similar to MTV in the U.S. The response rate was aided by several large market stations that promoted the survey quite prominently on their home pages. These included WCAU, the NBC owned station in Philadelphia (Fig. 3-1) and WABC, the ABC owned station in New York City (Fig. 3-2).

Other participating stations chose various promotional methods for the survey. Some gave simple references on their home pages while others used banner ads and separate informational pages to give the survey added attention. Information about the survey was also submitted to a variety of Web search engines. These tools allowed the survey to be accessed for those who might "hit" through random word searches. A free service, "Submit It" was used to send information about the survey to the following sources: Altavista, Apollo, Comfind, Mallpark, Infoseek, Nerdworld, What's New, Starting Point, Web Direct, AAA Matilda, Linkstar, Yellow Pages Online, Bizwiz, Pronett, and Yahoo.

Survey Execution

Once approval was granted from The Office of Research at the university, the survey officially began on June 27, 1997. Most of the participating stations posted their links shortly before or after the July 4 holiday. Additional stations joined the effort throughout the month in response to the further promotion. Given a modest, yet steady response rate, the researchers decided to extend the survey through the month of August to gain a larger response. Throughout the process, communication was maintained with the station participants, and on occasion with survey participants who at times had technical problems. In most cases, these difficulties were easily resolved and the online software performed with relatively few problems.

World Wide Web Survey Assistant provided for instant elimination of duplicate submissions and provided security blocks for access from servers not authorized to

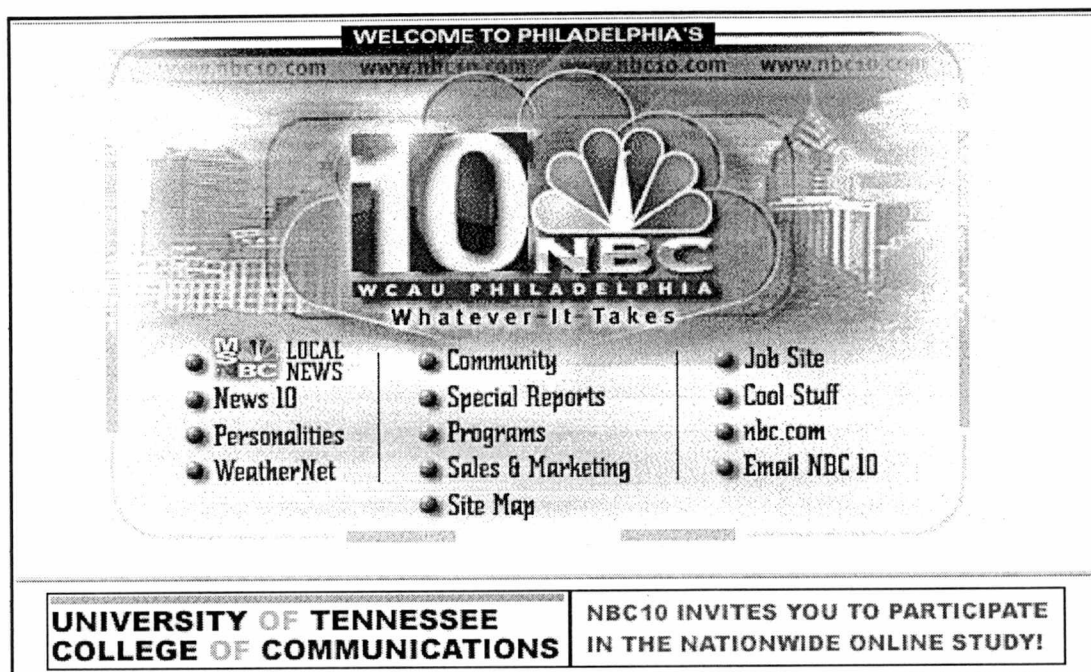


Figure 3-1
TV Web Survey Promotion
WCAU-TV Philadelphia

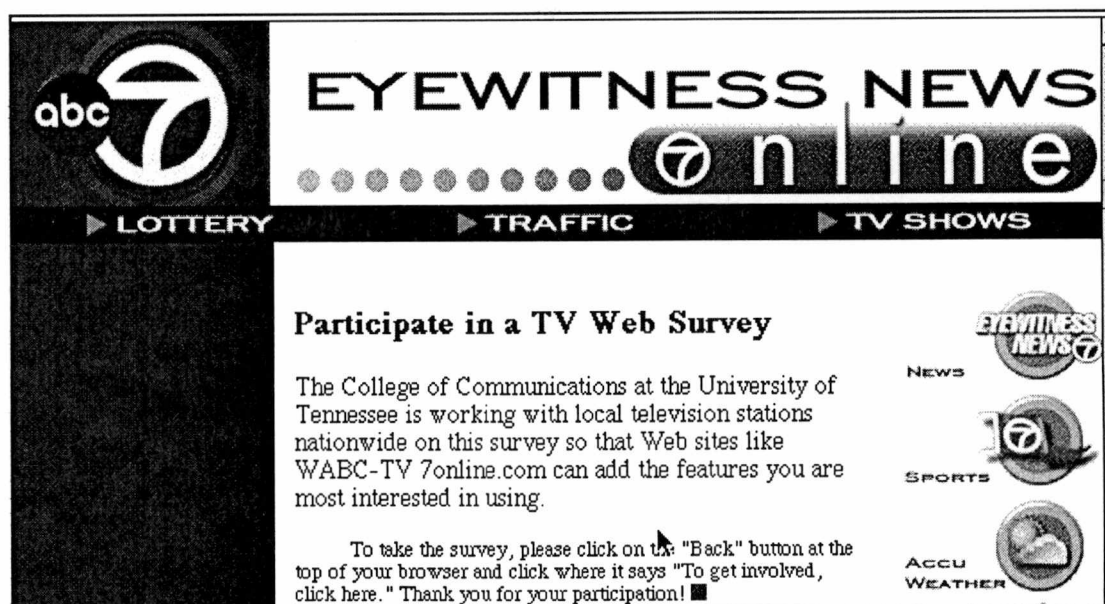


Figure 3-2
TV Web Survey Promotion
WABC-TV New York

participate. This provided a general reliability protection against multiple responders, although no system is foolproof. Given that the survey was fairly long (10-15 minutes to complete) and the content highly specialized, it seems unlikely many sought to overload the sample with their individual bias through multiple submissions, however these software protections minimized that potential.

The survey software also allows certain questions to be marked "required" meaning that if respondents do not answer, they would receive a message noting so asking them to answer the question and resubmit. After pretesting, this feature was dropped, considering that many respondents might quit on the survey after the initial effort was rejected. Therefore, no questions required answers, meaning that some would have missing values in the data set. On certain questions, such as hours online, the default (first) option was used on the pop-up menu forms if a question was not answered. This default was usually something like "1 hour or less," which would ultimately be coded "0." On other questions, such as the gratification items, a clear non-response option was added that simply said "Click here." This allowed these items to be labeled missing in the data set.

Data Handling and Sample

The participating stations were notified near the end of August to end promotion of the survey. The final data set was downloaded on September 1, 1997 and a cancellation notice was posted on the Web in place of the survey. The total number of responses was 3492.

Upon inspection of the data, it was apparent more than 800 responses came from Canadian viewers visiting the Web sites of CityTV. Most of them were viewers of the "MuchMusic" channel mentioned previously, and their participation constituted the largest single group of responses related to any one site. The background to this study is how the Web relates to the local, commercial television station. There are important differences between the audience for a local station and the audience for a national cable network oriented towards music videos. The local television stations build their viewing and online

audience around local news, information, weather and community service. The CityTV sites are far more oriented towards network entertainment content, much as U.S. network sites are. While the comparisons between these audiences may be interesting, they were deemed beyond the scope of this study as it was initially developed in the literature. A total of 858 responses were clearly identified as being from Canadian, CityTV Web users, and they were screened from the data set, leaving a final N of 2634.

Within the survey, one question asked respondents what kind of page linked them to the survey. This was an external validity check on the quality of the sample. Since the goal was to primarily reach those users of television Web sites, a high number of participants should indeed have found the questionnaire through a station page. Analysis of this variable showed this indeed to be the case (Table 3-2). Nearly 90% of those answering this question said a television station site was the referring page. Other pointers accounted for relatively small numbers of respondents.

Table 3-2
Referring Page
for TV Web Survey Respondents

Source	Frequency	%	Cumulative %
TV Station Site	2259	89.1	89.1
Search Engine	71	2.8	91.9
Mailing List	41	1.6	93.5
Other	164	6.5	100.0
Total Valid N	2535	100.0	

A further check on sample validity came from an open-ended question asking respondents to type the call letters of station page or otherwise identify the site that linked them to the survey. With an open-ended question, it was difficult to match every response to a participating station. Sometimes the respondent gave credit to market competitors (a practice replicated often in Nielsen diaries). Other times, station call letters were listed for

stations that had nothing to do with the survey (i.e. "KABC" was listed, probably because the user linked from the ABC News local stations section)

The variable was changed to station call letters (i.e. WABC) in every case where the reference was clear. Also, when respondents typed some identifier other than the call letters, some comparison with their state of reference was made and coding was based on corroborating the two answers (i.e. an "NBC10" response from "PA" was coded "WCAU" for WCAU in Philadelphia). This was also done in cases where the researcher knew the stations' other identifications such as "AzFamily" for "KTVK" or where respondents gave the "http" address for the site. Nevertheless, some data could not be identified with a participating station and simply was given to the "Other" category (Table 3-3). To some extent, larger markets were dominant in the sample - WABC, New York and WCAU, Philadelphia were in the top 5. But it is interesting to note the participation of smaller to medium size markets where promotion seemed to draw responses disproportionate to market size, such as WMBD, Peoria.

Another way to observe the diversity of the sample is through the item asking where respondents were from, by state. This item was also open-ended, so some respondents left it blank. Among those remaining, there are clearly some inconsistencies when compared with the data on station origin (Table 3-4). For example, Arizona accounted for 420 responses as measured by this item, but only 369 responses are reported from KTVK, Phoenix - the only participating station from Arizona. This discrepancy is somewhat explained by respondents leaving one of the two items blank and by the fact that some stations cover more than one state in their markets. However, it is clear from examination of the data that some participants linked from stations that were nowhere near their reported state or origin. In some cases, this is explained by national sites, such as ABCNews which points users to local affiliates. Nonetheless, how and why respondents find sites without some existing media relationship is interesting but beyond the scope of this study.

Table 3-3
Survey Response Totals from Participating Television Stations

Station	Market	Count	Percent
KTVK	Phoenix	369	14.0
WABC	New York	361	13.7
WTVB	Buffalo	252	9.6
WCAU	Philadelphia	210	8
WMBD	Peoria	123	4.7
KOCO	Oklahoma City	100	3.8
KYTV	Springfield, MO	94	3.6
KSBW	Monterey	89	3.4
WBNS	Columbus	74	2.8
WTVC	Chattanooga	47	1.8
WXMI	Grand Rapids	47	1.8
WLEX	Lexington	42	1.6
WDBJ	Roanoke	39	1.5
WTOC	Savannah	39	1.5
WKPT	Kingsport	37	1.4
WMAZ	Macon	36	1.4
WATE	Knoxville	35	1.3
KCET	Los Angeles	33	1.3
WVLT	Knoxville	23	0.9
WOLO	Columbia, SC	17	0.6
WLBZ	Bangor	11	0.4
KHOU	Houston	9	0.3
KETK	Tyler	7	0.3
WBNX	Cleveland	7	0.3
KHAS	Lincoln	6	0.2
WFXB	Myrtle Beach	4	0.2
WUFT	Gainesville	3	0.1
KTIV	Sioux City	0	0
Non-Participating Stations		62	2.3
Other Sites		115	4.4
Missing (none given)		343	13
Total Responses		2634	

Table 3-4
States or Countries of TV Web Survey Respondents

State	Frequency	State/Country	Frequency
Alaska	5	North Dakota	1
Alabama	7	Nebraska	3
Arizona	420	New Hampshire	6
California	145	New Jersey	170
Colorado	7	New Mexico	6
Connecticut	17	Nevada	4
Delaware	8	New York	431
Florida	35	Ohio	85
Georgia	86	Oklahoma	97
Iowa	2	Oregon	2
Idaho	1	Pennsylvania	155
Illinois	129	Rhode Island	5
Indiana	6	South Carolina	27
Kansas	7	South Dakota	1
Kentucky	53	Tennessee	117
Louisiana	5	Texas	38
Massachusetts	17	Virginia	60
Maryland	7	Vermont	2
Maine	14	Washington	9
Michigan	60	Wisconsin	1
Minnesota	6	West Virginia	2
Missouri	81	Canada	65
Mississippi	3	Guam	1
Montana	1	United Kingdom	1
Nebraska	2	Other	24
North Carolina	19		
Total Valid N *		2456	

* Represents only respondents who indicated a state

Data Analysis

The data were read into a spreadsheet program for minor editing and spacing adjustments, and then read as a file into SPSS for Windows. Several sets of variables were recoded to fix artifacts of the World Wide Web Survey Assistant software. Some continuous variables such as "Total hours on the Web per week" came out in the data set one numeral higher than the actual value, and had to be re-coded using subtraction. The uses and gratification items received values from 1 to 6, with 1 being the "click here" default option. All "1's" in this case were converted to missing values, and values 2-6 were converted to 1-5. Other open-ended items or free text responses had to be adjusted. For example, "State" was often typed in lower case. Where discernible, these labels were standardized in upper case. Some open text fields caused spacing problems as respondents entered too much information, made comments on the survey or even typed profanity. In a small number of cases (less than 30), some of these spacing problems caused data to be lost through the process of reading the large text file into the spreadsheet. These effects were minimized through careful case by case examination of all 3492 responses. No entire cases were lost as a result of these problems. Typically the only lost data were in a select few variables near the end of the survey that followed open-ended items.

The greatest number of missing values was found in the uses and gratification items, perhaps as a result of respondent fatigue or frustration with the redundancy of the questions. These 30 items were the third major section of the questionnaire, and it is apparent some respondents simply tried a few questions, got tired and proceeded to demographics. In most cases, valid N's for each variable type are reported in the Chapter 4 analysis.

The central analytical methods used are factor analysis, ANOVA, correlation and partial correlation. While factor analysis has become standard procedure in the uses and gratifications approach (Greenberg, 1974, Rubin, 1983), it is not without its critics. Dobos

and Dimmick (1988) noted the possibility of “over-factoring” some items as an artifact of popular statistical software packages. The analysis that follows is cautious and fairly conventional to avoid the risks of more exploratory techniques. Since the goal of factor analysis is to find fewer, more basic or underlying variables among a complex array of measures (Williams, 1992), the procedure is applied here to the gratification items, design preferences and Web content types in an effort to reduce the data into more manageable forms.

The factor solutions found to be significant contributors to variance are converted into summated indexes. These form the foundation for most other comparisons. The gratification items are correlated with page design items and with content types. Further procedures of data management, variable creation and analysis decisions will be discussed in Chapter 4.

CHAPTER 4

RESULTS

A PORTRAIT OF THE AUDIENCE

The final data set yielded a sample of 2634 responses representing adults mainly from the United States. Twenty-eight U.S. television station Web sites referred respondents to the survey, and a small percentage of participants found the survey through search engines and other means of publicity. As a self-selected survey targeted towards core users of TV-related Web sites, the sample is validated largely to the extent it reached this intended audience. To support this validity, key demographic results will be examined and compared with other published Internet use studies, some of which have been conducted using standard random-sample techniques.

R1 - Demographics

The first research question was, "What are the demographic characteristics of this audience?" Respondents were first asked about age. Since only adults were supposed to participate in the survey, respondents had the option of clicking on an age range from 18 to 96. The actual reported range was from 18 to 80, with a mean of 40.1 and a standard deviation of 13.09. A frequency distribution of these ages (Fig. 4-1) shows Web use in this sample is not simply the province of the young. While this age distribution is clearly skewed towards younger users, a fair sampling of middle-aged participants around the mean shows Web use among this sample reaches diverse age groups.

These numbers compare favorably with the findings of recent self-selected and random studies. The GVU studies conducted by Georgia Tech University have become the most widely known self-selected surveys on the Web, with response rates of nearly 20,000 in the most recently completed study from 1997 ("GVU's Seventh WWW...", 1997). This

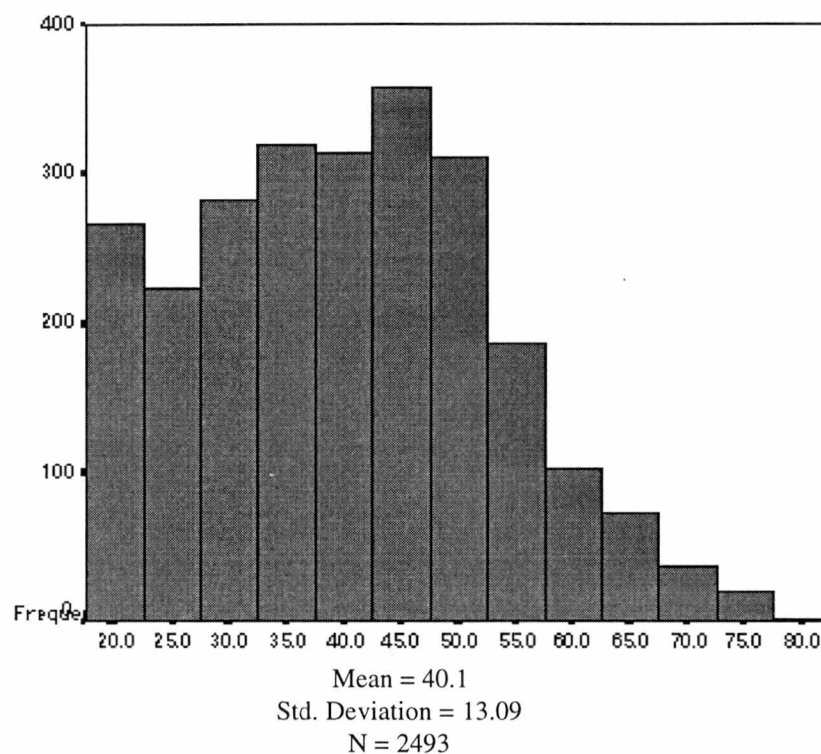


Figure 4-1
Distribution of TV Web Survey Respondents by Age

study, seventh in the series, reports a mean age for respondents of 35.2. Another recent survey, conducted by Find/SVP uses random-dialing telephone methodology and finds a mean age of 36.5 for Web users ("The 1997 American...", 1997). In both cases, these surveys did not screen out respondents under age 18, as was required by human subject review procedures in this TV Web study. Therefore, the ages represented in the TV Web data are reasonably close to averages shown in these other Internet studies accounting for this lack of users under 18 (Table 4-1).

The second demographic question in the sample asked about gender. Among the 2495 valid responses, just over 57% were male and nearly 43% were female. This represents more gender diversity than other Internet surveys. In earlier Web studies, males outnumbered females by ratios as high as 2 to 1. However both GVU and Find/SVP

Table 4-1
TV Web Survey Mean Age Comparison to Other Surveys

Web Survey	Mean Age
TV Web Survey	40.1
GVU # 7 (non-random)*	36.0
Find/SVP (random)**	36.5

* 1997 GVU 7th WWW User Study U.S. Sample - (<http://www.gvu.gatech.edu>)

** 1997 Find/SVP American Internet User Survey (<http://etrq.fidsvp.com>)

report recent increases in the number of female Web users. Comparable data is also available here from the random telephone survey conducted by CommerceNet and Nielsen Media Research ("Startling Increase...", 1997). In this case, the gender ratio is nearly identical to the TV Web survey, with 58% male and 42% female. (Table 4-2).

Table 4-2
TV Web Survey Respondents by Gender
Compared to Other Internet Surveys

Gender	Frequency	%	GVU #7*	Find/SVP**	CommerceNet/ Nielsen***
Male	1432	57.4	66.6	60.0	58.0
Female	1063	42.6	33.4	40.0	42.0
Total Valid N	2495	100.0	15676	1000	6600

* 1997 GVU 7th WWW User Study U.S. Data - (<http://www.gvu.gatech.edu>)

** 1997 Find/SVP American Internet User Survey (<http://etrq.fidsvp.com>)

*** 1997 CommerceNet/Nielsen Media Internet Demographics Survey (<http://www.commerce.net>)

The third demographic category examined the highest level of education completed. Respondents clicked on response options in an ordinal scale ranging from "Grammar school" to "Professional or Doctoral Degree." Nearly 50% of the respondents had not completed any college degree (Table 4-3). More than one-fourth, however, reported a bachelors degree. Comparisons could not be made for this variable with either the CommerceNet/Nielsen or Find/SVP studies. Since these are commercially produced, only limited information is available to the general public. The non-random, 7th GVU study

however did provide some comparisons. Some response categories were different in the Gvu sample, but in the highest response categories in the two samples compare favorably (Table 4-3). While nearly 30% in the TV Web survey report attending "Some College," just over 31% did so in the Gvu study ("Gvu's Seventh WWW...", 1997). Those completing a bachelor's degree were fairly close - 26% in the TV Web study to 32% in the Gvu survey. There was a similar drop-off in the higher educational categories of graduate level degrees.

Table 4-3
Educational Levels of TV Web Survey Respondents
Compared to Gvu 7th Survey

Highest Completed	Frequency	%	Cumulative %	Gvu #7 *
Grammar School	10	.4	.4	1.8
Middle School	23	.9	1.3	n/a
High School Graduate	385	15.3	16.6	7.7
Some College	749	29.7	46.3	31.4
Two-year Degree	320	12.7	58.9	n/a
Bachelors Degree	663	26.3	85.2	32.1
Masters Degree	265	10.5	95.7	15.5
Professional or Doctoral	108	4.1	100.0	6.5
Total Valid N	2523	100.0		14896

* 1997 Gvu 7th WWW User Study U.S. Data - (<http://www.gvu.gatech.edu>)

Internet users have characteristically been reluctant to reveal household income levels and that pattern held true in this study. Respondents were given clickable options that began with "Rather not say" and proceeded on an ordinal scale of groupings from "Less than \$10,000," to "More than \$160,000" per year. Just over 40% of the total, 1067 respondents, indicated they would rather not state their income. For the remaining 1565 valid responses, nearly 70% fall into the categories from \$20,000 to \$80,000 in annual income (Table 4-4). No other income grouping reached 10% of the valid responses. Comparison information for CommerceNet/Nielsen or the Find/SVP random studies was

not available. The results do compare favorably with the GVU 7th survey. Although the GVU study uses different income groupings, some categories are consistent. While 26.8% of TV Web survey respondents reported from \$20,000 to \$40,000 in annual income, 24.2% reported the same in the GVU study ("GVU's Seventh WWW...", 1997). More than 60% of the GVU respondents from the U.S. reported income from \$20,000 to \$75,000 per year, a distribution roughly comparable to the 70% in the same general categories in the TV Web survey.

Table 4-4
Annual Household Income
of TV Web Survey Respondents
Compared to GVU 7th Survey

Annual Income	Frequency	%	Cumulative %	GVU #7*	%
Less than \$10,000	48	3.1	3.1	Under \$10,000	4.7
\$10,000-\$20,000	80	5.1	8.2	\$10,000-\$19,999	6.8
\$20,000-\$40,000	420	26.8	35.0	\$20,000-\$39,999	24.2
\$40,000-\$60,000	417	26.6	61.6	\$40,000-\$49,999	13.9
\$60,000-\$80,000	277	17.7	79.3	\$50,000-\$74,999	24.9
\$80,000-\$100,000	146	9.3	88.6	\$75,000-\$99,999	12.7
\$100,000-\$120,000	74	4.7	93.3	Over \$100,000	12.7
\$120,000-\$140,000	37	2.4	95.7		
\$140,000-\$160,000	20	1.3	97.0		
More than \$160,000	46	2.9	100.0		
Total Valid N	1565	100.0		Valid N	13209

* 1997 GVU 7th WWW User Study U.S. Data - (<http://www.gvu.gatech.edu>)

R2 - Web Use Characteristics

While the Internet and other online media are not entirely recent phenomena, the rapid growth of the Web as the driving force behind online usage is reflected in respondents' experience online. Respondents were asked how long they have been online either through the Internet or the Web. Choices were ordinal, with pre-determined categories from "Less

than 6 months” to “7 years or more.” More than 80% report only being on the Internet 3 years or less (Table 4-5). Some interesting comparisons are also evident with the Gvu 7th Survey in this variable. While more of the TV Web survey respondents are new to the Web than in the Gvu study, the largest group of users in each survey reports being online 1 to 3 years and the numbers are very close - 45% and 44% - by comparison (“Gvu’s Seventh WWW...”, 1997). It is logical to assume the Gvu study in its 7th semi-annual effort would have a larger following among seasoned users, while this initial TV Web survey might attract more newcomers. Nevertheless, the 1 to 3 year user with modest experience represents the largest part of the audience evident in both samples and the favorable comparison between the two argues again for the validity of the TV Web sample.

Table 4-5
TV Web Survey Respondents’
Experience on the Internet or Web
Compared to Gvu 7th Survey

Time on Internet/Web	Frequency	%	Cum. %	Gvu #7*
Less than 6 months	484	19.1	19.1	11.5
6 to 12 months	555	21.9	41.1	12.9
1 to 3 years	1144	45.2	86.3	44.1
4 to 6 years	280	11.1	97.3	20.6
7 years or more	68	2.7	100.0	11.0
Total Valid N	2531	100.0		15676

* 1997 Gvu 7th WWW User Study U.S. Data - (<http://www.gvu.gatech.edu>)

Respondents were also asked to note what connection technologies they used to access the Web. Given that some people likely access the Web in multiple ways, respondents were allowed to check more than one option. The phrase “connection technologies” was used, rather than connection speeds because some new options such as cable modems and Web TV became widely available in 1997. The results indicate modems still to be the most frequently used method, with 28,800 and 32,000 bps or higher modems being used by

more than 60% of the respondents (Table 4-6). This compares favorably, again, with the Gvu 7th Survey, particularly in the consumer modem speed categories. 35.6 of the U.S. respondents in the Gvu study use 28,800 modems - nearly identical to the percentage reporting the same in the TV Web survey ("GVU's Seventh WWW...", 1997). Some of the categories in the Gvu study were different, but the table shows a clear consistency in the most common types of connection technologies and speeds.

Table 4-6
Access Technologies Used
by TV Web Survey Respondents
Compared to Connection Speeds in Gvu 7th Survey

Access Technology	Frequency	%	GVU #7 *	%
9600 bps modem	45	1.7	Below 14,400	.3
14,400 bps modem	369	14.0	14,400	10.8
28,800 bps modem	913	34.7	28,800	35.6
32,000 bps or higher modem	802	30.4	33,000	19.9
ISDN Line	89	3.4	56,000	2.8
High Speed Network Connection	344	13.1	128,000	3.6
T1 Line	179	6.8	1 mb	11.9
Cable Modem	29	1.1	4 mb	2.2
Web TV	53	2.0	10 mb	2.1
Don't Know	300	11.4	Over 45 mb	.9
Total Valid N	2634		Valid N	12884

* 1997 Gvu 7th WWW User Study U.S. Data - (<http://www.gvu.gatech.edu>)

The last question in the Web use section asked respondents where they were typically located when accessing media related sites. Most Web use surveys inquire more generally about place of access and in the past have found work or school related access more dominant. However, the most recent Gvu study shows a trend towards more home use exclusively ("Tech Study Shows...", 1997). Because this study is more focused on use of media related sites, the question was framed around those interests. In this sample, people

are more likely to access such content at home than at work or school. Nearly 40% reported accessing media sites from a living room or den, and another 28% did so from a home office (Table 4-7).

The finding also compares favorably again with the Gvu 7th study, which uses broader categories. The Gvu study shows over 60% of U.S. respondents listing "Home" as their primary place of Web access ("Gvu's Seventh WWW...", 1997). The living room, den and bedroom categories in the TV Web study represent nearly 52% of the respondents. When all home-related categories are totaled, including "Home office," it represents 80% of the total respondents. Considering the differences in question wording, this still shows a dominance of home-related Web use in both the TV Web and Gvu surveys.

Table 4-7
TV Web Survey Respondents'
Location When Accessing Media-Related Sites

Location	Frequency	%	Cum.	Gvu #7*	(Primary access)
On a computer at work	459	18.3	18.3	Home	61.5
In my home office	708	28.2	46.5	Work	31.8
In a school computer lab	40	1.6	48.1	Other	5.4
In a living room or den at home	981	39.1	87.2	Distributed	1.3
In my bedroom at home	321	12.8	100.0		
Total Valid N	2509	100.0		Valid N	15676

* 1997 Gvu 7th WWW User Study U.S. Data - (<http://www.gvu.gatech.edu>)

Another question in the survey asked "How many times each day do you access the World Wide Web?" The clickable response options ranged from "Less than 1 time each day" to "10 or more times each day." The default option for this question was the lowest response, "Less than 1 time each day," meaning even those skipping the question would record an answer at the low level. Therefore, the valid N spans the whole sample at 2634.

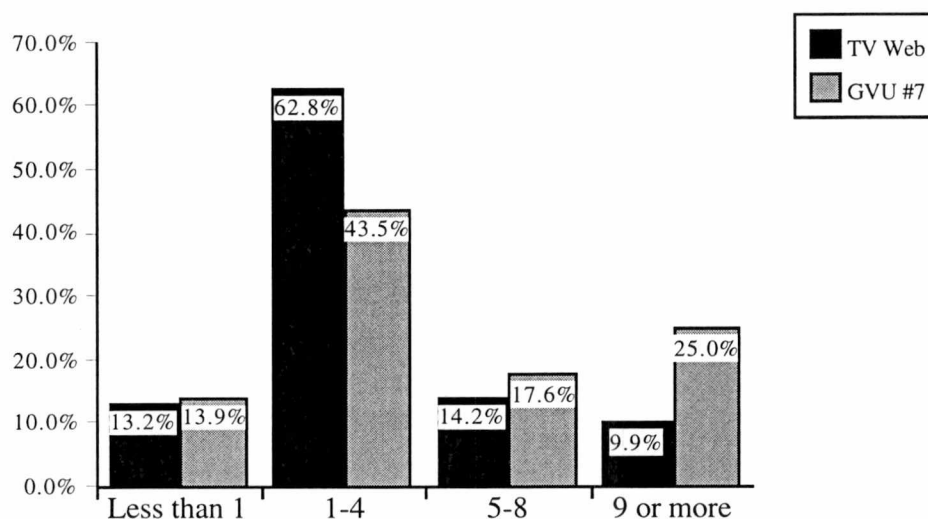
A simple majority of the respondents - 53% - report accessing the Web 1 to 3 times a day (Table 4-8), indicating these indeed are regular users of the online medium and an additional 22% were in the range of 4-9 times a day. Interestingly, nearly 10% say they access the Web 10 or more times per day. This is especially notable as this was the upper range of the possible responses and some may have recorded even more daily accesses given options above "10."

Table 4-8
TV Web Survey Respondents'
Number of Times Accessing the Web Daily

Number of Times	Frequency	%	Cumulative %
Less than 1 time	348	13.2	13.2
1 time per day	470	17.8	31.1
2 times per day	557	21.1	52.2
3 times per day	416	15.8	68.0
4 times per day	210	8.0	76.0
5 times per day	235	8.9	84.9
6 times per day	72	2.7	87.6
7 times per day	36	1.4	89.0
8 times per day	30	1.1	90.1
9 times per day	11	.4	90.5
10 or more times	249	9.5	100.0
Total Valid N	2634	100.0	

It is useful at this point to compare these findings with those of the GVU 7th Web User Study, primarily to see how these users who are linking from TV station Web sites compare in their online habits with more general Web users. The TV Web survey results were collapsed into ordinal categories used by the GVU study. GVU asks respondents how often they use their browsers for any activity, rather than how often the browser is launched. GVU also had response options such as "Few Times a week," "Once a month," etc. For convenience in comparison, these categories were added to the "Less than 1"

category, meaning less than once a day (Fig. 4-2). This comparison shows consistency in the number of respondents showing occasional usage, but there is a dramatic difference in the middle range of values. While over 60% of TV Web survey respondents access the Web 1-4 times per day, less than half of the Gvu respondents in the United States do so. It is clear the differences are most dramatic on the high end, with 25% of the Gvu respondents accessing the Web 9 or more times per day ("Gvu's Seventh WWW...", 1997).



* 1997 Gvu 7th WWW User Study U.S. Data - (<http://www.gvu.gatech.edu>)
 TV Web Valid N = 2634
 Gvu 7 Valid N = 12884

Figure 4-2
Comparison of TV Web Survey to Gvu #7*
Number of Times Web Accessed Daily

The regular use by respondents was also evident in results from the second question, which asked "How many hours, on average, do you spend using the World Wide Web each week?" The choices were a clickable range from "Less than 1 hour per week" to "More than 50 hours per week." The variable was coded continuously from 0 to 51, with each number representing hours per week up to 51, which was the upper range meaning more than 50 hours per week. The default response was 0 - "less than 1 hour per week,"

so all responses were counted for a total valid N of 2634. The mean was 10.5 with a range from 0 to 51 and a standard deviation of 9.91. The median value was 8. A significant subset of the respondents registered responses in the upper range of the variable (Fig. 4-3). Thus, it is apparent that the true mean would actually be higher if a higher upper range had been allowed. Nevertheless, the distribution shows clearly the people in this survey have made the Web part of their regular media mix. This is also clear when comparing the results with the Gvu 7th study. Again, categories were collapsed to match the Gvu response options (Fig. 4-4).

The differences between the total hours of use for TV Web survey respondents and the Gvu was again most pronounced at the extremes. The TV Web survey showed a greater

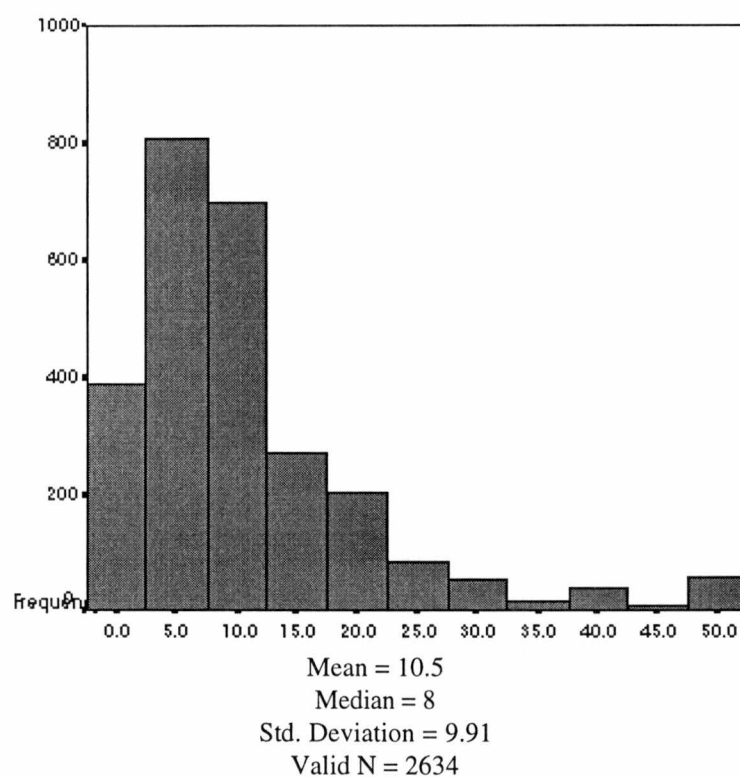
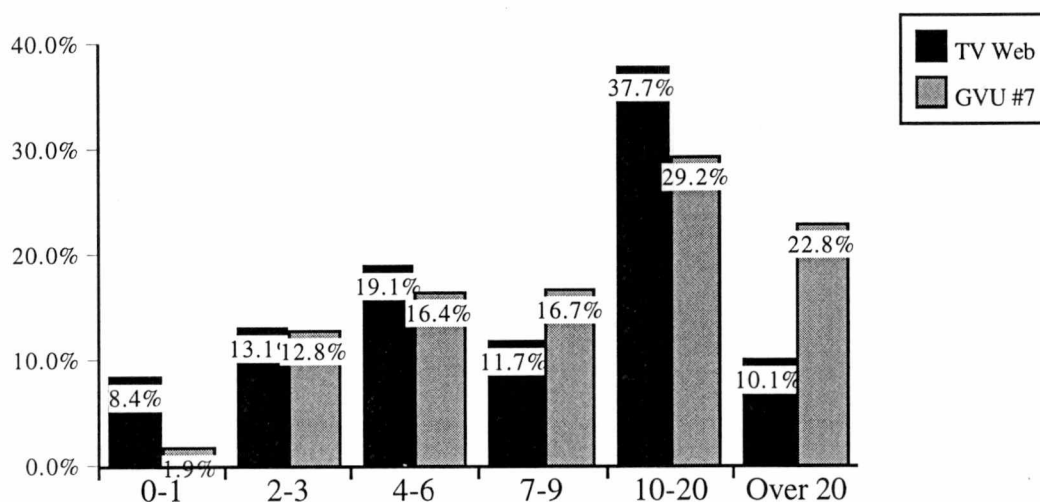


Figure 4-3
Distribution of TV Web Survey Respondents by
Total Hours on the Web Per Week



* 1997 Gvu 7th WWW User Study U.S. Data - (<http://www.gvu.gatech.edu>)
 TV Web Valid N = 2634
 Gvu 7 Valid N = 12884

Figure 4-4
Comparison of TV Web Survey to Gvu #7*
Total Hours on Web Per Week

percentage of people using the Web an hour or less per week and smaller percentage using it more than 20 hours per week than in the Gvu sample (“Gvu’s Seventh WWW...”, 1997). The TV Web users are clearly within the mainstream of the Web audience, as reflected by the Gvu study, yet they do not show the kind of heavy usage that might typify a hard core group of users. Nearly a fourth of the users in the Gvu sample use the Web more than 20 hours per week, perhaps to the exclusion of other media. Nevertheless, TV Web survey respondents are online frequently on a weekly basis as reflected in these last two variables.

R3 - Use of Other Media

The reason these respondents might not be using the Web as heavily more general Web users is somewhat reflected in the variables measuring the use of other media. Respondents were asked to estimate their average weekly usage of other media in a clickable range of responses from “Less than 1 hour per week” coded “0” to “20 or more hours per week”

coded "20." The response patterns are somewhat reflective of the nature of the individual media activities (Table 4-9), since certain forms, such as radio, are used quite often during travel, or for background, and others such as movies, are used rather infrequently.

Table 4-9
Hours Spent Per Week on Other Media
by TV Web Survey Respondents

Media Activity	Mean	Std. Deviation
Listening to the radio	6.8	6.7
Watching entertainment programs on broadcast networks	6.6	5.6
Watching local TV news	5.4	4.4
Watching entertainment programs on cable networks	4.4	4.9
Listening to CD's or cassettes	3.9	5.2
Reading books	3.7	4.7
Watching network TV news	3.5	3.7
Reading newspaper - on paper	2.9	3.0
Reading magazine - on paper	2.0	2.6
Watching rented or purchased movies or other videos	1.8	2.8
Playing video games	.9	2.6
Going to the movie theater	.6	1.5

Valid N = 2634

The best way to understand such numbers is in the context of other surveys of media usage. The investment banking firm, Veronis Suhler & Associates, annually publishes a forecast report for the communications industry which includes projections of consumer use by medium. Consultant Alan Gottesman (1996) computed these annual figures in a daily hours scale for Adweek (Table 4-10). Conversions have been made in the TV Web Survey figures, accounting for weekly usage divided by seven for a daily amount. Also, Gottesman's categories are used, which collapse total TV usage to include cable and VCR,

all print media into one, and Other which includes movies, recorded music and video games. The same conversions have been made in the TV Web figures.

Table 4-10
Comparison of TV Web Survey Other Media Usage
with 1995 Communications Industry Forecast
in Hours Per Day

Media	Communications Industry 1995 Forecast *	TV Web Survey
Television	4:19	3:06
Radio	2:59	:58
Print	:57	1:13
Other	1:04	:45
Total	8:57	6:05

*1995 Communications Industry Forecast - Veronis, Suhler and Associates
 Reported and Computed by Gottesman, A . , Adweek - 12/2/96

It is interesting to note that this sample falls below the national average in total television viewing, yet above in their use of print media. This corresponds somewhat with a recent Scarborough Research study showing online users were more likely to be heavier newspaper readers or radio listeners and light television viewers (Consoli, 1997). Another consulting survey by Crestwood Associates showed that people who use the Internet most heavily were not the biggest TV watchers. Those with at least a year of online experience watch about 11.5 hours of TV per week, compared with 14.5 hours for the general public (Crispell, 1997). These TV Web users are clearly above those averages, reporting nearly 20 hours per week of television viewing when all program categories are totaled. That is not totally surprising, given these Web users are linking from local television station sites and may watch more television than the average Web user. Nevertheless, the fact that this audience consumes print media at a level above the national average indicates the respondents are information consumers who read both on paper and online.

It is useful at this point to see how TV Web Survey respondents compare more

generally with television viewers. The Scarborough Study (Consoli, 1997), which found online users generally watching less television than the general public also found online users have a higher level of involvement with cable or pay TV and are wealthier and better educated than the general public. Demographic information on cable television viewers from the MediaMark Research firm ("Cable Table...", 1997) shows that the TV Web audience compares favorably with cable viewers in terms of age, but reports higher educational levels than cable subscribers or the general population (Table 4-11).

Table 4-11
Comparison of TV Web Survey Audience
to Cable Television Viewers

Audience	Median Age	1+ Years College	Male	Female
TV Web Survey	40.0	83.3%	57.4%	42.6%
Cable Subscribers*	42.6	51.6%	48.2%	51.8%
General Population*	42.1	48.0%	47.9%	52.1%

* Source: MediaMark Research, 1997
(<http://www.mediamark.com>)

In summary, these demographic and Web use variables present a picture of an audience that has some distinct characteristics of its own, yet is consistent enough with other studies of the Web audience that it appears to be a valid representation of the target audience. It is comparable with random studies in such areas as gender and age breakdown, and is fairly consistent with the Gvu study in other demographic areas such as income, education and Web use patterns. The Gvu study is the best comparison, in many cases, because its online methodology is so similar. It has received nearly 20,000 responses and it has a strong reputation among the Web community.

Thus we argue here for the validity of this sample. As previously stated, the self-selection methodology is useful precisely because this study seeks to know more about a particular audience, and not generalize to the entire Web community. As a subset of the

Web audience, however, this sample has drawn respondents having many of the same characteristics and experiences as is found across the Web.

These respondents do not use the Web as frequently or for as long a duration as some of the heaviest users of the Web as found in other studies. They are below the national average for overall television usage, yet somewhat above the levels of television viewing found in the general online user population, as reported in other studies. Also, they tend to use print media at levels above the national average, reflecting higher educational levels, and perhaps a greater attention to reading and information seeking.

As has been argued, the study has achieved one clear goal in gathering a sample, primarily linking from television station Web sites, that represents a subsection of the general online audience, that is consistent demographically yet shows marked differences in usage patterns and consumption of other media. These differences from the general public of media consumers, and from the population of Web users represent important characteristics for the remainder of this study.

WEB USE PREFERENCES

R4 - Uses and Gratifications

A primary focus of this study addresses the fourth research question, "What are the gratifications associated with Web site use by the TV Web audience?" The 30 items used in the survey closely resemble those used by Rubin (1981) with some language adaptation by Kaye (1996) to account for use of the Web, rather than television. These items date back, with some variation, to studies conducted by Greenberg (1974) on television viewing habits. Respondents were presented with the questions in a section asking them to click on a range of responses indicating level of agreement with the statements. The default response when a question was not answered, was "Click here," which was coded as missing. When presented with a statement, for example, "I use the World Wide Web...because it's exciting," the valid responses were "1(not at all like my reason)," "2

(not much like my reason),” “3 (somewhat like my reason),” “4 (a lot like my reason),” and “5 (exactly like my reason).”

Factor analysis was used to reduce the data into measurable gratification factors. This methodology is consistent with most of the uses and gratifications research of the last 20 years. The strategy here is to use the factor analysis as an exploratory tool - to discover relationships that may explain Web use by applying standard uses and gratification items. It is presumed that some items will stay consistent with previous studies, and some may differ given that the Web is a different media experience than television. Therefore factor analysis can help discover patterns that may be guides to future research, and possible refinement of the gratification items.

Missing values were found across these 30 items, indicating possible respondent fatigue. The number of missing values on any one item ranged from 158 to 317. Therefore, pairwise deletion of cases was used in the factor analysis, accounting for maximum variance on each variable. Valid N's are reported in each table to account for these missing values.

Univariate analysis of the gratification items, ranked by means shows respondents report using the Web most predominantly because they associate it with seeking out particular sites (Table 4-12). Enjoyment or entertainment related reasons are the next highest ranked reasons, while loneliness related items scored at the bottom of the agreement items.

The 30 items were factor analyzed using principal components extraction with varimax rotation and Kaiser normalization. Seven factors were initially extracted with eigenvalues of at least 1, accounting for 61% of the total variance (Table 4-13).

Principal components are fine for summarizing most of the variance in a large set of variables but the resulting factors are not always easily interpretable. Varimax rotation, designed by Kaiser, is a common procedure used to “clean up” factors so the loadings are

Table 4-12
Ranked Means of Uses and Gratification Item Agreement
in TV Web Survey

Uses and Gratifications Item	Mean	Std. Dev.	Valid N
When I want to find specific information	4.17	.87	2414
When there's a specific site I want to access	4.13	.89	2418
Because I like to access certain sites	3.87	1.00	2390
Because it's enjoyable	3.61	1.10	2398
So I can learn how to do things I haven't done before	3.25	1.20	2422
Because it entertains me	3.21	1.19	2411
Because it's exciting	3.03	1.20	2476
Because it amuses me	2.97	1.21	2366
Because I just like to access it	2.87	1.34	2390
Because it helps me learn about myself and others	2.59	1.25	2412
Because it relaxes me	2.48	1.30	2406
Because it passes the time away, especially when I'm bored	2.43	1.36	2413
Because it allows me to unwind	2.34	1.26	2386
Just because it's there	2.29	1.31	2317
Because it's a pleasant rest	2.25	1.19	2378
Because it's thrilling	2.20	1.25	2382
Because it gives me something to occupy my time	2.13	1.36	2413
So I can talk to other people about the sites I've accessed	2.03	1.21	2423
So I can be with other members of the family who like to	2.01	1.28	2446
When I have nothing better to do	1.99	1.23	2398
So I can forget about work and other things	1.97	1.27	2407
When there's no one else to talk to or be with	1.91	1.26	2374
Because it peps me up	1.88	1.17	2314
So I can learn about what could happen to me	1.82	1.13	2400
Because it's a habit, just something I do	1.67	1.06	2424
So I can get away from what I'm doing	1.63	1.01	2398
So I can get away from the rest of the family or others	1.60	1.12	2429
Because it's something to do when friends come over	1.42	.88	2399
Because it makes me feel less lonely	1.40	.89	2389
So I don't have to be alone	1.37	.89	2362

Note: Response means are for agreement with statement "I use the World Wide Web..."

- 1 - not at all like my reason
- 2- not much like my reason
- 3- somewhat like my reason
- 4- a lot like my reason
- 5-exactly like my reason

Table 4-13
Principal Components Extraction for Uses and Gratification Items
in TV Web Survey

Factor	Eigenvalue	% Variance	Cumulative %
1	9.10	30.3	30.3
2	3.01	10.0	40.3
3	1.55	5.2	45.5
4	1.41	4.7	50.2
5	1.14	3.8	54.0
6	1.03	3.4	57.5
7	1.02	3.4	60.9

easier to understand (Stevens, 1996). Choosing which factors to retain for rotation is more difficult. The most widely used criterion is that of Kaiser, who suggests retaining components with eigenvalues greater than 1 (Singletary, 1994, Stevens, 1996). However, Stevens (1996) notes that blind use of this traditional approach could lead to retaining factors which may have no practical significance. While the TV Web study is exploratory, it is grounded in the uses and gratifications literature which guides the choice of items and the assignment of factors. Therefore, there is some subjective judgment applied to the number of factors retained here, and their loadings.

In this initial extraction, two factors had low eigenvalues near 1. Examination of a 7 factor, rotated model showed one factor had only one item loading significantly. In this case, a primary loading above .45 is considered significant (Singletary, 1994). This criteria is consistent with the approach of Kaye (1996), who applied these same measures to Web use. Given the insufficient loadings on a seventh factor, the analysis was rerun with only 6 factors specified (Table 4-14).

The second problem encountered was how to assign factors with high secondary loadings. While Singletary (1994) considers a loading of .45 or higher important "if it is not exceeded by the same variable's loading on another factor (241)," there appears to be

nothing conclusive in the available literature for the best way to handle factor assignments. Stevens, in his latest multivariate statistics text (1996) says:

“...it would help if there were a statistical test, even a rough one, for determining when one loading on a factor is significantly greater than another loading on the same factor. This would then provide a more solid basis for including one variable in the interpretation of a factor and excluding another...I remain unaware of such a test. (382)”

Given this ambiguity, we have chosen to assign these factors based on three main criteria in descending order of importance: (1) Primary loadings above .45, (2) Scale reliability - how the item contributes to a summated scale, (3) Conceptual fit based on the literature and intuitive judgment. In this six factor rotated model four items require some consideration. The item, “So I can forget about work and other things” did not reach the minimal level, loading nearly equally on two factors yet not at .45 on any. It was thus excluded from the set of factors and subsequent scales. Another item, “Because I just like to access it,” had a high secondary loading on factor two, but was nonetheless assigned to the first factor. Scale analysis indicated a greater contribution to the reliability of the first factor, than the second. The item “Because it’s thrilling...” had a high secondary loading of .46 on Factor 4, but was assigned to the first factor due to a primary loading of .60. The item “Because it’s exciting” had a secondary loading of .50 on Factor 4, but was assigned to Factor 1 based on the key criteria. The factors were labeled according to conventions consistent with uses and gratification research, specifically Rubin (1981) with Web use adaptation by Kaye (1996).

For further analysis, the factored items reaching at least .45 on a primary loading were compiled into summated scales and checked for reliability using Cronbach’s Alpha. Individual item analysis was used to examine the contribution of each item to the scale. It is apparent the items reliably measure some dimension discovered by the factor analysis for

Table 4-14
Uses and Gratifications Rotated Factor Matrix for TV Web Survey

Uses and Gratification Item	F1	F2	F3	F4	F5	F6	Valid N
Factor 1 (Entertainment)							
Because it allows me to unwind	.76	.15	.32	-.07	.15	-.04	2386
Because it relaxes me	.74	.10	.33	-.04	.16	.02	2406
Because it's a pleasant rest	.70	.17	.21	-.03	.29	-.07	2378
Because it's enjoyable	.66	.15	-.03	.31	.09	.19	2398
Because it entertains me	.64	.32	-.04	.27	.15	.05	2411
Because it's thrilling	.60	.09	.07	.46	.14	.07	2382
Because it peps me up	.59	.09	.37	.24	.08	.08	2314
Because it amuses me	.59	.39	.05	.24	.15	.02	2366
Because it's exciting	.54	.09	.03	.50	.01	.15	2476
Because I just like to access it	.481	.476	-.13	.19	.14	.07	2390
Factor 2 (Pass Time/Habit)							
When I have nothing better to do	.07	.79	.24	-.01	-.01	-.03	2398
Because it gives me something to occupy...	.22	.76	.26	.01	.07	-.04	2399
Because it passes the time away...	.25	.70	.31	.04	.03	-.02	2413
Because it's a habit...	.07	.64	.22	.12	.07	-.03	2424
Just because it's there	.14	.57	.05	.17	-.06	-.04	2317
So I can get away from what I'm doing	.23	.55	.40	-.08	.03	.03	2398
Factor 3 (Companionship)							
Because it makes me feel less lonely	.12	.27	.70	.23	.18	-.05	2389
So I don't have to be alone	.05	.26	.68	.27	.19	-.04	2362
When there's no one else to talk to...	.16	.41	.60	.18	.10	.03	2374
So I can get away from the rest...	.21	.34	.57	.07	-.06	.02	2429
Factor 4 (Social Interaction)							
Because it's something to do when friends..	.05	.23	.12	.61	.08	-.11	2399
So I can talk to other people about sites...	.26	.03	.32	.53	.07	.11	2423
So I can be with other members...	.17	-.08	.18	.51	.23	.10	2446
Factor 5 - (Information/Learning)							
Because it helps me learn about myself...	.24	-.03	.10	.12	.78	.05	2412
So I can learn about what could happen...	.12	.17	.13	.12	.72	.04	2400
So I can learn how to do things I haven't...	.23	-.08	.04	.11	.57	.30	2422
Factor 6 - (Web Site Preference)							
When there's a specific site I want to access	.01	-.03	.02	-.01	.04	.83	2418
When I want to find specific info...	.07	-.24	-.05	-.06	.15	.69	2414
Because I like to access certain sites	.19	.15	-.04	.18	.08	.65	2390
* So I can forget about work...	.44	.33	.41	-.03	-.11	-.02	2407

* Did not meet criteria for factor loadings

Note: Responses are for agreement with statement "I use the World Wide Web..."

- 1 - not at all like my reason
- 2- not much like my reason
- 3- somewhat like my reason
- 4- a lot like my reason
- 5-exactly like my reason

the first three factors. Factors 4, 5 and 6 are less reliable and only marginally acceptable. In part, this is a function of the number of items - as few as 2 or 3 in some cases - that were allowed to form a summated scale. A simple maxim of survey methodology is the more items in a scale designed to measure a concept, the more reliable the measurement will be (StatSoft, 1997). In exploratory factor analysis, Stevens (1996) argues that a factor defined by only a few loadings is not much of a factor - it is as close to being variable specific as possible. However, the use of three item scales has precedence in the studies that guide this one (Rubin, 1981, Kaye, 1996). Given the exploratory nature of this study, and the relative importance of such uses as "Information/Learning" and those related to "Site Preference" to these users, the scales will be used in further analysis with the caveat that the measurements might be less reliable indicators of those dimensions (Table 4-15).

Table 4-15
Reliability Analysis for Summated Scales
Using Gratification Factors from TV Web Survey

Factor	Scale Name	Alpha*	Valid N
1	Entertainment	.90	1947
2	Pass Time/Habit	.84	2109
3	Companionship	.80	2202
4	Social Interaction	.54	2326
5	Info/Learning	.65	2309
6	Web Site Preference	.59	2246

* Reliability Coefficient for Cronbach's Alpha

A better picture of how these gratification scales interact can be seen from a correlation matrix of the summated scales (Table 4-16). The inter-correlations shown are an artifact of the scale creation process. Principal components analysis and rotation methods such as Varimax create factors that are un-correlated (Stevens, 1996), but the process of selecting items for the summated scales outlined here creates inter-correlations. Items are assigned to

scales if their loadings are .45 or above, so an item with loadings on other factors contains a degree of correlation with other dimensions. Once assigned discreetly to a scale, the individual item retains that correlation with other factors and the correlation naturally is seen in scale comparison. The inter-correlations are reported here and in other parts of this chapter to demonstrate that the scales, as used in the study, are not entirely independent of each other.

This understanding of the relationships between gratification scales has precedent in the literature. Rubin and Rubin (1982) confirmed the inter-connectedness of television viewing gratifications through correlation of similar scales. Their conclusion was that the inter-correlations demonstrated how audiences view television simultaneously for many different types of reasons. For example, they concluded information viewers seemed to be watching also for entertainment-related motivations. Similar conclusions were made in a subsequent study of television viewing patterns (Rubin, 1983).

It is clear from the matrix that the first three scales are not clearly independent, as each is inter-correlated with coefficients ranging from .489 to .621. "Entertainment" related use, however is correlated modestly with nearly every other scale. "Information/Learning" related use shows a higher degree of independence, and use attached to "Site Preference" is the most independent among the gratification scales.

Table 4-16
Pearson Correlation Matrix of Gratification Scales

	Entertainment	Pass Time	Companionship	Social	Info	Site
Entertainment	1.000	*.489	*.492	*.486	*.436	*.176
Pass Time/Habit	*.489	1.000	*.621	*.264	*.114	*-.065
Companionship	*.492	*.621	1.000	*.389	*.275	.008
Social Interaction	*.486	*.264	*.389	1.000	*.371	*.152
Info/Learning	*.436	*.114	*.275	*.371	1.000	*.278
Site Preference	*.176	*-.065	.008	*.152	*.278	1.000

* Correlation is significant at the $p < .01$ level

The relative importance of these gratifications can be seen by converting each summated scale back to the original 5 point metric. The resulting means show "Site Preference" gratifications are clearly the most preferred reason for using the Web, even though "Entertainment" gratifications accounted for the most variance in the principal components factor solution (Table 4-17). The means for "Entertainment" and "Information/Learning" gratifications are more than one full response point away from "Site Preference" on the standardized metric. This suggests that "Entertainment" gratifications are measured much more effectively in this analysis, but the main reasons people say they use the Web - those "Site Preference" gratifications that appear instrumental in nature as opposed to ritualized - are not measured as effectively. This distinction will be discussed further in Chapter 5.

Table 4-17
Ranked Means of Gratification Scales

Gratification Scale	Mean	Std. Deviation	Valid N
Site Preference	4.05	.68	2246
Entertainment	2.63	.87	1947
Information	2.55	.91	2309
Pass Time/Habit	2.00	.89	2109
Social Interaction	1.82	.81	2326
Companionship	1.57	.83	2202

* Means have been transformed to 5 point scale reporting reasons for using World Wide Web:

- 1 - not at all like my reason
- 2- not much like my reason
- 3- somewhat like my reason
- 4- a lot like my reason
- 5-exactly like my reason

R5 - Design Characteristics

Another aspect to this study was measuring Web page design preferences. The fifth research question asked, "Which Web page design features are preferred by these users?" A series of typical page design elements was listed. Respondents indicated their degree of

preference on a scale from 1, meaning dislike, to 9, meaning like. Exploratory factor analysis was used to reduce these design characteristics to measurable dimensions. The Web has aspects that are clearly aesthetic, and others that are more functional.

There was no default option for these questions, so a skip by the respondent was recorded as a missing value. The ranked means of these items (Table 4-18) show the ability to search, send e-mail, and links to other sites all are highly preferred aspects of page design. Such things as animated graphics, large graphics, and sound or video are less highly preferred, but still have means above the mid-point of the response options.

Table 4-18
Ranked Web Page Design Preferences
by TV Web Survey Respondents

Design Aspect	Mean	Std. Dev.	Valid N
Search tools that allow you to enter keywords and find information	7.47	1.97	2527
Email links-allowing you to give feedback	7.21	2.15	2523
Multiple links to other pages	6.99	2.10	2526
Photographs	6.65	2.22	2533
Graphics	6.52	2.23	2541
Small graphics you can click on to go to other pages	6.48	2.26	2516
Colorful pages	6.20	2.29	2541
Live sound	5.85	2.75	2519
Live video	5.81	2.77	2507
Large, map-like graphics that outline the whole Web site	5.56	2.49	2508
Animated graphics or banner	5.34	2.70	2528

Note: Means are for level of preference for design features ranging from
1- dislike to 9-like

The factor analysis used principal components analysis with varimax rotation and Kaiser normalization. Three components with eigenvalues of at least 1 were retained, accounting for 66% of the total variance. The fourth highest component only reached an eigenvalue of .75, indicating three main components to be the most likely model (Table 4-19).

Table 4-19
Principal Components Extraction for Web Page Design Preferences
by TV Web Survey Respondents

Factor	Eigenvalue	% Variance	Cumulative %
1	4.81	43.7	43.7
2	1.39	12.6	56.4
3	1.05	9.6	65.9

Items were assigned to factors if their primary loading was above .45. Using this criteria, each item was assigned to one of the three factors (Table 4-20). The factors are named here based on the characteristics of hypermedia design discussed in Chapter 2 and subjective judgment. Factor 1 appeared to consist of "Aesthetics" characteristics. Factor 2 appeared to refer to the user's ability to interact with the page and maneuver through such tools as links and search engines. The third factor appeared to be "Multimedia" related functions such as sound and video. However, "Email Links" did not appear to conceptually fit this dimension, despite a sufficient loading. In terms of the rest of the factors - "Email links" represent a capability to interpersonally communicate that is not represented in any of the other design features. To analyze this further, a fixed four factor model was run, with unsatisfactory results. Using scale analysis, it was apparent that the "Email links" item did not contribute to the reliability of the "Multimedia" scale; in fact it lowered the alpha significantly. As such, "Email links" was not discarded since it ranked so highly among users' preferences, but it is treated as a single item indicator in further analysis.

These factors were converted to summated scales for further analysis. The scale for "Aesthetics" reached generally accepted levels and summated scale variables were created. The scale for "Interactivity" was not quite as reliable, at .65, but is retained nonetheless for its exploratory value in measuring dimensions of a new medium. As mentioned, the items for "Multimedia" did not scale well initially, so an individual item analysis was used. Removing the item "Email links" from the scale raised the alpha from .49 to .90 (Table 4-

21). The two items for “Live sound” and “Live video” were thus retained in the scale and “Email links” remains a single item indicator.

Table 4-20
Rotated Factor Matrix of Design Preferences
for TV Web Survey

Page Design Preference Item	F1	F2	F3	Valid N
Factor 1 (Aesthetics)				
Graphics	.86	.16	.18	2541
Colorful Pages	.82	.16	.12	2541
Photographs	.78	.15	.23	2533
Animated graphics or banners	.60	.15	.46	2528
Large, map like graphics that outline the whole site	.56	.39	.15	2508
Factor 2 (Interactivity)				
Multiple links to other pages	.34	.72	.03	2526
Small graphics you can click on to go to other pages	.29	.72	-.05	2516
Search tools that allow you to enter keywords and find info...	.05	.68	.25	2527
Factor 3 (Multimedia)				
Live sound	.46	.02	.78	2519
Live video	.47	.02	.76	2507
Email links*	-.13	.49	.59	2523

Note: Responses are for level of preference for design features ranging from
1- dislike to 9-like

* Treated as single item indicator

Table 4-21
Reliability Analysis for Design Preference Scales
in TV Web Survey

Scale Name	Alpha	Valid N
Aesthetics	.85	2481
Interactivity	.65	2490
Multimedia	.90	2497

A correlation matrix of these design preference scales, including “Email Links” as a single item indicator, shows these dimensions, as assigned, are not entirely independent.

The inter-correlation is created when items are assigned discreetly to scales, despite loading on several factors. Each item is correlated with other items and that correlation is evident when the scales are compared. "Aesthetics" is rather highly correlated with Multimedia, indicating perhaps that those preferring certain attractive characteristics on a Web page also prefer sound and video to some degree. The "Interactivity" preference is also related to "Aesthetics" and "Email Links," but to "Multimedia" to a much lesser extent (Table 4-22).

Table 4-22
Pearson Correlations of Design Preference Scales

	Aesthetics	Interactivity	Multimedia	Email Links
Aesthetics	1.000	*.470	*.626	*.235
Interactivity	*.470	1.000	*.289	*.321
Multimedia	*.626	*.289	1.000	*.280
Email Links	*.235	*.321	*.280	1.000

* Correlation is significant at $p < .01$ level

R6 - Web Content Preferences

The sixth research question asked, "What types of Web content are used most often by this audience?" Respondents were asked to note Web content usage by responding to the question, "When you go online, how often do you use the Web for these activities?" Users were given a series of familiar Web activities or content types. The clickable responses ranged from 1 (never) to 9 (always). Items left blank in these items were recorded as missing values. The ranked means placed search engines as the most preferred sites available (Table 4-23). It is notable that the mean for search engines, 6.48, is more than one full metric point above the second highest activity - browsing around. Each of the other activities show much less separation in their usage by this sample. There is also a clear preference among these users for using the Web as a news and information tool, and a way to conduct "Research ." More interactive or "Multimedia" uses of the Web, such as game playing, chat room sites or online shopping, rank among the least frequent activities.

Table 4-23
Ranked Web Content or Activity Usage
in TV Web Survey

Web Content or Activity	Mean	Std. Dev.	Valid N
Search engines - such as Yahoo	6.48	2.56	2550
Browsing around (with no particular focus)	5.35	2.43	2546
Weather related sites	5.00	2.84	2555
Checking news headlines	4.95	2.85	2552
Entertainment sites (movie reviews, television listings)	4.28	2.50	2550
Visiting local TV station sites	4.17	2.57	2572
Reading in-depth news stories or columns	4.154	2.51	2547
Business related research	4.150	2.78	2547
Television network sites	3.92	2.43	2550
Government sites (federal, state, local)	3.72	2.28	2555
Visiting national newspaper sites	3.61	2.64	2556
Academic research	3.42	2.61	2545
Sports news sites	3.34	2.77	2548
Visiting local newspaper sites	3.31	2.64	2556
Travel sites - checking airfares, etc.	3.30	2.30	2530
Financial information - stock updates	3.26	2.76	2546
National magazine sites	3.15	2.17	2543
Researching news archives	3.08	2.16	2547
Chat room sites	2.91	2.63	2551
Online shopping sites	2.79	2.07	2550
Listening to music	2.42	2.21	2535
Online game playing	2.36	2.21	2549
Newsgroup discussion sites	2.32	2.12	2536
Listening to live radio	2.16	2.07	2544

Note: Responses are for frequency of online usage of Web content items ranging from
1- never to 9-always.

In order to place these Web content forms into more manageable categories and to further explore potential relationships among content, these items were factor analyzed using principal components analysis with varimax rotation and Kaiser normalization. Six factors with eigenvalues of at least 1 were initially extracted, accounting for 54% of the variance (Table 4-24).

Table 4-24
Principal Components Extraction for Web Content Usage
by TV Web Survey Respondents

Content Factors	Eigenvalue	% Variance	Cumulative %
Factor 1	5.41	22.54	22.54
Factor 2	2.43	10.12	32.66
Factor 3	1.67	6.96	39.62
Factor 4	1.29	5.39	45.01
Factor 5	1.10	4.57	49.58
Factor 6	1.09	4.54	54.12

Since this initial solution contained two factors with eigenvalues near one, other models were examined, the most parsimonious of which forced five factors to be extracted and then rotated. Naming and assigning the factors proved more difficult in this set of variables, because there are no clear categories of Web content found in the research literature (Table 4-25). Factor 1 was labeled “News” because the items loading reflected an interest in current, updated information or news-related content. Factor 2 was labeled “Research” because the items indicated research or research type content such as “government sites.” Factor 3 was labeled “Leisure” because the items reflected gaming, chatting, entertainment or non-specific browsing. Factor 4 was labeled “Music” because the associated items referenced music or radio listening, which is likely music-driven. Factor 5 was labeled “TV” because two of the items related directly to television sites, and the third, “weather” is a content form found on many local TV station pages.

Table 4-25
Rotated Factor Matrix of Web Content Usage
by TV Web Survey Respondents

Content Item	F1	F2	F3	F4	F5	Valid N
Factor 1 (News)						
Visiting national newspaper sites	.77	.14	.08	.13	.04	2556
Checking news headlines	.73	.11	.02	.36	.05	2552
Reading in-depth news stories or columns	.69	.19	.04	.29	.02	2547
Financial information - checking stocks	.61	.12	-.09	-.18	-.03	2546
Visiting local newspaper sites	.56	.11	.05	.34	.04	2560
National magazine sites	.51	.22	.34	.03	.10	2543
Factor 2 (Research)						
Business related research	.20	.70	-.16	-.04	-.06	2547
Academic research	-.04	.64	.09	.01	.15	2545
Government sites	.29	.61	-.11	.15	.09	2555
Researching news archives	.42	.57	.10	.07	.16	2547
Search Engines	.03	.56	.15	.10	.07	2550
Factor 3 (Leisure)						
Online game playing	-.05	-.05	.65	.05	.16	2549
Entertainment sites	.05	.18	.63	.25	.18	2550
Chat room sites	.02	-.15	.59	-.14	.20	2551
Browsing around (with no particular focus)	-.03	-.03	.56	.16	.06	2541
Online shopping sites	.09	.27	.53	.04	-.06	2550
Factor 4 (TV)						
Visiting local TV station sites	.16	.04	.09	.78	.02	2572
Television network sites	.26	.10	.27	.65	.10	2550
Weather related sites	.36	.14	-.02	.51	.11	2555
Factor 5 (Music)						
Listening to live radio	.08	.11	.11	.13	.86	2544
Listening to music	.03	.10	.24	.15	.82	2535
* Travel sites - checking airfares	.24	.39	.35	.05	-.17	2530
* Sports news sites	.38	-.06	.08	.18	.21	2548
* Newsgroup discussion sites	.26	.16	.18	-.27	.44	2536

* Did not meet the primary criteria for factor loadings

Note: Responses are for frequency of online usage of Web content items ranging from
1- never to 9-always.

Three items did not load on any factor above .45. They were "Travel sites," "Newsgroup discussion sites," and "Sports news sites." It appears these types of Web content represent some independent kind of activity. Newsgroups discussion sites came close to loading on the "Music" factor, but did not appear to be a good conceptual fit. Subsequent scale analyses showed these items did not contribute to the reliability to any of the five dimensions.

These Web content-related factors were also tested for reliability and combined into summated scales. "News" and "Music" both showed reliability scores near or above .80. "Research" was near .70, yet "TV" and "Leisure" were somewhat below typically acceptable levels. The scales will be used in further analysis even given these limitations. Web content is still new and may not fall into clearly definable patterns. However the scales have exploratory value and may guide future research (Table 4-26).

Table 4-26
Reliability Analysis for Web Content Scales
in TV Web Survey

Scale Name	Alpha	Valid N
News	.79	2440
Research	.68	2481
Leisure	.62	2481
Music	.84	2519
TV	.66	2526

The relationships between the content scales are clearer using Pearson correlations (Table 4-27). These inter-correlations are a result of the scale creation process, because even though items are assigned to one scale or another, the individual item retains its correlation with other indicators. These correlations naturally appear when the summated scales are compared. It is also clear these Web users do not discreetly prefer one content form over another, so some inter-correlation among items and the resulting scales is

natural. The strongest relationship is between “News” content and “TV”-related Web content, perhaps reflecting the information seeking nature of the TV Web audience. This should be a good sign for TV station content providers, indicating a desire on the part of the users for the content stations are most likely to provide on a daily basis. “News” content is also correlated with “Research .” Given that the Web provides the ability to archive vast amounts of data, it is not surprising that regular users would associate “News” and “Research” material. “Leisure” related Web use is modestly correlated with “Music” and “TV” site-related use.

Table 4-27
Pearson Correlations of Web Content Usage Scales*

	News	Research	Leisure	Music	TV
News	1.00	.45	.15	.19	.51
Research	.45	1.00	.14	.19	.28
Leisure	.15	.14	1.00	.35	.24
Music	.19	.19	.35	1.00	.23
TV	.51	.28	.24	.23	1.00

* All correlations significant at $p < .01$

ANALYSIS OF RELATIONSHIPS

R7 - Demographics and Gratifications

A key analytical focus of the TV Web study is to understand how standard uses and gratification items relate to the other areas of interest - design and content. Before those analyses, however, it is necessary to understand what demographic variables predict and/or explain the gratifications. It is important to note that uses and gratifications researchers have discussed these gratifications in both independent and dependent terms. There is no definitive understanding of gratifications as causing media behaviors or as resulting from media behaviors. Indeed, some have proposed models measuring both gratifications sought and gratifications obtained (Rayburn and Palmgreen, 1984, Wenner, 1982) as recursive

factors in understanding other media phenomena. Because of these conceptual difficulties inherent in the literature, discussions of causality in the following relationships are limited.

In terms of demographics, age has been found previously to be a significant predictor of media gratifications (Greenberg, 1974, Rubin, 1979, 1981). In general, younger viewers identified more strongly with most of the gratifications, indicating that a negative correlation would be expected. This trend was generally supported in the TV Web audience with some important differences. Pearson correlations were run comparing age to each of the six gratification scales. Pairwise deletion of missing cases was used. Because of the large sample size, most of the correlations were statistically significant, yet modest in degree (Table 4-28). The only correlation that was not statistically significant was between age and the "Entertainment" gratification scale. The lack of a significant relationship is important because "Entertainment" related gratifications accounted for so much variance across the sample and the scale showed a high degree of reliability (.90).

Table 4-28
Pearson Correlations of Age with Gratification Scales

	Entertain	Pass Time	Compship	Social	Info	Site
Age	-0.03	*-.27	*-.16	*-.11	*.13	*.10
Valid N	1922	2081	2174	2296	2279	2210

* Correlation is significant at $p < .01$

The most marked relationship was between age and "Pass Time/Habit" gratifications. To some degree, using the Web out of habit or as a diversion appears to be more common among younger users. The significant positive correlations were between age and gratifications associated with "Information/Learning" and "Site Preference" gratifications. These correlations are small, .13 and .10, respectively - yet do somewhat indicate that older users make more instrumental, directed use of the Web. A recent survey conducted by Gallup somewhat supports this idea. The +Plan market study found middle aged adults

using the Internet mostly for utilitarian reasons, such as keeping up on news, while young adults age 18 to 24 use the Internet for work and play which includes entertainment, socializing and recreation ("Survey: Generation gap...", 1998).

Gender can be predictive of differences in a variety of social phenomena. In terms of explaining Web gratifications, the effect here appears nominal (Table 4-29). Means of the six gratification scales were examined using simple ANOVA with gender as the single factor. The scale values were also standardized back to the 1-5 metric for easier comparison. The summated value was divided by the total number of items in the scale to compute this standardized value. In the gratification accounting for the most variance - "Entertainment" - the gender difference was not statistically significant at $p < .05$. Females report slightly larger Web usage for "Pass Time/Habit" gratifications, as well as for each of the other categories. However, those mean differences, while statistically significant, are generally not large.

Table 4-29
ANOVA of Gratification Scale Means by Gender

	Entertain	Pass Time	Compship	Social	Info	Site
Male	2.60	1.95	1.53	1.76	2.50	4.01
Female	2.66	2.08	1.61	1.89	2.60	4.10
ANOVA Sig	0.14	.00	.02	.00	.01	.00
Total Valid N	1917	2078	2164	2289	2271	2207

Note: Means are based on summated scales of gratification items standardized to a 1-5 response range.

Educational levels have shown some impact on general media behavior in the past, however no marked pattern emerged in this study. An ANOVA of the standardized means on each gratification scale was run by the educational levels variable (Table 4-30). The overall ANOVA F statistic showed significant differences among groups in each category, a finding somewhat due to the large sample size. Closer inspection of the means shows that

Table 4-30
ANOVA of Gratification Scale Means by
Highest Level of Education Completed

		Entertain	Pass Time	Compship	Social	Info	Site
Grammar School	Mean	3.10	2.58	1.88	1.78	2.33	3.81
	N	6	8	8	9	9	9
Middle School	Mean	2.69	2.77	2.68	2.84	2.53	3.52
	N	15	18	15	19	19	16
High School	Mean	2.94	2.42	1.92	2.10	2.62	3.92
	N	294	321	336	351	355	328
Some college	Mean	2.67	2.00	1.57	1.83	2.61	4.06
	N	583	635	662	703	692	675
Two year degree	Mean	2.71	1.97	1.53	1.86	2.65	4.09
	N	232	258	272	292	290	284
Bachelors Degree	Mean	2.46	1.83	1.40	1.66	2.42	4.08
	N	529	560	588	604	608	599
Masters Degree	Mean	2.41	1.83	1.41	1.69	2.56	4.12
	N	189	213	217	237	228	224
Prof/Doctoral Degree	Mean	2.51	1.89	1.60	1.70	2.42	4.18
	N	87	84	91	98	96	94
ANOVA Sig.		.00	.00	.00	.00	.00	.00
Total Valid N		1935	2097	2189	2313	2297	2229

Note: Means are based on summated scales of gratification items standardized
to a 1-5 response range.

in most cases the differences according to educational categories are generally not large. In general, "Entertainment," "Pass Time/Habit," "Companionship," and "Social Interaction" gratifications are higher among those in the sample with lower education, while information and site related gratifications increase with higher levels of education. Where this pattern does not hold in most cases can be identified at the extremes of the education variable, where the total N reporting is much smaller. For example, means that do not follow this general pattern are found in the "Grammar school" and "Middle school" categories, both of which have only 6-19 cases. These lower counts do not invalidate the ANOVA statistic, but they make small changes less reliable than the values associated with a higher number of cases. For this reason, N values for each category are reported in the table.

A somewhat similar pattern is found in the gratification means compared to annual household income. In this analysis, a high number of respondents answered "Rather not say" concerning household income, so the ANOVA was performed only on the cases where actual income was reported (Table 4-31). While it is apparent that in some instances, "Entertainment" or pass time gratifications decrease slightly with increased income, the pattern is not dramatic. There should be caution in interpreting the extremes of the range here as well, due to the low number of cases in the highest and lowest income categories.

R8 - Web Use and Gratifications

Exposure to the medium of study has been found predictive of gratifications in previous research. Rubin (1979, 1981) found the amount of television viewing was strongly related to particular sets of gratifications. For this reason, the total hours of time on the Web each week could be a significant variable in as much as it measures exposure to the new medium. Pearson correlations were run between hours using the Web and each of the six gratification sets. Pairwise deletion of missing cases was used and small but statistically significant correlations were found for all but one gratification scale (Table 4-32). While none of these correlations is strong enough to have great predictive value, it appears that

Table 4-31
ANOVA of Gratification Scale Means by
Annual Household Income

		Entertain	Pass Time	Compship	Social	Info	Site
Less than \$10,000	Mean	2.67	2.43	1.99	1.94	2.56	4.05
	N	39	42	42	46	47	43
\$10,000-\$20,000	Mean	3.02	2.33	1.98	1.86	2.80	4.00
	N	62	67	67	75	75	66
\$20,000-\$40,000	Mean	2.70	2.08	1.58	1.84	2.62	4.10
	N	333	348	366	382	382	369
\$40,000-\$60,000	Mean	2.67	1.94	1.55	1.88	2.61	4.07
	N	314	367	375	386	385	372
\$60,000-\$80,000	Mean	2.48	1.78	1.38	1.71	2.47	4.08
	N	217	231	243	252	257	252
\$80,000-\$100,000	Mean	2.56	1.74	1.38	1.69	2.51	4.12
	N	112	114	126	132	132	125
\$100,000-\$120,000	Mean	2.40	1.77	1.43	1.62	2.53	4.03
	N	57	56	66	69	69	63
\$120,000-\$140,000	Mean	2.42	1.81	1.48	1.64	2.50	3.97
	N	30	31	33	34	34	36
\$140,000-160,000	Mean	2.35	1.79	1.60	1.47	2.11	3.96
	N	15	14	15	17	18	17
More than \$160,000	Mean	2.68	2.44	1.83	1.90	2.56	3.74
	N	35	36	41	42	39	39
ANOVA Sig.		.00	.00	.00	.01	.07	.18
Total Valid N		1214	1306	1374	1435	1438	1382

Note: Means are based on summated scales of gratification items standardized to a 1-5 response range.

Internet exposure does have some modest relationship with Web gratifications, as has been found with other media. Exposure to the Web on a weekly basis is modestly correlated with using the Web for “Entertainment,” “Companionship” or “Social Interaction” gratifications. “Information/Learning” gratifications are also modestly correlated with weekly hours on the Web. The only correlation that was not statistically significant was between the “Site Preference” gratification and weekly hours. This appears to be somewhat affected by the low variance associated with the “Site Preference” scale. Most users rated it very highly, so there is little variation on which to compute a correlation statistic. But the low correlation also indicates that these particular gratifications, which are highly preferred by the TV Web users, are not useful predictors of how much time they will spend with the medium.

Table 4-32
Pearson Correlations of Gratification Scales with Weekly Hours on Web

	Entertain	Pass Time	Compship	Social	Info	Site
Hours on Web	*.13	*.06	*.14	*.14	*.13	.01
Valid N	1947	2109	2202	2326	2309	2246

* Correlation is significant at $p < .01$

A second Web use variable that could show some relationship with gratifications is experience online. An ANOVA was run comparing the standardized gratification scales with the question asking respondents how long they have been on the Internet or Web. The results showed little discernible pattern and statistically non-significant differences (above $p < .05$) for three of the scales (Table 4-33). There is some evidence that “Entertainment” related Web use decreases slightly with more time online, but there are no similar patterns shown here for the other gratifications.

The last Web use variable of interest concerns where users are located when they access media-related sites. The question was phrased in such terms to account for the fact that

Table 4-33
ANOVA of Gratification Scale Means
by Web Experience

		Entertain	Pass Time	Compship	Social	Info	Site
Less than 6 months	Mean	2.80	2.01	1.61	1.87	2.60	4.03
	N	368	402	416	448	435	438
6 to 12 months	Mean	2.76	2.09	1.67	1.96	2.59	4.04
	N	429	448	486	507	508	489
1 to 3 years	Mean	2.55	1.99	1.52	1.76	2.51	4.08
	N	873	959	984	1043	1035	993
4 to 6 years	Mean	2.47	1.92	1.46	1.67	2.52	4.07
	N	218	240	249	255	258	255
7 years or more	Mean	2.37	1.83	1.60	1.76	2.54	3.93
	N	55	54	59	65	65	64
ANOVA Sig.		.00	.06	.00	.00	.34	.44
Total Valid N		1943	2109	2194	1435	2301	2239

Note: Means are based on summated scales of gratification items standardized to a 1-5 response range.

work related Web use might be entirely different from other uses of interest to television stations. Specificity of language helps to control ambiguity and focuses on the type of Web use of most concern here.

An ANOVA was run between the standardized gratification scale means and the reported location of the users when accessing media sites. In this case, a pattern was clear (Table 4-34). The differences were statistically significant across each scale, with the exception of "Site Preference" Web use which appears less influenced by other variables across several areas of analysis. In the other categories, each gratification is generally higher for home or more leisurely types of use than with those that are work related.

This finding is more obvious when the location variable is re-coded into two levels. Work, Home Office and School Lab levels can be considered similar, task-related uses of the Web, while Living room and Bedroom are clearly similar home related use

locations. When these categories are collapsed, the difference in means is more pronounced. Each gratification is reported at a higher level in home related, media site access than in work or school related locations. There is not a statistically significant difference, however, for "Site Preference" gratifications (Table 4-35).

Table 4-34
ANOVA of Gratification Scale Means by
Location While Accessing Media Sites

		Entertain	Pass Time	Compship	Social	Info	Site
Computer at Work	Mean	2.37	2.04	1.32	1.50	2.35	4.00
	N	376	388	407	416	415	403
Home Office	Mean	2.51	1.79	1.48	1.77	2.55	4.09
	N	526	581	592	647	628	623
School Computer Lab	Mean	2.58	1.96	1.61	1.71	2.50	4.13
	N	28	33	35	32	37	34
Living Room or Den	Mean	2.77	2.02	1.62	1.92	2.61	4.05
	N	739	805	853	898	901	869
Bedroom at home	Mean	2.94	2.39	1.94	2.02	2.65	4.04
	N	247	270	283	304	294	285
ANOVA Sig.		.00	.00	.00	.00	.00	.25
Total Valid N		1916	2077	2170	2297	2275	2214

Note: Means are based on summated scales of gratification items standardized to a 1-5 response range.

Table 4-35
ANOVA of Gratification Scale Means
by Recoded Location While Accessing Media Sites

	Entertain	Pass Time	Compship	Social	Info	Site
Office/School	2.44	1.89	1.42	1.66	2.47	4.06
Home	2.81	2.11	1.70	1.95	2.62	4.05
ANOVA Sig.	.00	.00	.00	.00	.00	.81
Total Valid N	1916	2077	2170	2297	2275	2214

Note: Means are based on summated scales of gratification items standardized to a 1-5 response range.

R9 - Gratifications and Content

In addition to discovering what Web gratifications are associated with TV Web site use, another focus of this study is to find relationships between gratifications and Web content. Correlational analysis is appropriate for this exploratory study, because there is no conceptual basis to determine causality between these Web use gratifications and Web content usage. Respondents were asked to agree with the statement, "I use the World Wide Web....," and in the content section, the main question was, "When you go online, how often do you use the Web for these activities?" Both sets of questions assume some history with the Web, yet neither suggests temporal order, which is necessary for establishing independence and dependence of variables. Therefore correlation will be the principal tool, using controls to reduce the impact of demographic or media use variables.

Previous studies have found age and medium exposure as significant predictors of gratifications, as has been discovered here with age and total hours on the Web. Rubin (1981, 1982) found significant correlations still existed between certain motivations and content types, even with these variables controlled. This study has also identified location while accessing media related sites to significantly account for differences in key gratifications. Therefore, these demographic and medium use variables will be controlled for a true picture of the relationship between gratifications and content.

Partial correlation coefficients were obtained for each of the gratification scales and each of the content areas, while controlling for the effects of age, hours on the Web, and location when accessing media sites. Pairwise deletion of cases was used to adjust for maximum possible cases on each variable. Valid N's with this procedure ran from a low of 1776 to highs above 2200. Additionally, for this analysis, the Web content items that were retained as single item indicators are included for additional explanation (Table 4-36). With controls, there appear to be modest yet significant relationships between "Leisure" related Web content and "Entertainment," "Pass Time/Habit," "Companionship" and "Social

Interaction” gratifications. The only other correlations at or above .20 are between “Site Preference” gratifications and “Research” content. This is an important relationship, because although “Site Preference” gratifications received the highest level of agreement, few demographic or media use variables showed any strong relationships with the scale. Other statistically significant yet small correlations are evident across the other gratifications and content - notably, the negative relationship between “Research” type content and “Entertainment,” “Pass Time/Habit,” and “Companionship” gratifications.

Table 4-36
Partial Correlations of Gratification Scales with
Web Content

	Entertain	Pass Time	Compship	Social	Info	Site
News	*.05	**-.07	-.01	**06	**15	**09
Research	*-.05	**-.17	**-.09	.02	**15	**20
Leisure	**36	**28	**27	**35	**16	*05
Music	**16	*05	**08	**18	**11	.01
TV	**11	.01	.03	**10	**12	**08
Sports News	*05	-.01	-.03	**07	-.01	.01
Travel sites	.04	-.03	-.04	*06	**07	**08
Newsgroups	*04	-.00	.04	**09	**08	.03

Note: Controlling for Age, Hours on Web and Location When Accessing Media Sites

* Significant at $p < .05$

** Significant at $p < .01$

R10 - Gratifications and Design

This exploration has also found some underlying factors related to Web design preferences. The relationship between those design issues and gratifications are important to content producers. Partial correlations were run between the gratification scales and the design preferences, including the “Email links” variable which is considered here as a single item indicator. Pairwise deletion of missing cases was used and N values across the correlations ran from a low of 2353 to highs over 2400. Statistical controls were again used

for age, hours on the Web and location while accessing media sites (Table 4-37). Most of the correlations were statistically significant, yet modest in strength. “Aesthetic” page features such as graphics, color, etc. are modestly related to “Entertainment” and “Social Interaction” gratifications. “Multimedia” design features are also related to “Entertainment” and “Social Interaction” gratifications. “Interactivity” design features, such as search engines and links, are most strongly related to “Site Preference” gratifications, which in turn correlate modestly with “Email links.” The ability to maneuver through sites and get to content quickly shows some relationship with going online to find particular sites.

Table 4-37
Partial Correlations of Gratification Scales with
Design Preferences

	Entertain	Pass Time	Compship	Social	Info	Site
Aesthetics	** .28	** .15	** .18	** .20	** .15	** .12
Interactivity	** .14	-.00	.04	** .12	** .12	** .25
Multimedia	** .27	** .12	** .14	** .21	** .13	** .07
Email links	** .11	-.03	.03	** .15	** .14	** .20

Note: Controlling for Age, Hours on Web and Location When Accessing Media Sites

* Significant at $p < .05$

** Significant at $p < .01$

R11 - Design and Content

A final analysis for this section shows the relationships between design preferences and Web content preferences. Partial correlations were used, controlling for the same demographic and medium use variables. Pairwise deletion of missing cases was used, with valid N's from 2360 to 2435 (Table 4-38).

“Aesthetics” design aspects of Web pages are most strongly related to “Leisure” content and, interestingly, to “TV” content. It seems logical that those using more of the “Leisure” related activities, and those who may be television viewers, would have some interest in content that is visually appealing. However, “Interactivity” is also related

modestly to “Leisure” content. Intuitively, “Multimedia” Web design showed its highest correlation with “Music” related content, yet also was correlated with “TV” content at a modest, yet statistically significant level. Each of these relationships is intuitive, even though most of the correlations were not large. Most of the negative correlations were not statistically significant, or only minimally so, as in the case of the “Newsgroups” item compared to “Aesthetics” and “Multimedia.”

Table 4-38
Partial Correlations of Design Preferences
with Web Content

	News	Research	Leisure	Music	TV	Travel	Sports News	News- groups
Aesthetics	** .13	.01	** .28	** .12	** .21	** .09	** .10	** -.07
Interactivity	** .17	* .19	** .19	.02	** .16	.03	** .10	.04
Multimedia	** .08	-.02	-.02	** .23	** .18	** .10	** .08	* -.04
Email links	** .07	** .13	** .13	** .05	** .09	.03	* .05	** .07

Note: Controlling for Age, Hours on Web and Location When Accessing Media Sites

* Significant at $p < .05$

** Significant at $p < .01$

R 12 - Web Use and Other Media

The last analytical area of interest is between Web use and the use of other media. While some studies have found the Web replacing time spent with other media, the degree of that phenomenon is not always clear. Partial correlations were run between the total weekly hours using the Web and each of the use of other media items which asked respondents to estimate total hours per week. Controls were also put in place here for the demographic variable of age and the location when accessing media sites, because they were shown as modestly predictive of other key areas in the study.

The resulting correlations show no measured negative relationship between Web use on these other media activities (Table 4-39). The correlations are modest in most cases, but statistically significant nonetheless. Causality is questionable in this case, because it is not

clear how Web use relates to other media, causing additional uses of other media or resulting from other media use which in turn drives people to related Web use.

There is some support for the idea that these media, for this audience, have a complementary relationship - use of one is related to use of another. This is a stronger relationship for television, games or music and Web use, and a bit weaker relationship for print media such as newspapers and books. In any case, the correlations are positive in all categories, although not large.

The correlations between each of the other media hours per week are reported (Table 4-40) with the same controls to demonstrate how those are related. Types of television viewing are somewhat inter-correlated, and reading-related media, such as newspapers, magazines and books also show modest, significant correlation. Not surprisingly, radio listening is modestly correlated with with listening to CD's.

Table 4-39
Partial Correlations of Weekly Web Use Hours with Other Media Use

Other Media	Web Hours
Local TV news	**.14
Network TV news	**.15
Network entertainment	**.09
Cable entertainment	**.15
Videotapes	**.11
Newspaper	*.05
Magazine	**.10
Radio	**.11
CD's or cassettes	**.21
Movie theater	**.09
Books	**.06
Video games	**.15

Valid N = 2458

Note: Controlling for age, and location when accessing media sites

* Correlation is significant at $p < .05$

** Correlation is significant at $p < .01$

Table 4-40
Partial Correlations of Weekly Hours Spent on Other Media Activities

	Local news	Net. news	Net. Ent.	Cable ent.	Video	News-paper	Mag.	Radio	CD	The.	Book	Game
Local news	1.0	** .43	** .42	** .24	** .13	** .21	** .15	** .11	.01	** .06	** .05	* .04
Network news	** .43	1.0	** .34	** .23	** .06	** .19	** .14	** .09	* .05	** .09	.03	** .12
Network ent.	** .42	** .34	1.0	** .39	** .22	** .14	** .16	** .11	** .07	** .13	** .08	** .15
Cable ent.	** .24	** .23	** .39	1.0	** .13	** .15	** .12	** .08	** .12	** .12	-.00	** .14
Videos	** .13	** .06	** .22	** .13	1.0	.03	** .09	** .07	** .16	** .24	** .08	** .16
News-paper	** .21	** .19	** .14	** .15	.03	1.0	** .33	** .17	** .12	** .05	** .16	-.00
Magazine	** .15	** .14	** .16	** .12	** .09	** .33	1.0	** .14	** .17	** .11	** .21	** .06
Radio	** .12	** .09	** .11	** .08	** .07	** .17	** .14	1.0	** .27	* .04	** .12	** .06
CD	.01	* .05	** .07	** .12	** .16	** .12	** .17	** .27	1.0	** .11	** .19	** .15
Theater	** .06	** .09	** .13	** .12	** .24	** .05	** .11	* .04	** .11	1.0	* .04	** .12
Books	** .05	.02	** .08	-.00	** .08	** .16	** .21	** .12	** .19	* .04	1.0	** .07
Games	* .04	** .12	** .15	** .14	** .16	-.00	** .06	** .06	** .15	** .12	** .07	1.0

Valid N = 2458

Note: Controlling for age and location when accessing media sites

* Correlation is significant at $p < .05$

** Correlation is significant at $p < .01$

R13 - Gratifications, Design, Content and Other Media

The hours spent with other media can also be compared with the Web use gratifications. It is interesting, for example, to explore how "Entertainment" oriented Web use might correlate with television viewing, considering such motivations have predicted levels of viewing in other studies when applied specifically to television (Rubin, 1981, 1983, Rubin and Rubin, 1982).

Partial correlations were run between the six gratification scales and the other media usage hours. The same controls were used for age, hours of Web use and location when accessing media sites. Pairwise deletion of missing values was used, with valid N's

ranging from 1911 to 2291 (Table 4-41). While none of the correlations was large, those reaching statistical significance and at .10 or above follow some intuitive patterns.

“Entertainment” gratifications associated with the Web are weakly correlated with hours viewing cable entertainment programming and renting videos. “Pass Time/Habit” Web gratifications are somewhat correlated with hours viewing network entertainment programming. “Information/Learning” Web gratifications are correlated with hours watching network television news.

Numerous variables in the matrix did not show statistically significant relationships despite the large sample size. This may in part reflect some measurement problems with the media use variables or may indeed show that gratifications associated with the Web are not useful predictors of other media behavior, at least in terms of predicting hours of use. Comparisons were also made between the usage of other media and the Web design preferences. The interest here is again driven by the presumption that someone who watches television, for example, might have a corresponding interest in certain “Aesthetics” features on Web pages.

Partial correlations were run between the other media hours of use and the design preference scales noted earlier (Table 4-42). The same controls were used for age, Web use, and location. Pairwise deletion of missing cases gave valid N's between 2420 and 2457. It is interesting to note the resulting correlations between “Aesthetics” and hours of television viewing - both news and entertainment. These correlations are not large, but are among the larger in this set. Also, “Multimedia” content preference is somewhat correlated with television viewing hours, another relationship that should give hope to TV Web content producers who are pushing the limits of the technology. The only statistically significant negative correlation is between “Multimedia” design preferences and hours spent reading books. This relationship is understandable, given the low tech experience of reading compared to “Multimedia” experiences on a computer.

Table 4-41
Partial Correlations of Weekly
Hours Spent on Other Media Activities
with Web Gratification Scales

	Entertain	Pass Time	Compship	Social	Info	Site
Local TV news	** .08	** .06	* .05	** .05	** .08	.03
Network TV news	** .09	* .04	** .07	** .08	** .12	** .07
Network entertainment	** .08	** .13	* .05	** .07	.00	.02
Cable entertainment	** .10	** .09	** .06	** .07	.02	.03
Videos	** .10	** .08	* .05	** .09	.02	-.01
Newspaper	-.02	-.01	-.03	-.03	-.00	.00
Magazine	-.02	.01	-.03	.01	.01	.03
Radio	** .08	-.00	.00	* .04	** .07	.03
CD/Cassettes	.02	.01	.00	.02	** .02	.03
Theater	** .08	** .07	** .08	** .09	** .06	-.04
Books	** -.08	** -.07	** -.07	-.02	.03	.08
Video Games	** .09	** .08	** .08	** .09	* .04	.03

Note: Controlling for age, hours of Web use, and location when accessing media sites

* Correlation is significant at $p < .05$ level

** Correlation is significant at $p < .01$ level

The final set of correlations in this section compares the hours spent with other media to the Web content preference scales and single item indicators. Of interest here are the relationships between similar types of content. Correlations can show those relationships to some degree, even though one set of variables measures actual use, while the other is a self-reported degree of use on a 9 point scale. Partial correlations were run between the other media hours and Web content scales and single items. The same controls for age, hours of Web use and location were used. Pairwise deletion of missing values left valid N's from 2363 to 2457 (Table 4-43).

Table 4-42
Partial Correlations of Weekly
Hours Spent on Other Media Activities
with Design Preferences

	Aesthetics	Interactivity	Multimedia	Email	Links
Local TV news	** .12	** .07	** .12		* .04
Network TV news	** .14	** .06	** .12		** .05
Network entertainment	** .10	* .04	** .10		.01
Cable entertainment	** .09	.04	** .09		* .04
Videos	** .07	* .04	** .10		* .05
Newspaper	-.01	.02	-.03		-.02
Magazine	-.02	** .05	-.03		.04
Radio	** .07	** .05	* .04		* .04
CD/Cassettes	.04	.03	.03		.03
Theater	* .05	.01	* .04		* .04
Books	* -.04	* .04	** -.06		* .04
Video Games	.03	-.03	** .05		-.02

Note: Controlling for age, hours of Web use, and location when accessing media sites

* Correlation is significant at $p < .05$ level

** Correlation is significant at $p < .01$ level

Once again, the correlations were low, yet statistically significant, across a number of variables. "News" related Web content was correlated with newspaper reading and network TV news viewing - but not as highly with local TV news. The relationship with entertainment programming, however, was negative albeit modest. "Research" related Web content usage was minimally correlated with reading books. "Leisure" related Web activities or content were positively related to viewing entertainment programming on network or cable television, renting videotapes and movie theater attendance.

Intuitively, activity on "TV" related Web sites was positively correlated with viewing local and network TV news. The relationship between "TV" Web sites and entertainment

programming was non-significant or small, indicating perhaps the dominance of news content on "TV" Web sites. Among the three single item indicators - only "Travel Sites" showed any interesting correlations, negatively with books, positively with newspaper reading and viewing cable entertainment programming.

Table 4-43
Partial Correlations of Weekly
Hours Spent on Other Media Activities
with Web Content

	News	Research	Leisure	Music	TV	Travel	Sports	News-group
Local TV news	*.04	*.04	**09	-.00	**12	.03	**06	*-.05
Network TV news	**11	**09	**12	*.04	**11	.02	**08	.00
Network entertainment	**-.09	**-.08	**17	-.02	.02	.01	-.00	**-.06
Cable entertainment	-.02	-.03	**18	*.05	**06	**10	.03	-.02
Videos	**-.05	-.00	**19	**05	-.00	.00	.02	-.02
Newspaper	**10	**07	-.02	-.02	.02	**09	*.04	-.02
Magazine	**06	**08	**07	.00	-.00	-.01	*.05	.02
Radio	*.05	.02	*.05	**08	**07	.03	.01	.01
CD/Cassettes	-.03	-.00	**08	**15	-.02	.02	.00	.02
Theater	.02	-.01	**14	**07	-.03	-.02	**06	-.00
Books	.00	**10	.01	**-.05	**-.06	**-.12	-.02	.01
Video Games	-.04	*-.05	**15	**11	-.00	*.05	*-.04	.03

Note: Controlling for age, hours of Web use, and location when accessing media sites

* Correlation is significant at $p < .05$

** Correlation is significant at $p < .01$

Conclusion

These results have accomplished several major goals of the study. A valid sample of TV Web users has been drawn, demonstrating characteristics and behaviors consistent with contemporary studies of the same phenomenon. Descriptive patterns have been analyzed, showing the demographic and media use characteristics. The key areas of analysis -

gratifications, design and content - have been described, analyzed and collapsed into conceptually meaningful and useful categories. And finally these areas of study have been analyzed against themselves and each of the other key areas of the study.

From these results, it appears the TV Web audience is one that consistently, daily accesses the Web, spending as much time weekly with the medium as with other media of interest, such as local television news, the daily newspaper, and network entertainment programming. These users are demographically in line with the more general Internet population - college educated, middle class, more male than female and most between 30 and 50 years old.

The TV Web users do not say they use the Web as a diversionary medium, but rather go online to access specific sites. While it is clear some do seek out "Entertainment" uses of the Web, even that kind of motivation is sometimes associated with information or learning. In terms of Web page design, function and control are favored over form. For content, "News" and "Research" are favored over chatting or gaming.

TV Web users do not appear to be consuming less of other media in order to be online. Indeed there is some evidence of complementary patterns of use. And it appears the TV Web users are making the online experience more a part of their home experience than work. The patterns that emerge from this data are of a fairly mainstream audience of users, consuming Web content as part of their regular media mix in ways that are task driven, focused and tied to the strength of this interactive, audience driven medium. In short, an audience that is attractive to television stations, and worthy of closer analysis.

CHAPTER 5

DISCUSSION

INTRODUCTION

This study began with the premise that media companies - local television stations in particular - are faced with the challenge at the end of the 20th century of responding to the new communication medium of the World Wide Web. This challenge is not unlike the continual evolution of mass media throughout the last century, where new media choices created competition for fixed resources, and established media players would continually rediscover their proper niche. The best way to understand that niche is to know the audience, and uses and gratifications has proven to be a valid research approach towards that goal. Further, uses and gratifications measures can provide a framework through which other factors, such as medium attributes and content choice, can be viewed.

The niche, and audience, of interest in this case is those users of the World Wide Web who already visit television station sites. The best way to potentially reach those users with a survey was through local television sites. Based on various approaches to the spread of new technology, these "early adopters" or visitors of station Web sites can give content producers a window into the potential of differing Web strategies. The design of the study and the results examining a portrait of the sample audience argue for the achievement of this sampling goal. Nearly 90% of respondents identifying an originating link said they came to the survey from a television station Web site. Over 2000 respondents (80%) could identify that originating site through call letters, Web site address, or some other interpretable mark such as channel number. On average, these users report watching nearly 20 hours of television per week - one fourth of which is local television news. For these and other reasons reported in the results, these discussions are based on the conclusion that

this sample is representative and valid for the subject of study. It is a self-selected, representative group of the targeted population, TV Web site users, and can provide focused information that advances understanding of the uses and gratifications of TV Web sites.

These discussions are also based on the assumption that uses and gratifications is a valid way to examine motivations for media use. From its inception, uses and gratification research has viewed the audience as active and able to self-report motivations for utilizing a medium. These motivations then can be typed, standardized and applied as a framework for viewing other aspects of the media use. Therefore, the discussions here will be framed largely in terms of the uses and gratifications that have been discovered. Findings concerning design and content, demographics and media use are largely understood in the context of their relationship to the uses and gratification measures as they apply to this particular audience. Those connections between motivations, content, and designs then may tell local television stations what will draw users to their sites, and keep them there in the information age of the future.

INTERPRETING THE SCALES

Uses and Gratifications

Beginning with Greenberg (1974) and continuing through the studies of Rubin (1979, 1981, 1983), Rubin and Rubin (1982), which form the foundation for this study, uses and gratifications approaches have often been applied to television. It was anticipated that these established typologies might not be the most valid measures of the gratifications associated with the Web, but in the absence of new measures this survey was constructed to make baseline comparisons. Kaye (1996) offered only minimal language changes to particular TV-related items, arguing the television industry sees the Web becoming more like television.

With those caveats, the assigned item loadings found here are fairly consistent with

Kaye's (1996) study of Web users, and markedly different in places from Rubin's (1983) study of television which used factor analysis to determine the gratification types (Table 5-1). Kaye (1996) identified a factor labeled "Escape," that was eliminated in the TV Web study with the refinement to a six factor solution. However, Kaye did not find a "Companionship" factor, which was found in the TV Web study.

A more notable difference is between Rubin's (1983) items and the fairly consistent factor loading patterns between Kaye (1996) and the TV Web study. A well defined factor - here labeled "'Entertainment'" - appears in both Web studies accounting for significant amounts of variance and high loadings from 8-10 items, while in Rubin's (1983) television study the factor appears with only 3 items. This is apparently more than a semantic distinction over the true nature of the term "'Entertainment'". These television items have developed along specific types of viewing experiences and motivations. When applied to television, they have shown much more specificity in factor loadings than was found in the TV Web study. In television studies, some of the items have loaded on a "Relaxation" motivation, and others on an "Arousal" motivation. In the TV Web study, those items did not load as discreetly. Rather, each was part of the "Entertainment" factor.

Since the logic of exploratory factor analysis is to discover underlying dimensions, we must ask what dimensions these items actually are measuring in regards to the Web. Clearly, this application of "Entertainment" is a concept with more conceptual clarity when applied to television rather than the Web. When relaxation and excitement items load nearly equally on a factor with regard to the Web yet are not significant contributors on a similar factor in a television study (Table 5-1), there is a clear difference in how the audience perceives and uses these communication experiences. Perhaps, from the perspective of Web users, using the Web to unwind, to thrill, or for entertainment are virtually equal. Television is a medium dominated by entertainment content, so it is to be expected that "Entertainment" would be a differentiated, complex dimension in that context.

Table 5-1
Comparison of TV Uses and Gratification Items
Between TV Web Survey and Comparable Studies

Items/Factors	TV Web	Kaye (1996) *	Rubin (1983) **
Entertain			
Because it allows me to unwind	X	X	
Because it relaxes me	X	X	
Because it's a pleasant rest	X	X	
Because it's enjoyable	X	X	X
Because it entertains me	X	X	X
Because it's thrilling	X	X	
Because it amuses me	X	X	X
Because it peps me up	X		
Because it's exciting	X	X	
Because I just like to access it	X	X	
Pass Time/Habit			(Combines 2 factors)
When I have nothing better...	X	X	X
...Something to occupy my time	X	X	X
...passes the time away	X	X	X
...it's a habit	X		X
Just because it's there..	X	X	X
...get away from what I'm doing	X		
Companionship			
...makes me feel less lonely	X		X
So I don't have to be alone	X	(Not a factor)	X
When there's no one else..	X		X
So I can get away from...	X		
Social Interaction			
...something to do when friends	X	X	
...I can talk to other people about	X	X	(Not a factor)
...be with other members	X	X	
Information			
...it helps me learn	X	X	X
...I can learn what could happen	X	X	X
...learn how to do things	X	X	X
Web Site Preference			
...a specific site I want to access	X	X	
...to find specific info	X		(Not reported)
...like to access certain sites	X	X	

*Kaye, B. (1996). The Uses and Gratifications of the World Wide Web. Paper presented at the Association for Education in Journalism and Mass Communication, National Conference, Anaheim, California. August, 1996.

**Rubin, A. (1983). Television Uses and Gratifications: The interaction of viewing patterns and motivations. Journal of Broadcasting, 27. 37-51.

The Web, conversely, is an information driven medium with some minimal content that could arguably be termed “thrilling” or “relaxing.” Greater refinement and expansion to the measures associated with information seeking may be suggested by this study. It appears these uses and gratification components are measuring the “Entertainment” dimension with numerous items and all 10 may not be necessary. Other important dimensions such as “Information/Learning” and “Site Preference” clearly rank high as reasons respondents say they use the Web, yet there is not a great deal of variance in those scales. With additional items focused on those dimensions, a higher quality measure may result.

Another important finding is the difference between the level of agreement with the “Site Preference” gratifications and the “Entertainment” gratifications. While “Entertainment” accounts for a high degree of variance - partly a function of so many items loading on the factor - the standardized mean of the “Entertainment” scale is only 2.63, compared to 4.05 for “Site Preference.” Further, “Site Preference” is the only scale that did not correlate modestly (.176), with “Entertainment.” In other words, the types of gratifications that represent the highest level of agreement for the TV Web audience - “Site Preference” - are also the most distinct from all the others. Only “Information/Learning” gratifications show modest correlation with this scale (.278). It seems possible there are two distinct types of motivations at work here, or even two different types of audiences represented in the sample.

The “Entertainment” factor is effectively measuring some dimension of use, as evidenced by a high degree of variance explained and high number of items loading. The “Site Preference” scale, while measured as very important to the audience, explains a low amount variance. The scale itself was not highly variable, because the level of agreement with the items was so high. Despite a relatively high mean and low standard deviation, reliability analysis is also marginal (Cronbach’s Alpha=.59). As noted in Chapter 4, the scales are retained for their exploratory value, but the addition of more items measuring

dimensions of "Site Preference" could likely add to the reliability of this scale. This does not invalidate the study, because the possible insufficiency of the measure is itself a research finding, but it does argue for expanding the range of items to adjust to intrinsic differences in a different medium.

The discrepancies inherent in the scales, items and factor loadings also point towards a finding that Web uses and gratifications are indeed different from those associated with television, perhaps belying assumptions the two mediums will effectively merge. This theme will be addressed throughout this discussion.

Design Preferences

Considering the absence of established measures for Web design preference, the factor solutions found for design issues are enlightening. The traditions of hypermedia and human-computer interface design guide the labeling of these dimensions as "Aesthetics," "Interactivity" and "Multimedia." The most problematic issue concerns the failure of "Email Links" to load in any satisfactory manner. There is an aspect to Web page design that users apparently feel is very important - interpersonal communication - and it is not represented through multiple items. When considered as a single-item indicator against the other scales, "Email Links" has the highest level of preference by the TV Web users - a mean of 7.21 on the 9 point scale. A "communication" dimension could be considered a fourth possible scale that might be more broadly addressed with multiple items. The short history of computer mediated communication, and the Web in particular shows email still to be a driving force for online use. Despite the fact that Web browsing is not the same as chatting or sending email in a structural sense, the online experience for the user may actually include these kinds of personal communication right alongside other types of Web usage. Modern Web browsers facilitate this connection through built in email programs that respond when email links are activated.

The "Interactivity" scale is also a bit problematic, with a Cronbach's alpha of .65. This

could possibly be addressed with additional items. The secondary loading (.39) of the item “..map like graphics that outline the whole site.” on this factor likely indicates some conceptual confusion over whether map-like graphics are intended to be a navigational device or an aesthetic consideration. Nevertheless, “Interactivity” as defined here appears to be an important concept that appears in the sample, and is likely a real dimension despite the methodological problems noted. The scale encompasses some of the highest single item means, including “Search tools,” which users ranked as the design feature they liked the most.

Notably, “Multimedia” is one of the few scales in the entire study that shows high reliability with a low number of items. The Cronbach’s alpha for this two item scale (.90) indicates a tightly drawn concept. Given that this is a group of users interested in television related content, it is understandable that “live sound” and “live video” would be understood as potential components on a Web page, but it is likely that their relative low level of importance in the rankings is a function of the technical limitations of the Web at the time of the study. As connection technologies improve, this dimension could expand in importance.

Content

Just as there was little literature supporting the construction of design items, there was even fewer published guidelines grouping areas of Web content into meaningful categories. The scales created by this section of factor analysis are useful as first exploratory steps, but the issues evident in the data are a clear indication that the Web is still an emerging medium with evolving content forms. Television can place its content into such categories as sitcoms, news, variety, game shows, etc. Newspaper content can be labeled national, local, editorial, sports, etc. But Web content, arguably, has not yet fallen into such neat categories. What is a search engine site, for example, when it adds news and weather links along with its indexing services? What is a travel site - news, research or shopping? In

reality it is all three, and this same functionality that makes the Web so attractive in many ways to content producers also makes typologies difficult for researchers.

These content-related ambiguities are seen in the factor loadings and marginal Cronbach's alphas for some of the content scales. The "News" dimension, which accounts for the largest amount of variance, had very few high secondary loadings and a modest alpha (.79). This targeted sample demonstrates throughout the study an interest in and usage of "News" content in various forms, so it is logical to find this factor fairly stable. Likewise, "Research" is reported with a fairly high level of agreement - a scale mean of 4.16 - but there are more problems with this concept. Some "News" items loaded modestly on this factor, representing the nature of the Web as a medium where the lines between news and research are blurred due to both immediacy and the quick access to archived material sometimes available from a news page.

The content concept of "Leisure" suffers from the same conceptual problems as the uses and gratification scale "Entertainment." The rotated loadings in this case are generally satisfactory, but the Cronbach's alpha is the lowest (.62) among the content scales, despite 5 items being used. Even though there is evidence of a factor present, there are challenging conceptual issues with a scale including such disparate items as "Online shopping," "Chat rooms" and "Browsing." In terms of this sample, these activities may indeed represent a single dimension, because it is not a heavily preferred use of the Web for a majority of respondents. But it is clear that the items on their face seem quite different and this is a scale worthy of future exploration.

The content scale "TV" also had items with secondary loadings on other factors, such as weather sites loading on the "News" factor and television network loading on "Leisure." The fact that these television site items could even load as a separate factor is itself an interesting finding, and again reflects the targeted characteristics of the TV Web sample. Visiting television station sites was one of the higher ranked activities reported by these

users and from the factor analysis it appears that is a distinct kind of activity. If items such as "visiting local television sites" had loaded on more general content areas such as "News" or "Research," it may have indicated users identify "TV" station content with one of those conceptual factors. However, the distinct loading indicates these users identify station sites differently, and that content producers still have an opportunity to explore and define themselves better. Nevertheless, the marginal Cronbach's alpha (.66) and the low number of items in the "TV" scale argues for a broader range of items in future research. If there is a TV Web niche audience, there is likely a category of television-related Web content that relates directly to that audience. The scale is retained precisely for what it begins to uncover, but interpretations relative to what this means for television stations will be somewhat limited due to the low reliability.

The "Music" content scale, like "Multimedia" under design preference, is quite independent both in terms of factor loadings and Cronbach's alpha (.84), despite comprising only two items. Listening to music or radio on the Web was the lowest reported activity when scale means were compared but it nevertheless is an independent factor.

Among the more problematic findings in this factor solution were the three items not loading significantly on any one factor. Items relating to "Travel Sites," "Sports News" and "Newsgroups" clearly have some frequency of use in the sample. As noted previously, a travel site may have elements of news, research and shopping and that diversity of content seems to be reflected in the factor loadings that are across the board. "Sports News" sites, which are quite popular on the Web, likewise seem to reflect a separate dimension. While this item loaded modestly (.38) on the "News" factor, it appears "Sports News" is not perceived quite the same for these users as other types of news. "Newsgroups," which have less to do with news than with bulletin board type communication, also appear to reflect an independent dimension. This item did load near the criteria level (.44) on the "Music" factor, but item analysis in the scale showed it clearly did not belong on that

factor, as it lowered the overall reliability significantly.

These observations point out the limitations of these findings, particularly applied to interpretations of how content relates to other variables. While there are clearly some dimensions of Web content that can be typed and analyzed based on this study, there is still much about the dimension of Web content that must be understood. Future studies may consider a wider range of items based on the factors that have been discovered here. This study advances the possibility that Web content can and should be typed, but that typology is still far from settled. Predictions about how gratifications may relate to content are thus limited by this most exploratory section of an exploratory study.

Caveats

Based on this analysis, these central limitations frame the remainder of the discussion:

1. The TV uses and gratifications items, while standardized and established in the literature, more readily apply to television and appear not to measure some dimensions of the Web experience.
2. Low scale reliability across all three areas of study: gratifications, design and content is due in part to a methodological lack of items measuring dimensions unique to the Web.
3. Generalizations about Web content are the most limited in this study, due to the wide ranging nature of the available items, low scale reliability (with the exception of "News" and "Research") and presence of several single item indicators.

Nevertheless, these problems do not invalidate the patterns which can be explored between gratifications as a way to understand media use, and the medium attributes, choices, and demographic variables of interest. This study has gathered a large sample from a targeted audience and asked them about their use of a new medium. To the extent to which these answers can be meaningfully generalized in an exploratory vein that recognizes such caveats, the information is both valuable and insightful.

PUTTING IT TOGETHER - THE TV WEB USERS

Site Preference

“Site Preference” motivations for using the Web received the highest level of agreement among TV Web users. It is clearly reported by these users as a major gratification driving the online experience. The scaled mean for “Site Preference” is 4.05, more than a full metric above the mean for the next closest gratification scale. Each of the individual items related to “Site Preference” also rank at the top of respondents’ agreement (Fig. 5-1).

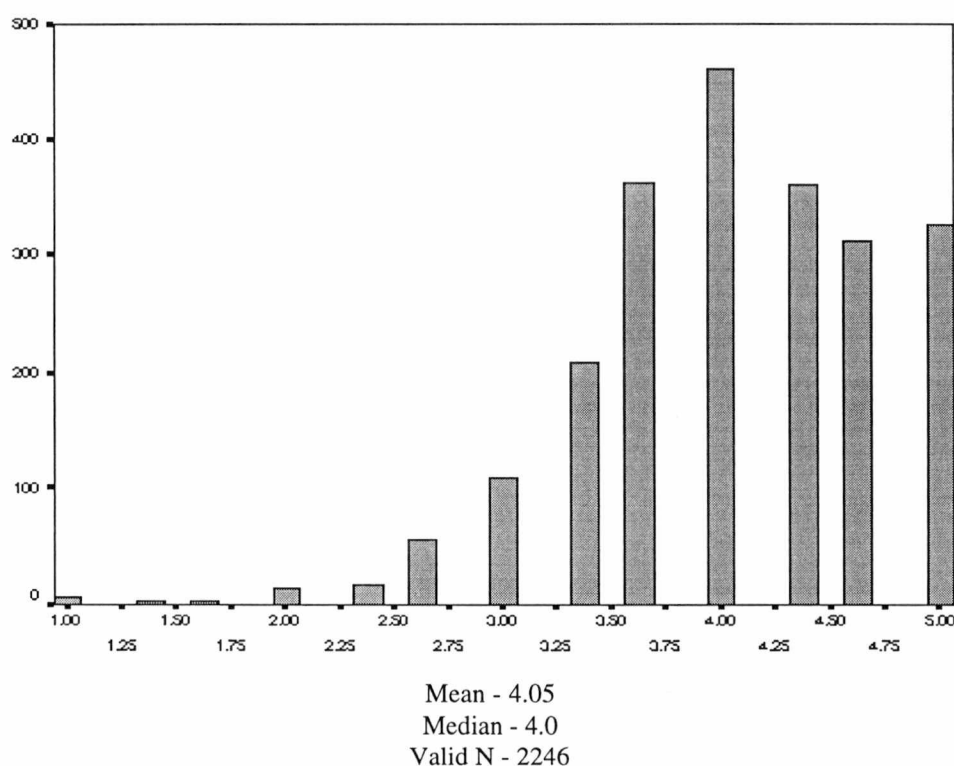


Figure 5-1
Frequency Distribution of Site Preference Gratification Scale
in TV Web Survey

The distribution of this scale is also very cohesive, with a standard deviation of .68. Examining the data visually further reinforces the notion that using the Web because of the desire to seek particular sites is an important reason for going online for this audience. On a frequency basis, 75% of the respondents gave these items a “3” or higher, meaning the

statements were at least somewhat like their reason for being online. As previously noted, the statistical power of this scale is somewhat weakened by the low reliability, but it is clear from these other indicators the concept is an important one within this sample.

The "Site Preference" scale showed some independence, with inter-correlations no higher than .278 with the other gratification scales. We can say those motivated by "Site Preference" reasons also report some degree of Web usage for information seeking or learning motives. There is a very modest indication this motivation is correlated with age (.10), meaning "Site Preference" use trends slightly towards older users. "Site Preference" users are slightly more likely to be female, but in general this motivation for going online cuts across gender lines. "Site Preference" motivations increase slightly with higher levels of education, but there is no clear relationship between these motivations and income.

In terms of other aspects of Web use, "Site Preference" use does not relate to the number of hours one spends on the Web, nor how long they have been online. It cannot be explained by whether one accesses media sites at home or work, or how much time they spend with other media. In other words, this motivation for using the Web that is so important to TV Web users is one that is not easily explained by most other variables for analysis.

In general, we can also say "Site Preference" users prefer functionality over form in their Web sites, showing a modest degree of preference for interactive features such as links and other navigational aids over qualities such as graphics and photographs. And these users appear to utilize the Web for accessing "Research"-related content to a larger degree than any other activity. None of these correlations, however, is larger than .25 when other significant variables are controlled.

Far from assuming the Web to be an exciting end in itself, it appears respondents in this sample use the Web in a focused, content-driven manner. They do not, in general, just go online to browse as perhaps was expected in the infancy of the medium. There is

apparently an aspect of Web use that is distinct, dominant, and relatively unexplained through many of the variables employed here. If we assume we can believe the self-reporting of the individuals, then we must consider that the Web, for many, has become a targeted, goal-directed, user driven media experience where content really is king.

Entertainment

The second most important motivation for using the Web is broadly defined as gratifications designed for "Entertainment." This concept is wide ranging, including items that say the Web helps to relax, is exciting, and amusing. Despite this diversity within the scale, the concept is valid, accounting for the greatest amount of variance among the gratifications and having high reliability within the scale (.90). The standardized mean for the scale is 2.63, placing it more than a full metric point below "Site Preference" in agreement with reasons for going on the Web. The distribution of the scale shows a wide range of responses, with a median value of 2.6, and 50% of the values falling between 2 and 3.2, meaning a majority of the respondents say these items are generally not much like their reason for using the Web or only somewhat like their reason (Fig. 5-2).

"Entertainment" gratifications are not correlated with age - this type of motivation appears to cut across age groups and gender classifications. There is also no clear pattern for how "Entertainment" motivations relate to education. Use of the Web for these purposes appears to decline slightly with higher levels of income, but the pattern is not pronounced. And it is minimally correlated (.13) with the number of hours one spends on the Web per week. Using the Web for "Entertainment" appears to decrease the longer these users are online. Those who are new to the medium report higher agreement with this kind of usage than more seasoned users. And as might be expected, using the Web for "Entertainment" is more a factor for those accessing it at home than at work.

"Entertainment" related motivations are modestly correlated with "Aesthetics" and "Multimedia" characteristics of a Web page. When these users go online to unwind or for

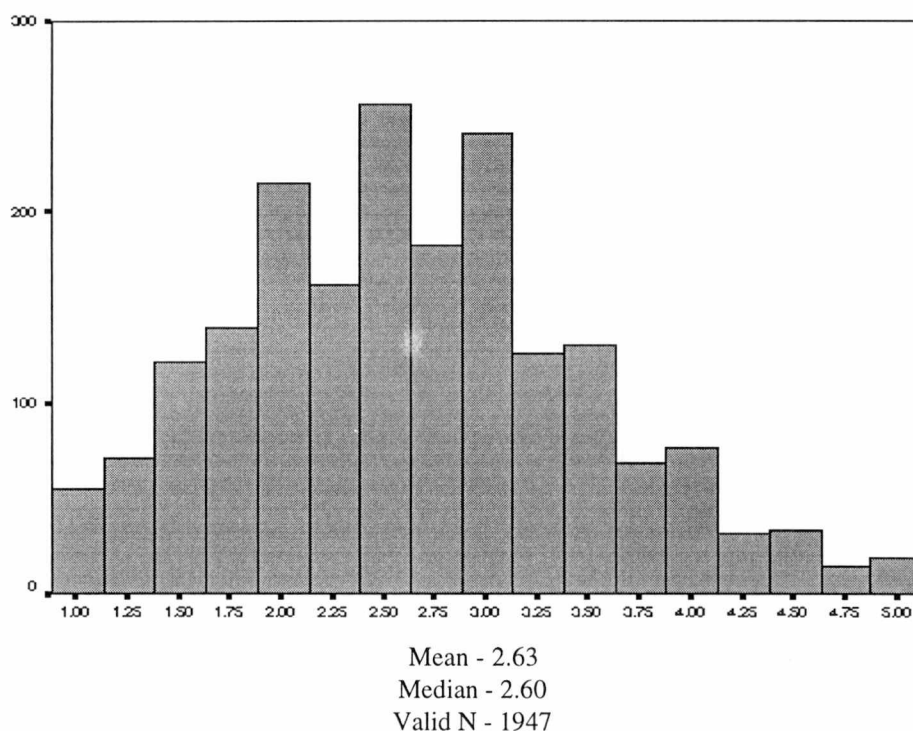


Figure 5-2
Frequency Distribution of Entertainment Gratification Scale
in TV Web Survey

excitement, they are interested in the look and dynamic features available to them - more so than the ability to interactively navigate, or easily send email. And “Entertainment” motivations are correlated with “Leisure” content such as game playing, chat rooms, online shopping and entertainment related Web sites. “Entertainment” motivated uses are modestly correlated (.10) with viewing entertainment programming on cable networks and renting videotapes, but the relationship is not strong. These users also do not report a great deal of book reading, although this negative correlation is also rather weak (-.08).

In general, “Entertainment” driven Web use in this study emerges as an interesting, intuitive category. This is not the most preferred motivation in the sample, but appears to represent a core of users who might be termed “ritualized” users - those who use the medium for something other than targeted activities. When users seek or receive these

gratifications, there are clear relationships to "Leisure," visually attractive content. While these users may not be the majority, they are a significant subset even in this targeted audience, and there are clearly ways for content producers to attract them based on the variables studied here.

Information/Learning

The third highest ranked reason for using the World Wide Web is for "Information/Learning" gratifications. On a standardized scale, this motivation set has a mean of 2.55 and a median of 2.33. The distribution (Fig. 5-3) shows this to be a somewhat inconsistent motivation. The upper 25% of the responses range from 3 to 5, while the lower 25% range from 1 to 2. Within the middle 50%, the range is 2 to 3, meaning nearly a majority of the respondents said this was not much like their reason or was somewhat like their reason for using the Web. Apparently some respondents use the Web for these reasons, and some do not.

"Information/Learning" gratifications are modestly related to age - they increase slightly with those who are older. Females are slightly more likely to use the Web for this reason, but the difference is not dramatic. There is no clear pattern of relationship between this motivation and educational levels or income. Such motivations are slightly correlated with the total hours one spends on the Web, although the correlation is modest (.13). It is not related to the users' experience with the Web, as "Information/Learning" motivations are found in all ranges of experience. Users are somewhat more likely to report such motivations if their access point to media sites is more often at home rather than work.

"Information/Learning" users show fairly equal preference for "Aesthetics," "Interactivity," "Multimedia" and "Email Links" design features on their Web pages. And they show fairly equal usage of "News," "Research" and "Leisure" type content. They also show a modest inclination to watch network TV news on a weekly basis, as measured by a correlation of .12 between hours watching network news and the "Information/Learning."

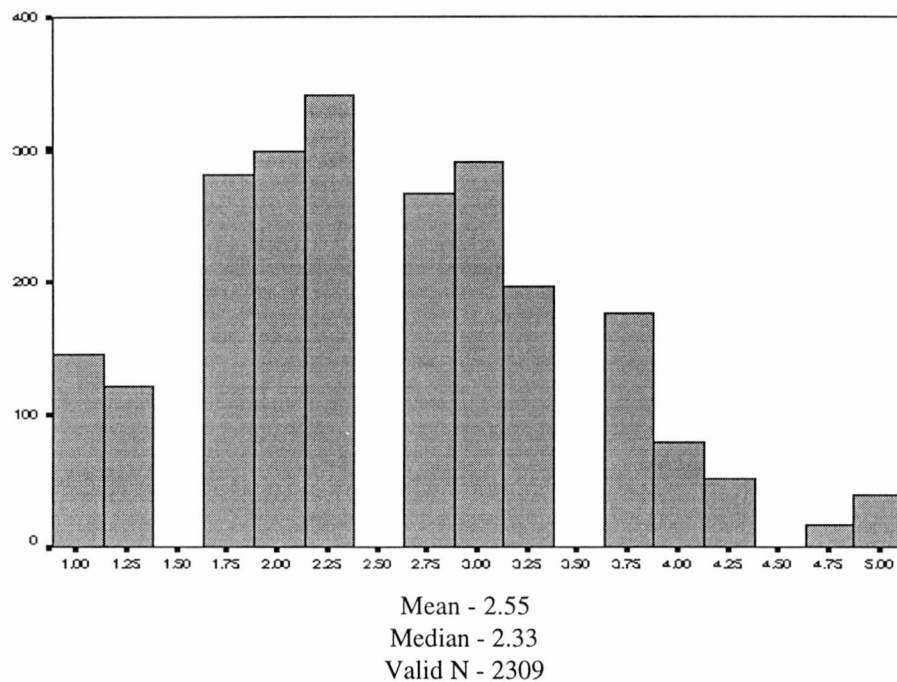


Figure 5-3
Frequency Distribution of Information/Learning Gratification Scale
in TV Web Survey

“Information/Learning” gratifications are not independent - these respondents report such motivations to be important in relationship to other motivations, most notably “Entertainment.” In a medium as new as the Web, it is clear that “Entertainment” and “Information/Learning” are related. Conceptually, “Information/Learning” can be favorably compared to “Entertainment” in a medium where information is the essence of the content, and the very act of accessing it can be a source of entertainment or stimulation for its targeted users. Compared to television, where nearly every person watches for different reasons, the choice to regularly use the Web implies literacy, means, access and likely a love of learning. In this context, it is more understandable that “Information/Learning” motivations cannot be seen as distinct from “Entertainment,” nor can such motivations predict one type of design or content preference over another. Some of these Web users apparently like to learn new things, and find the very process of doing so entertaining.

Pass Time/Habit

The fourth highest ranked scale of Web gratifications was using the medium for “Pass Time/Habit” reasons. Although the standardized mean for this scale is 2.00, this factor accounts for the second highest amount of variance in the sample. The distribution of this scale (Fig 5-4) is skewed towards the low end, indicating most users said this is not at all or not much like their reason for using the Web. In fact, the quartile break shows 75% of users rank this scale at 1.75 or below. While there is clearly some variance accounted for by “Pass Time/Habit,” as indicated by the factor loadings and a scale reliability of .84, this motivation is generally low among the users in this study.

“Pass Time/Habit” motivations are moderately related to “Entertainment” motivation and strongly related to using the Web for “Companionship.” To a lesser extent, “Social Interaction” and “Information/Learning” motivations also have some relationship to this dimension.

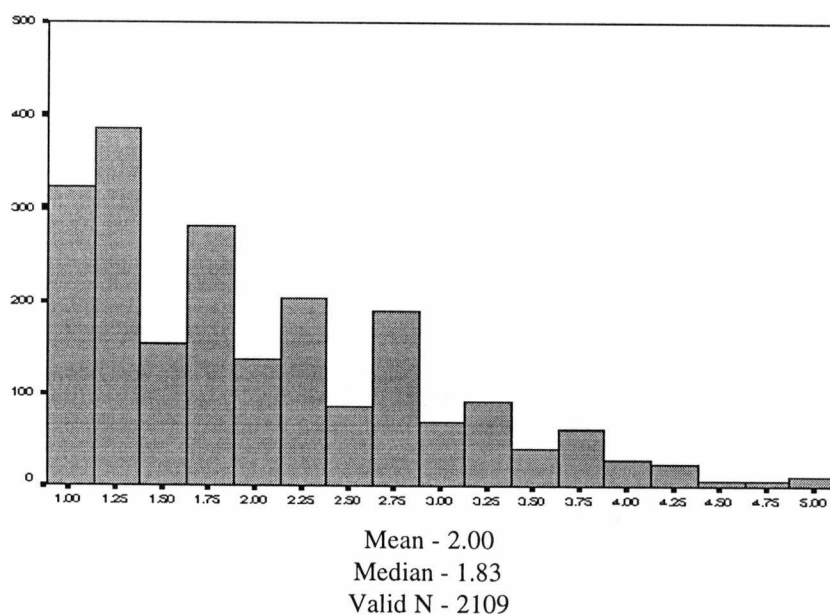


Figure 5-4
Frequency Distribution of Pass Time/Habit Gratification Scale
in TV Web Survey

Although habitual Web use is not prominent in this sample, some of the characteristics of those indicating this motivation are more predictable based on demographic variables. There is a modest, negative correlation (-.27) between this gratification scale and age. As age increases, Web use for habitual reasons appears to decline. Females report slightly higher "Pass Time/Habit" motivations than males. This motivation declines somewhat with increased education and increased household income. It is only minimally correlated (.06) with the number of hours one spends on the Web but has no significant relationship to the amount of experience users have online. Intuitively, "Pass Time/Habit" motivations are more likely if the user accesses media sites at home.

Motivations related to "Pass Time/Habit" are modestly correlated with the "Aesthetics" or "Multimedia" features of a Web page, and "Pass Time/Habit" users appear most interested in "Leisure" type content. There is a significant negative relationship (-.17) between "Pass Time/Habit" motivations and "Research" content, suggesting again the dichotomy between instrumental and ritualized activities on the Web. One who is just passing time on the Web is likely not gathering information for professional or educational reasons. "Pass Time/Habit" use also correlates somewhat with viewing network entertainment programming, and there is a slight negative relationship (-.07) between this type of Web use and reading books.

Since "Pass Time/Habit" related motivations rank so low in agreement among the gratifications reported by this audience, caution is appropriate in reading too much into the relationships with other variables. Where these motivations increase, the correlations discussed here are informative, but "Pass Time/Habit" gratifications are not important for a the vast number of people in this study. Only 2.5% of the respondents said these reasons were a lot or exactly like their reason for using the Web. This is not a subset of users most television stations would want to give much attention to, based on their representation in this study.

Social Interaction

The use of the Web for "Social Interaction" reasons - talking to people about sites and accessing sites with others - is likewise not a dimension that seems important to the TV Web audience. Web browsing is an inherently individual activity, at least as it relates to using a personal computer.

Here again, the problem with measures designed primarily for television is evident. The measures clearly explain variance, but in reality we are talking about variance that goes from very low to only the midpoint of a five point scale. The mean for this scale is 1.82 with a median of 1.67. The distribution (Fig. 5-5) show this skewness towards the low end. The third quartile breaks at 2.33, meaning 75% of these respondents rank "Social Interaction" as not much like or not at all like their reason for using the Web. So when we talk of the correlation between this scale and other variables, we are talking about a dimension that does not represent a primary reason for using the Web. Also the "Social Interaction" motivation scale has a marginal level of reliability (Cronbach's Alpha=.54). These problems make the "Social Interaction" dimension one of the more limited, qualified factors in the study.

"Social Interaction" motivations decline slightly with age ($r = -.11$) and females report slightly higher levels of Web use for this motivation. Higher education has a slight negative relationship with "Social Interaction" motivations as does higher income. The total hours one spends on the Web is modestly correlated (.14) with using the Web for "Social Interaction," but there is no clear pattern between these motivations and the amount of experience one has had on the Web. "Social Interaction" use is also higher if the respondent is at home when accessing media sites.

"Social Interaction" uses show a modest correlation with aesthetically pleasing Web pages and "Multimedia" content. However the correlation between "Social Interaction" and "Email Links" is only .15. It appears "Social Interaction," as a function of Web use, is

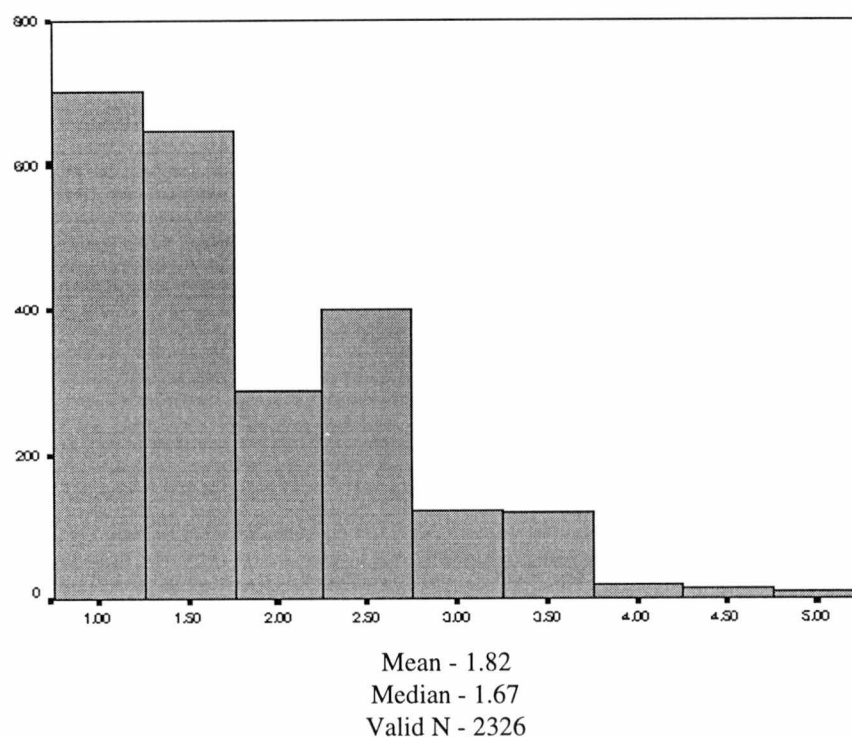


Figure 5-5
Frequency Distribution of Social Interaction Gratification Scale
in TV Web Survey

somewhat distinct from interpersonal computer-mediated communication. The relationship is significant, but not strong. “Social Interaction” motivations, however, are correlated modestly with use of “Leisure” related Web sites, which include such things as chat rooms, and online gaming. The “Social Interaction” user also spends some time renting videos, playing video games and going to the movie theater, although these correlations are quite weak.

The difficulty in measuring “Social Interaction” gratifications makes these relationships more difficult to generalize. But the reality is the Web is not typically used by this audience for social purposes. Web use appears in this sample to remain an individualized rather than a communal activity. Even with improvements in Web technology, it seems the notion of sharing Web content with a group is still not like the shared experience of television.

Companionship

TV Web users don't go online for "Companionship." Although use of the medium for such a purpose clearly is a dimension that is reliably measured here ($\alpha=.80$), it is not a reason generally reported by this audience. The standardized mean for the "Companionship" scale is 1.57, with a median of 1.25. The distribution (Fig 5-6) shows most of the respondents say these uses of the Web are nothing at all like their reasons for going online.

Any correlations with such a low ranked variable must be qualified. When we talk of increases in the Web use motivation, we are talking in real terms of a respondent saying this is only not much or somewhat like their reason for using the Web at best. The range for 90% of these users on this scale is from 1 to 2.75. These are not large degree changes in response, so for the majority of the correlations, we should not assume the other

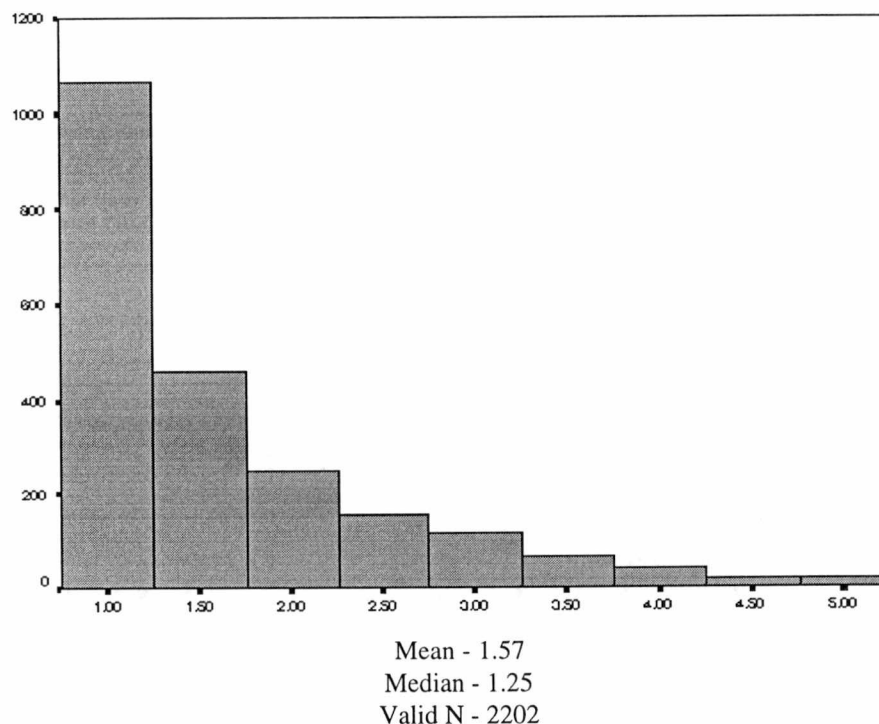


Figure 5-6
Frequency Distribution of Companionship Gratification Scale
in TV Web Survey

variables are predicting a great deal of change in motivational preference for these users.

With that understanding, "Companionship" motivations are negatively related to age and are slightly higher among females. They generally decrease with higher levels of education but the pattern is uncertain at best with household income. There is a modest correlation between "Companionship" uses and hours spent on the Web. "Companionship" motivation is also higher if one accesses media content at home than at work or school.

"Companionship" motivations are modestly related to "Aesthetics" and "Multimedia" page design features, but there is not a significant correlation with "Email Links." And where "Companionship" motivation increases, usage of "Leisure" type content also increases. This motivation also has a negative relationship with use of "Research" content on the Web. "Companionship" Web use also has a slight positive relationship with spending time going to the movie theater and playing video games and it is negatively related to reading books.

"Companionship" needs do not appear to drive Web use within this targeted group of users nor do such gratifications explain many other preferences and uses related to the Web. In the universe of Web users, this minority group may be important and indeed a niche to which content can be tailored. But they are beyond the periphery of interest for most media companies, and likely could not be attracted in large numbers to the type of content provided by television stations now or in the future.

CONCLUSIONS FOR USES AND GRATIFICATIONS STUDY

New Medium/New Measures

Part of the impetus for studying the television Web audience in this manner was published calls by communication scholars to "dust off" uses and gratification methods (Morris and Ogan, 1996, Newhagen and Rafaeli, 1996) and use them as a framework to understand an emerging medium. There is precedent for studying new media through the

framework of the old. The measures applied here have largely been standardized from the work of Greenberg (1974), refined by Rubin (1979, 1981, 1984) and adapted by Kaye (1996). The television measures were used because of their published lineage, standardization value, and industry developments pushing the Web to be more like television - even merging the two mediums.

Nevertheless, the measurement problems documented here lead to a conclusion that the important gratifications associated with the Web - even for a television related audience - are different. In the Rubin (1981) study that compares methodologically with this one, the gratification scale related to specific content was the most highly ranked one, just as "Site Preference" ranked highly in this sample. But Rubin did not analyze that dimension of gratifications, nor was it as clearly distinct as found here in terms of separation from the rest of the sample and relationship to other variables.

Dimensions labeled "Entertainment" in this study are far more differentiated in the television studies, separating into areas of arousal, relaxation and entertainment . These Web users do not apparently regard those aspects of using the Web as clearly separate concepts. The conclusion is that there are too many items measuring a single dimension - loading 10 items - and too few measuring an important dimension related to "Site Preference." We have argued that this is more than just a methodological or semantic artifact, but represents evidence that aspects of the Web communication phenomenon are different enough from those of television to warrant new measures.

The inference from these measurement problems is that the Web is not like television, and perhaps is not becoming more like television in the experience of the user. Even if technology makes such leaps possible, the user might not perceive the two media as functionally one. Additional evidence for this conclusion is in the high degree of preference for "Interactivity" features such as search tools and links on Web pages, and the highly reported usage of the Web for "News" and "Research" type content - both of which are

reading, not watching, based activities. Williams, Phillips and Lum (1985) forecast some of these potential developments when they suggested studying uses and gratifications of new technologies in terms of choice, and qualities of interactivity.

This study has shown that these users access media sites at home. A 1997 study of 15,000 U.S. Homes showed that nearly 40% of those with PC's were likely to have the computer and television in the same room, in use at the same time ("40% of Home PC..., 1997). Hopeful content producers may suggest this means the TV and PC will indeed be one someday, but another look would argue these two "appliances" already occupy separate media spheres in the users' world. There is evidence here the two media also serve different gratifications.

Ritualized and Instrumental Use

Another finding of this exploration revives the concept of understanding media use in terms of the two larger groupings of instrumental and ritualized use. This was treated most thoroughly by Rubin (1983, 1984) and Rubin and Perse (1987), growing out of the television data that has already been cited so frequently. Rubin and Perse (1987) defined ritualized use as that more focused on the medium, rather than content and associated with such motives as pass time, habit, and relaxation. Instrumental use is "more intentional and selective and reflects purposive exposure to specific content (59)." However, their analysis only looks at the "Information/Learning" factor for instrumental use and leaves out content preference gratifications.

The inter-correlation of gratification scales and scale means show Web "Site Preference" to be a somewhat distinctive motivation in this sample. "Information/Learning" motivations show modest correlations with all but the "Entertainment" scale. The evidence is not conclusive, but does suggest the distinction between instrumental and ritualized use continues to exist, as it did for television. Web use seems to be more instrumental. Accessing requires aptitude, choice and interactivity. But the separation between uses for

content, and uses for medium are still evident and remain powerful ways to understand media behavior.

Gratifications, Grammar and Choice

This study was also guided by the call of Katz, Blumler and Gurevitch (1974) to explore the “grammar of different media...their specific technological and aesthetic attributes.. (25),” in relationship to the uses and gratifications of the audience. In terms of this new medium, that “grammar” has been studied specifically through page design and content preferences. While the correlations between gratifications, design and content have been low to moderate, they are consistent with the general range of correlational strength seen in Rubin’s benchmark studies and Palmgreen (1984) notes such values are in the range of those generally found in cross-sectional surveys of mass media behavior.

In that framework, the intuitive nature of many of the correlations in essence validates this approach to studying the Web, and gives continuity to the gratification measures beyond some of the limitations we have already discussed. “Entertainment” gratifications intuitively correlate with attractive pages, “Multimedia” and ““Leisure”” content. Instrumental, “Site Preference” gratifications intuitively correlate with the ability to search and manipulate pages and to find “Research” - related Web sites.

While not largely theoretic, these uses and gratifications can begin to make some limited predictions about both design and content preferences. Instrumental, “Site Preference” use may need to be better measured as a dominant gratification, but this evidence already shows what variables future researchers might expect to be salient - “Interactivity,” “Research” content, “News,” etc. Through better measurement, and a more rigorous standard applied to directionality of these correlations, advanced methods may give way to more predictive models. The evidence is clear that “Entertainment” motivations, may not be the most “popular,” but where they are found, they have the strongest observed relationships to design, content, and even key demographics.

The fact that much of these data allow us to talk about aspects of the Web audience in meaningful, discrete ways in terms of characteristics, media usage, choices and content usage, argues for the continued usefulness of uses and gratification. The field cannot stand still, of course. This study is merely one starting point that intentionally set out to explore potential relationships for their value to future research. Measures must be refined, terms must be better defined, and analysis must be more sophisticated. But at its base, uses and gratifications is a sophisticated tool of description. In view of understanding a new medium through the lens of an old, such a descriptive tool proves continually effective.

Limits of this Study

Within the uses and gratifications field, this study has four main limitations. As has been discussed, the measures applied here originated in television-related studies. While they provide a useful baseline comparison, these data reveal some dimensions of Web use that are important to the audience, but are not being adequately measured. Until new measures are developed that replace or supplement the available items, some dimensions of the Web will not be fully understood from the audience's perspective.

Secondly, the areas of page design and content usage are purely exploratory. While the resulting factor analyses demonstrated some interesting patterns, they are only starting points. "Interactivity," for example, is an interesting dimension of page design that is only fairly reliably measured here. More and better items are needed and perhaps better question wording to create design and content scales with higher reliability .

Third, analyses of relationships were largely limited to correlation. While useful for an exploratory approach, more consideration should be given to causality before predictions can be made between such things as gratifications and content. For example, from this study we do not know whether "Entertainment" gratifications cause users to seek "Leisure" content, or whether those reasons for using the Web are the result of exposure to "Leisure" content.

The final limitation of this study is the self-selected, non-random nature of the sample. While this has been an advantage in terms representing a targeted population of Web users, the results are less generalizable to the total population of online users now, or perhaps in the future. This discussion has consistently focused on results in terms of the TV Web audience, as it is a better gauge of those types of users than the vast and more diverse Internet population. We do not know from this study what uses and gratifications exist in the general Web audience. Perhaps "Entertainment" motivations are more important to that population, and there is a greater frequency of Web use for "Social Interaction" or "Companionship." This sample tells us a great deal about a select group, but much less about the broad and growing Internet audience.

Suggestions for Future Research

The new directions for research discovered by this exploration are readily apparent. First, uses and gratifications approaches should be used in a qualitative manner to find new gratification items. These should particularly expand the dimension of "Site Preference" and "Information/Learning" motivations, as they appear to be quite important to Web users. The TV related measures may not need to be abandoned, but refinement, adaptation and minimization of such things as "Companionship" and "Social Interaction" which are not important motivations of this audience could simplify the understanding. This study used open-ended items to find new gratifications, but those responses were typically very content specific and were largely unusable. More time will need to be spent analyzing open ended gratification responses to determine what social-psychological needs they address. Focus groups and free response questionnaires are two possible methods towards that end.

Second, with refined items, it may be likely that Web use is a communication phenomenon dominated mainly by two or three motivations that are instrumental or ritualized in nature. The three factor typology used by Payne, Severn, and Dozier (1988) on magazines may be more useful, since the Web is presently more of a reading-based

medium. Those three factors of surveillance, diversion and interaction may explain the Web experience better than the 7-9 factor typology used for television. Future researchers should examine both new measures and different factor solutions to see if more parsimonious models are in fact more useful.

Third, there is much more to be learned about design aspects and content preferences in the Web experience. This study has shown that these areas can be studied in simple categories as revealed by factor analysis, but more refinement is necessary before such measurements are reliable. Once there are reliable ways to measure qualities of "Interactivity" in a Web page, for example, that factor can be compared to variables not addressed in this study, such as user satisfaction and emotional attachment to, or affinity with, the medium.

Fourth, more conceptual rigor needs to be applied to variables in terms of causality. If gratification items can be used in such a way that their wordings clearly imply gratifications sought or gratifications obtained, then a hierarchy of causality is established for testing independent and dependent variables. Conceptual clarity opens the door to more theoretic applications of uses and gratifications, perhaps making it possible to predict what content choices a user will make, or how much time they will spend with the Web based on certain gratifications. Uses and gratification research has moved in this direction in the past, and the Web opens new possibilities in that direction.

Finally, future research should look more closely at the true relationship between using the Web and related media. This study found tentative support for the idea of complementary relationships between watching a television station and using a television station's Web site. However, that relationship was not explored in great enough detail to make stronger conclusions. This idea of complementary relationships between media is critical for media companies to understand and for researchers who examine an increasingly complex media mix. We need to know if cross-promotional strategies work, if users really

do use one medium because of exposure to a related one, and whether a departure from relative constancy is occurring, if not in user's money, at least in their time spent with all media. This relationship can be discovered using these findings as a starting point, and asking more specific questions that measure key variables in more detail. These findings may be an important way to understand media behavior in the future - a future that abounds with more media choices, greater consolidation and integration among media companies, and true convergence of media for the individual user. In such an environment, the user is truly active, and will likely choose each medium based its unique ability to satisfy needs.

CONCLUSIONS FOR TV STATIONS

Know the People

Part of the justification for this study was the need for television stations to know their Web audiences better in order to design successful content and marketing strategies for the future new media mix. If we assume that these users surveyed are "early adopters" (Rogers, 1986) then understanding their preferences and motivations for using the Web will guide these strategies as the Web becomes a mainstream medium.

The data here argue that those who visit local television station sites are a "hybrid" audience, spending time with television and the Web in a somewhat complementary manner. These users generally range from age 30 to 50, and are more balanced in terms of gender than the general Web audience. They are educated - most with some college or a degree of some type. And their income could be termed middle class, without large numbers in the high end, as might be predicted with some kinds of technological adoption. Indeed, there are not too many surprises in the demographic make-up of this audience, but they represent demographic groups programmers and station managers would desire in many dayparts and for their local news broadcasts.

The TV Web audience does not consist of people brand new to the Web. The largest group reported here has been online from 1 to 3 years. This is a good sign for station

content producers. That experienced users have found their way to a TV station Web site could indicate familiarity with the content of that site or at least knowledge of the station. Such "Site Preference" usage, as has been evidenced here, is a key motivation for being online.

These users are primarily at home when they access media content, going online through personal computers and telephone modems. As connection technology improves, there is some indication users will improve their speed with it. At the time of this study, 33,600 bps modems were among the fastest generally available, and 30% of respondents were using them. The dominance of home access - whether it be for work or pleasure - is a useful finding here. Television stations that assume their media content is mainly a supplement for users to seek when they cannot view a television may be misguided. Nearly 40% of these users are accessing such content in a living room or den, meaning a television is probably nearby.

TV Web users check the Web frequently, more than 60% accessing it from 1 to 4 times each day. Any notion that station content does not have to be updated is probably poor planning. Checking news headlines was one of the 5 highest ranked activities performed on the Web, and it is safe to assume those updates will be made at other sites if the local station offers nothing new.

The TV Web users may not be among the heaviest in terms of time online, but their usage is substantial. Most of these users average between 5 and 20 hours a week. That is near or above the average hours for many other traditional media activities, including newspaper reading, and viewing entertainment programs and local news on television. Station managers must seriously examine an audience that on average spends at least as much time on the Web as they do watching network or local news, and consider what can be done to have some of that online time be spent with the station they know. Time spent with the station builds relationships, no matter whether the time is online or on-air.

Know the Preferences

Web activity may be broken down into several types of usage, as indicated in this uses and gratification approach, but in simple terms there is specific and non-specific usage. The potential for building an audience is probably in the former. Using the Web to access specific content or visit specific sites should resonate with television stations who often build their entire promotional schemes around brand name identity. There may be a subtle implication here that what is necessary is more than cross-promotion of a station's Web site through on-air plugs. If users say they primarily use the Web because they want to access particular sites, then those sites must have some identity of their own as a destination. Support for this is seen in network efforts to "brand" sites in ways that are complementary yet distinct. ABC no longer tells viewers to go to its Web site, but promote "ABCnews.com" - a subtle yet real identifier with both the network and the Web. Other examples are "CNN Interactive" and "ESPN Sportszone ." Certainly what makes these sites popular, in addition to the network tie-in, is the ability to develop unique content, tailored to the Web technology and the audience. Branding has long been a successful marketing technique, and local stations may need to further explore ways to push the concept further with their local Web sites.

What do brand name shoppers want? When "Site Preference" shopping increases, so does a desire to use links, search engines and email on a Web page. These users want control over content and the kind of content they seek is often more research oriented than general news. This kind of purposeful use leads users to still more specific content that meets specific needs. Television is not presently a search and retrieve medium, and stations who think of the Web through a passive television model may miss the key attraction of the new technology. The ability to go in depth, and gather information from weeks or months past, is a foreign concept in the world of local television programming. Television is by nature ephemeral, but the Web is not.

"Site Preference" use is moderately related to "Information/Learning" use, and there is a modest relationship between those motivations and using the Web to access "News" content. Television stations should also be encouraged by the correlations between usage of the Web for "News," "Research," and "TV" type content. This audience may be expected to use such sites in related patterns, but the relationships show the potential to adapt local station sites into resources that combine the best of all important attributes. It is not unusual to envision a Web site that contains updated information, alongside researchable archive material, with excellent navigational tools, multiple links and email capabilities. Indeed, these features are found on the most popular sites available and local television stations can do the same.

The other segment of the audience that represents a more predictable path are those seeking entertainment, arousal, relaxation and other diversionary or ritualized type gratifications. Because of the statistical strength of the "Entertainment" gratification scale, we can describe this audience more conclusively. They are younger, more interested in colorful, highly graphic pages and "Multimedia," and more likely to be found chatting, gaming or just browsing around. They are at times using the Web to pass the time or for "Companionship" and even "Information/Learning." They are also newer to the Web, and it appears as they are online longer they may adjust to use the Web in other ways, for other needs.

If these are the two most distinct groups of users found in this study, stations must reasonably ask which of the motivations they are best equipped to serve. Local television's identity is generally built around local news. Although local television news broadcasts will always have to compete using aesthetically pleasing sets, graphics, and music within the conventions of the medium, it is still content that matters most and the data here argues that content matters just as much, if not more, when audiences go online.

Even if some Web sites can be arousing, entertaining or relaxing, is that what a

television station site can or should do? Television stations are far better suited to maximize their information and interaction potential in a way that positions their sites locally as a must-link destination. Web consultants may say games or chat rooms connected to station sites are the best ways to attract the online community. This study indicates those already using the sites want something else.

Know the Potential

Change will continue to occur in media. It has characterized mass communication for more than a century. The management of that change is what is now before traditional media. Some practical conclusions remain as a result of this study.

The Web is different from television. While this may not be profoundly new conclusion, it is supported in various ways through the TV Web data. Technology that makes the Web more like TV may still not change its essential nature. A core audience already has a history with the medium on its own terms. The subset of that core sampled here expresses motivations, medium preferences, and content choices much more in sync with Web characteristics than with television.

It is clear that newspaper companies did not understand videotex as a medium with its own unique attributes in their various trials during the 1980's (Fidler, 1997). Television station strategies assuming a future where audiences watch their computers and interact with their televisions may similarly misunderstand the functional distinctions of the Web and fail to take advantage of those differences while Web use habits are being formed.

The Web may be complementary to local television. This study found no negative relationship between hours online and hours with other media. In fact, some of the higher - although modest - correlations were between Web hours and those spent watching network and local television news. Robinson (1981) raised the possibility of "the more...the more," that idea that users respond to increased choice with increased usage within their specific areas of preference such as news. The aggressive approach to building

stronger local Web sites with interactive, updated and archival content may not keep people from watching their news on the station. It may reinforce the need to see a station as an information source, regardless of form. Niches in the future may have less to do with the ability of a medium to satisfy particular needs than with the ability of a content provider to meet those needs in a variety of media and contexts.

The Web is here. All of the market research cited for this study points to the fact that the Web appears to have carved out a portion of the media marketplace and will remain a source of competitive displacement. The TV Web survey shows an audience making the online experience part of their regular media mix, accessing it on a regular, daily basis, in their homes for specific, instrumental purposes. The posting of a Web site is not enough for a station to be viable in this new medium. This audience shows little interest in the promotional, static content found on local television sites in recent surveys of their pages (Bates and King, 1996, Bates et. al, 1997). The interactive, searchable material that appears to be more attractive will take significant investments by the stations in personnel who recognize the Web as a medium in its own right.

Promotional and content strategies must begin with an understanding of mission that is seen through the prism of a new medium, not the poor reflection of an old one. The time for testing the online waters is over. Once users stay online for any sustained length of time, the passive, or arousal driven motivations decrease and the desire to find useful content takes over. Television stations must move beyond lukewarm approaches to the Web that are neither good television or good Web content. The Web - or some future version of an information superhighway - will remain, but many current players will not. Many television stations remain at a crossroads of that highway, but by standing still they may learn the audience has left them behind.

From this analysis, television stations can gain insights into the nature of online media usage - its particular interactive features that users appear to value and the "News" and

“Research” content that is most frequently accessed. Stations should see the potential for “branding” and making their sites destinations of choice. Both frequently updated information and archived content appear to be attractive features to the online audience.

Finally, stations should see the Web is not to be feared as a competitor, at least not in terms of the station’s ultimate goal - which is to have an audience for which a product can be provided and revenue returned. As the audience and Web advertising ventures grow, the financial issues of going online will likely resolve themselves. Advertisers will follow the audience. What remains are stations who must think of themselves in more than one business. Ultimately their product is not television, but content. If a stable audience accesses the product in multiple venues, it is the station/content provider that will matter, not the medium. Local stations have unique identities in their communities on which they can build an image that goes beyond channel settings. By understanding the needs and desires of their “hybrid” audience now, they may assure even larger audiences in the future who think of “Channel X” only as a metaphor for trusted information that can be found in many different, user-chosen forms.

OVERALL CONCLUSIONS

The TV Web study sought to isolate a particular audience for a particular kind of media experience and then explore characteristics about that audience in greater detail. Television station sites were the area of interest because they face unique challenges learning how to use the rapidly expanding World Wide Web. The uses and gratifications framework was used because it assumes an active audience, has often been applied across many different media, and has been applied in great detail to television, which some believe more like what the Web will become. These uses and gratifications were then related to design and content aspects of the Web which are just beginning to be explored as the unique “grammar” of the medium. Given that this study accomplished its basic goals, here is a review of the major conclusions:

1. The TV Web audience is a subset of the more general Internet population. These users make the Web part of their regular media mix but are not among the heaviest consumers of the new technology. It appears they use all media to a greater degree than many on the Internet, and consume "News" and television related content to a greater extent in a complementary fashion with the more traditional media forms.
2. The TV Web audience ranks "Site Preference" the most important reason they go online, indicating a very targeted, instrumental type of use of the medium. However, there is also an "Entertainment" aspect to the online experience that while not as important, does account for a great deal of variance in Web use motivations. Gratifications associated with the TV Web audience might best be understood in terms of two or three main motivations which include entertainment/diversion, information seeking and "Site Preference."
3. TV Web users express a high degree of preference for interactive control over content through such things as search tools and links, and also like to use email links. These features are more important than the aesthetics of a page or the availability of sound or video.
4. TV Web users use the Web mainly for "News" and "Research" related activities. They like both the immediacy of frequently updated material and the convenience of online archives which allow them to go in-depth with content.
5. TV Web Gratifications can be somewhat useful predictors of design and content choices. "Site Preference" gratifications relate positively to "Interactivity" design features and "Research" or "News"-type content. "Entertainment" or diversionary uses relate to "Aesthetic" design and "Leisure" type activities.
6. TV Web users not only make going online part of their regular daily activities, but much of that Web use in all categories takes place at home. Going on the Web appears to be an individualized, home-based event just like many other media uses,

and for this audience the Web can be seen as a functional part of the daily media mix.

7. Use of the Web does not necessarily mean less use of other media. For the TV Web audience, the relationship between time spent with traditional media and the Web is positive yet modest. This targeted population does not yet appear to be replacing one with the other.

Mass media history through the twentieth century has offered a fascinating narrative on the challenges of change in an evolving society. In some ways, the mass media industries have made themselves important in the Western world by creating demand and need for products most people could not even imagine a century before. The thrust of this data shows those needs and expectations are being redefined once again. There will be media products in the next century, created by new technologies that are just as unexpected now as television and radio were in 1900. This study has hopefully given the traditional media a glimmer of what to expect and how to adapt, but history shows the real future will be full of surprises, both for the media and researchers who are able to watch it all unfold.

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APPENDICES

APPENDIX 1
Survey Instrument

University of Tennessee

College of Communications

Web Use Survey

MEDIA USE

1. How many times, on average, each day do you access the World Wide Web? Click below. (Click form range from Less than 1 to 10 or more times)
2. How many hours, on average, do you spend using the World Wide Web per week? (Click form range from Less than 1 to 50 or more hours)
3. When you go online, how often do you use the Web for these activities? (Click in the box your frequency on a scale from 1 meaning you never use the Web for this activity, to 9 meaning you always use the Web for this activity)

Visiting local TV station sites.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Visiting local newspaper sites.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Visiting national newspaper sites.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Checking updated news headlines.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Visiting national magazine sites.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Visiting television network sites.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Checking weather related sites.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Visiting sports news sites.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Checking financial news and information- stock quotes, etc.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Reading in-depth news stories or columns.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Checking travel sites - airfares, etc.

never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

Visiting online shopping sites.never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Using search engines such as Yahoo.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Conducting business-related research.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Visiting entertainment sites. (Movie reviews, TV listings, etc.)**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Visiting government-related sites.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Researching news archives.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Playing online games.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Using chat room sites.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Visiting newsgroup discussion sites.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Conducting academic research.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Listening to live radio.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Listening to music.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always**Browsing around the Web with no particular focus.**never - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - always

4. What page lead you to this survey?

☐ TV station site ☐ Search Engine ☐ Mailing List ☐ Other

5. Type the station call letters or the name of the site that lead you here. (Text box)

6. How many hours per week do you spend at these other media activities?

(Click form range from Less than 1 hour to 20 or more hours)

- a. Watching local television news
- b. Watching network television news
- c. Watching entertainment programs on the networks (ABC, CBS, NBC, FOX, UPN, WB, PBS)
- d. Watching entertainment programs on cable networks.
- e. Watching rented or purchased movies or other video entertainment.
- f. Reading the newspaper - on paper.
- g. Reading a magazine - on paper.
- h. Listening to the radio.
- j. Listening to CD's or cassettes.
- k. Going to the movie theatre.
- l. Reading books.

m. Playing video games

You may add other media used here and total hours per week (text box)

7. When you go online, how do you like the following features on Web pages?
(Indicate your degree to which you like or dislike the feature by clicking on the scale from 1 meaning you dislike the feature to 9 meaning you like the feature)

Lots of color on the page.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

Graphics.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

Photographs.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

Multiple links to other pages.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

Small graphics or button used as links to other pages.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

Large, map-like graphics that outline the Web site.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

Search tools that allow you to enter keywords and find information.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

Animated graphics or banners.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

Live sound.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

Live video.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

Email links - allowing you to give feedback.

dislike - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 - like

8. Now we want to know why you use the World Wide Web. Click on the response that best matches your reasons for going online.

I use the World Wide Web...

(All responses clickable form which follow this pattern:)

- 1 not at all like my reason
- 2 Not much like my reason
- 3 Somewhat like my reason
- 4 A lot like my reason
- 5 Exactly like my reason

- a. Because it's exciting.
- b. When I want to find specific information
- c. Just because it's there
- d. So I can forget about work and other things
- e. So I can talk to other people about the sites I've accessed
- f. When there's a specific site I want to access
- g. Because it peps me up
- h. Because it's enjoyable
- i. When there's no one else to talk to or be with
- j. So I can get away from the rest of the family or others
- k. So I can be with other member of the family or friends who like to access the web together
- l. So I can learn how to do things I haven't done before
- m. Because I like to access certain sites
- n. So I don't have to be alone
- o. Because it relaxes me
- p. Because it passes the time away particularly when I'm bored.
- q. Because it amuses me
- r. So I can learn about what could happen to me
- s. Because it's a habit, just something I do
- t. When I have nothing better to do
- u. So I can get away from what I'm doing
- v. Because I just like to access it
- w. Because it gives me something to occupy my time
- x. Because it's thrilling
- y. Because it allows me to unwind
- z. Because it makes me feel less lonely
- aa. Because it helps me learn about myself and others
- bb. Because it's a pleasant rest
- cc. Because it's something to do when friends come over.
- dd. Because it entertains me

9. You may type in any other reasons for using the Web in the box below. (Text box)

We're almost done here. We want a little information about you and your computer. Remember, this will remain anonymous and the answers will be very helpful.

10. What is your age? (Click from range 18-96)
11. What is your gender?
☐ Male ☐ Female
13. Where are you from? (Type in state-text box)
14. What is the highest level of education you have completed?
☐ Grammar School
☐ Middle School
☐ High School Graduate
☐ Attended some college.
☐ Two year degree
☐ Bachelor's Degree
☐ Master's Degree
☐ Professional or Doctoral Degree
15. What is your annual household income? (Click from Less than \$10,000 to More than \$160,000)
16. How long have you been using the Internet or World Wide Web?
☐ Less than 6 months
☐ 6 to 12 months
☐ 1 to 3 years
☐ 4 to 6 years
☐ 7 years or more.
17. What is the technology you usually use to access the Web?(You may check more than one.)

☐ 9600 bps modem	☐ High speed network connection
☐ 14,400 bps modem	☐ T1 Line
☐ 28,800 bps modem	☐ Cable Modem
☐ 32,000 or higher modem	☐ Web TV
☐ ISDN line	☐ Other
18. When accessing television or other media-related sites, where are you usually physically located?
☐ On a computer at work
☐ In my home office
☐ In a school computer lab
☐ In a living room or den at home
☐ In my bedroom at home

[Click here to submit your survey and add your opinions to this important study.](#)

Submit

APPENDIX 2
Survey Introduction Page



Web Use Survey

Greetings and thank you for visiting this page. The College of Communications at the University of Tennessee is working with local television stations nationwide to conduct this survey of World Wide Web use.

Your opinion is valuable and will help your local stations construct their sites according to your interests and needs. Please take a few moments to complete the questions below. It should only take about 10 minutes of your time.

Just click on the appropriate answers and then click the submit button when you are done. It's that simple! You may stop at any time, but your answers will not be recorded until you click the submit button.

All of this information will remain anonymous and you will not be contacted or added to any mailing list. If you have further questions about the study, you may contact Dr. Benjamin J. Bates, Department of Broadcasting, University of Tennessee at Email - bjbates@utk.edu or telephone (423) 974-4291.

Click the button below to continue on to the survey. If you prefer not to participate, click the back button on your browser to return to the previous Web site. We appreciate your time.

Continue

APPENDIX 3
Web Fact Sheet for Television Stations



University of Tennessee, Knoxville
TV Web Users Study
FACT SHEET

The Study

The College of Communications at the University of Tennessee, Knoxville is conducting a nationwide study of World Wide Web users, focusing on those users who visit TV station Web sites. While there are many surveys of Internet users, little attention has been focused on those users of most interest to broadcasters - those who visit a media-related site because they already have some relationship with the station and its on-air product. These are the users who can form the core of an online audience, and a potential revenue and promotional stream. This survey focuses on three major areas:

- The uses people make of the Web and the gratifications it satisfies.
- The content and page design features these users prefer.
- The use of other media in relation to the World Wide Web.

The Plan

The University of Tennessee will host an online survey, accessible through Web browsers. Television stations will promote this survey through their Web sites, encouraging visitors to link to the survey and participate in a national study. The survey will run during the summer of 1997, beginning in mid-June and ending approximately July 31, or when an acceptable number of responses has been collected. Participating stations incur no expense for their participation and are merely asked to continue promoting the link through the duration of the study. Stations wishing to participate should contact Randall E. King (see below) before posting the link.

The Benefits

Participating stations will receive extensive summaries of all data after the study's completion. Several questions will be used to track state of origin from survey respondents and origin of the TV station's referring page. While the full dataset will remain the property of the researchers for academic purposes, portions relevant to the participating station's interests will be distributed on an individual agreement basis.

This is not market research. Data collected will not be sold or used in commercial consulting with any participating station or market competitors. The researchers reserve the right to use the data in academic publications and scholarly conferences with the goal of giving a general picture of the online audience for media-related sites.

The Researchers

Randall E. King (resume') is the principal researcher for this study. It is part of his dissertation, completing requirements for a Ph.D. in Communications at the University of Tennessee. King has over 10 years of media experience including 4 years in commercial television news. He presented an award winning paper at the Broadcast Education Association's national conference on TV broadcasters and the web. This fall he joins the faculty of Point Loma Nazarene College in San Diego as Assistant Professor of Communication studies.

Benjamin J. Bates, Ph.D. (resume') is the faculty advisor for this study and an Associate Professor in the Department of Broadcasting at the University of Tennessee. Bates is a nationally known scholar in media economics and new technology policy issues. He has also worked extensively as a broadcast consultant to television and radio stations.

Bates and King co-authored one of the first studies of television station websites in 1995, analyzing the content found in a wide sampling of web pages. An HTML version of the study is available for viewing.

Contacts

Survey Link (this should be posted and promoted from the participating site)
<http://excellent.com.utk.edu/~bates>

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VITA

Randall E. King was born in Nashville, Tennessee on June 27, 1963. He moved many times due his father's ministerial and military career, and finally graduated from Lloyd C. Bird High School in Chesterfield, Virginia in 1981. He attended Olivet Nazarene University in Kankakee, Illinois, graduating with a Bachelor of Arts degree in Communication in 1984. Following graduation, he worked professionally in commercial television news as a reporter, anchor and producer at two stations in South Carolina.

King left the world of commercial media in 1988 to begin work on a Master of Arts in Communication at Southwestern Baptist Theological Seminary in Fort Worth, Texas. During this time, he also worked in media ministries at two Dallas-Fort Worth churches. The M.A. Degree was completed in 1991. He began a teaching career the same year at Eastern Nazarene College in Quincy, Massachusetts. During this time, he taught production and media studies courses and supervised various college media activities.

The teaching experience lead King to pursue the Ph.D. at the University of Tennessee, Knoxville beginning in 1994. During this time, his research focused on the emerging World Wide Web and its impact on media companies, and coverage of religious organizations by news media. He left the University of Tennessee in 1997 to begin a teaching assignment at Point Loma Nazarene University in San Diego, California and completed the dissertation during that school year. The Ph.D. was received in August, 1998.

In his present assignment in San Diego, he teaches a variety of media courses including those within his research interests of new technologies. He is married to Lori R. King and the couple has one daughter, Elizabeth.