

## **WORLD WIDE WEB USE IN NEWSROOMS, 1997-99**

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## **WORLD WIDE WEB USE IN NEWSROOMS, 1997-99**

### **ABSTRACT**

This study focuses on the use of the Internet and World Wide Web in daily newspaper newsrooms during a three-year period covering 1997-99. The study focused on how these news organizations used the Web to find information, the Web sites most often used for newsgathering, what journalists perceived as the strengths and weaknesses of information found, the Web-based interactive technologies most often used, and the perceived advantages and disadvantages of Web reporting. Yahoo! and AltaVista were the most-used search engines and journalists selected search tools based on the types of searches the sites were known to conduct. State and federal government sites were used most often for gathering information. Respondents evaluated the quality of all sites used in much the same way they assessed more traditional sources such as paper-based documents. While there were numerous new interactive technologies in use on the Internet and the Web, journalists depended on few of them. In addition to the Web, electronic mail was widely used. Finally, respondents saw various problems in using the Web as a reporting tool, but also believed that benefits outweighed the problems.

## **WORLD WIDE WEB USE IN NEWSROOMS, 1997-99**

Like other users at information-oriented businesses, use of the Internet and World Wide Web by the news media has also grown. At least one media critic has boldly labeled the Internet as the future for news.<sup>1</sup> Another scholar argued that the roles and nature of work of journalists are changing with the introduction of new online technologies.<sup>2</sup> Most professional news organizations had some form of Web presence at the beginning of 2000. While some news organizations use their sites for promotion, community relations, or electronic commerce, many news organizations use the sites as extensions of their traditional news missions.<sup>3</sup> Use of the Web as a newsgathering resource has also grown rapidly in the past six years since public awareness and commercial use— including that by news organizations— of the Internet and World Wide Web began rapid expansion.<sup>4</sup>

With newsroom use approaching 100 percent penetration, it is important to more fully understand how the Internet and World Wide Web are used in news media newsrooms. The purpose of this exploratory paper was to analyze several measures of World Wide Web use by journalists at daily newspapers. Focus of the study was upon (a) how these news organizations used the Web to locate information, (b) the types of Web sites that were used for information retrieval, (c) the perceptions of journalists about the strengths and weaknesses of information found on the Web, (d) the Web-based technologies that were most-often used, and (e) the perceived advantages and disadvantages of news reporting using the Web.

## **The Web and Daily Newspapers**

New media, in the form of the Internet and World Wide Web, have had revolutionary impact on journalism. It is, possibly, changing the role the journalist has served as an intermediary; it offers a broad range of new technologies with which to deliver messages; and, furthermore, it is creating its own form of journalism.<sup>5</sup> The current technologies of new media make newsgathering and production more efficient, faster, and cost-effective. These technologies also enhance producer creativity and encourage new approaches to old tasks.<sup>6</sup> The next generation of the Internet, currently known as Internet2, is expected to have even more significant effect on news reporting and content delivery.<sup>7</sup>

Most U.S. newspapers use the Internet and World Wide Web in some manner to distribute news and other types of information. In fall 1998, approximately 4,900 online newspapers had been created throughout the world and about 3,600 of those were in the United States.<sup>8</sup> Their content is maturing. Instead of their original duty of carrying the print edition content, many of these publications have developed their own personalities through original content and purpose.<sup>9</sup> These publications give attention to accuracy as well as speed in reporting information.<sup>10</sup> And the newspapers' Web sites have generated considerable traffic.<sup>11</sup> Online journalism has been characterized as having three dimensions— interactivity, personalization, and convergence.<sup>12</sup>

## **The Web as an Information Resource**

Newsrooms are making a serious commitment to use of computers and computer training in gathering news.<sup>13</sup> A growing number of U.S. daily newspapers are using the

Internet and World Wide Web to search for, and gather, information.<sup>14</sup> Hundreds of Web search tools have been developed and become available. In 1998, there were approximately 145 major search engines and that the number was growing.<sup>15</sup> Ross and Middleberg found that print and broadcast journalists most often used the Yahoo! search index and their favorite search engines were AltaVista and Netscape Search.<sup>16</sup> Yahoo! and AltaVista were clearly dominant, another study found, suggesting that journalists like to use both the index approach and the key word search strategy in their online research.<sup>17</sup>

Web users are often frustrated by the sheer volume and complexity of finding authoritative information. The common reaction is to give up and claim there is nothing on the Internet about the subject.<sup>18</sup> Advanced search options are usually indicated by a hypertext link to a different page at the search site. These advanced options offer tools employing Boolean logic to combine user-defined key words.<sup>19</sup> Other approaches of advanced searches include setting inclusive or exclusive dates, search by domain names or categories, and use of quantitative search parameters. Some search engines and indices permit truncated searches that produce results similar to search terms and proximity searches that find terms adjacent to search terms.<sup>20</sup> Not all search indices and engines are the same, of course. They often vary in the basic software they employ to search at the basic and advanced levels.<sup>21</sup> Selection of a search tool has significant impact in locating information.<sup>22</sup> Paul and Williams listed selection of resources, site stability, currency, usability, searchability, listing and usage fees, and link descriptions as indicators of quality search sites.<sup>23</sup> The requirement of fees by some Web search sites has become a restrictive factor. With a growing number of sites that charge fees, individuals have

greater access to information that was previously not on the Web or was very hard to find.<sup>24</sup>

Because search engines differ in the sizes of their databases, procedures used to develop the database, frequency that the databases are updated, search options, speed of response, and user interface, users must be aware that search outcomes may vary widely.<sup>25</sup> Successful searchers employ a variety of strategies.<sup>26</sup> Bates attributed the accomplishments of experienced professional searchers to their curiosity, use of an iterative or repetitive process, personal expertise and knowledge, analytical abilities, background discussions with clients, and a sense of when to end the search.<sup>27</sup>

Journalists may have difficulty, like other persons using the Web, in separating high quality information from poor quality information. This is due, one study found, to Web designers who seek to disguise information quality, to inadequate training of journalists in use of the Web, and in the verification processes involving online content. This may be significant because the study concluded that the Web would eventually become a substitute for other sources of information.<sup>28</sup>

In one recent analysis of online newsgathering problems, the leading concerns expressed by newspaper journalists were verification of information, unreliable information, badly sourced information, and lack of Web site credibility. Technical problems, such as download time or finding site addresses, were not perceived to be as severe.<sup>29</sup>

A wide range of new Web technologies has made gathering and delivering information challenging for even experienced online users. Interactivity through various features of Web sites is one of the most distinguishing characteristics of online

journalism.<sup>30</sup> Journalists can interact with readers and sources using electronic mail, video and audio conferencing, instant messaging, chat rooms, and similar features.

Despite the new technologies available to enhance interactivity with audiences, critics have said that newspapers are not using these new technologies to full potential.<sup>31</sup> Daily newspapers have not made necessary changes in the way they collect and distribute news.<sup>32</sup> Some have said that newspapers are following the old model of presenting news every 24 hours instead providing continuous updates, that they are just creating “shovelware”— the term used to describe the process of taking the content of a print edition and reproducing it on a Web site.<sup>33</sup> Experts have also argued that newspapers are not taking advantage of such special features of the Web as its interactivity, hypertext, and multimedia.<sup>34</sup>

Dibean and Garrison found that most online newspapers have adopted Web technology innovations such as links to related information and consumer services such as searchable classified advertising. Emphasis seemed to be on electronic commerce in 1999, they concluded, perhaps at the expense of news content delivery. National online editions showed growth in most technology areas, including use of user forums, links to related information, video, audio, electronic mail, search engines, consumer services, sign-up for personal delivery, and instantaneous updates. They also found that regional online newspapers declined in use of search engines and increased use of forums, video, other programming language use (outside of the basic HTML 4.0 standard), and consumer services. Local online newspapers showed a decline in use of Java applets and growth in audio, electronic mail, search engines, and consumer services.<sup>35</sup>

On the other hand, journalists were not using other Internet-related technologies as frequently as they used the Web. Evidence indicates that electronic mail has been commonly employed for communicating with sources and for gathering information.<sup>36</sup> But other potential information retrieval resources on the Internet, such as file transfer protocol, telnet, “push” Web technology, audio and video-based conferencing, telephony, and other multimedia features were used much less or very little.<sup>37</sup>

Journalists using the Web have expressed concern for the quality of sites when gathering information. One recent German study found that journalists sought well-structured sites with more information on content than graphics and sites that adequately attribute information.<sup>38</sup>

Journalists perceive success in using the Web when they find information they seek, especially when it has been challenging to locate. They seek background information and what they consider to be “difficult-to-find” information using online resources. Journalists also believe extension of government coverage and finding sources were positive aspects of online research.<sup>39</sup> Other studies of what makes useful Web content for journalists underline the value of local information.<sup>40</sup> The most-often perceived failure of online newsgathering determined in a recent study was that journalists did not take advantage of the potential of online research. A related complaint, lack of online access, was also cited. Lack of training and slow learning of online tools were found to be additional causes of online research frustration for journalists.<sup>41</sup>

### **Research Questions**

The literature described above leads to the following research questions:

- 1. How do journalists find information on the World Wide Web? What search tools are in use? How are they used?*
- 2. What content Web sites are most often used for gathering information for news stories?*
- 3. What characteristics of Web sites used for gathering information are perceived by journalists to be strongest and weakest?*
- 4. What Web-based technologies do journalists use for gathering information?*
- 5. What are the perceived successes and failures of use of the Web as a newsgathering tool?*

## **METHODS**

Self-administered questionnaires were mailed to a census of daily newspapers with 20,000 or greater Sunday circulation for three consecutive years beginning in January-March of 1997 and ending in January-March of 1999.<sup>42</sup> Because literature related to this project was found in industry or trade publications, but was limited in journals, questionnaire items were developed from interviews with journalists and from group discussions at national conferences about investigative reporting, computer-assisted reporting, and news research in addition to available literature. While most of the questions used each year were the same, some questions were added or deleted from individual instruments as changes in availability of tools or use of computers dictated.<sup>43</sup>

The unit of analysis was the newspaper. Questionnaires were mailed with postage-paid return envelopes to the computer-assisted reporting supervisor, the managing editor, or the executive editor. When sent to a general editor, recipients were

asked to forward the questionnaire to individuals most qualified to respond. This resulted in a mix of specialists serving as respondents that included investigative reporters, CAR specialists, news librarians, news researchers, and editors. Respondents were asked to respond on behalf of the entire newsroom, indicating their perceptions of newsroom use. While a longitudinal design was used and consistency in individuals responding at a particular newspaper each year was sought, the same individual did not always respond because of turnover and changing responsibilities.

Population sizes were 510 newspapers in 1997 and 504 newspapers in 1998 and 1999. In each census, two follow-up mailings were used to enhance response. Response rates were  $n = 226$ , or 44.3% in 1997;  $n = 185$ , or 36.7% in 1998; and  $n = 176$ , or 34.9% in 1999. Because the study involved analysis of a population, not a sample, significance tests were not reported.

## **FINDINGS**

*1. How do journalists find information on the World Wide Web? What search tools are in use? How are they used?*

Data in Tables 1-6 indicate clear patterns of World Wide Web use by journalists. Table 1 shows that in 1998 and 1999 journalists preferred to use Yahoo! (<http://www.yahoo.com>) and AltaVista (<http://www.altavista.com>) as their primary search resources. Other major search tools, such as Excite (<http://www.excite.com>), Netscape (<http://www.netscape.com>), HotBot (<http://www.hotbot.com>), and InfoSeek (<http://www.infoseek.com>), were not as widely used and suggested limits to the range of search tools used. Table 2 data show that these respondents were somewhat sophisticated

in their search for information. Respondents reported that they selected the search tool according to the type of search the site conducts, familiarity with the site, and the type of information that was needed. Advanced search options, offered on almost all major search sites, were used by nearly three-quarters of respondents— but only about one in six “always” used the option. About three in five “sometimes” used such options.

*2. What content Web sites are most often used for gathering information for news stories?*

State and federal government sites dominated the categories of most-often used sites on the Web. Data in Table 3 show that over three years, 1997 through 1999, state sites were most often used, but there was considerable dependence on data from the federal government’s Census Web site (<http://www.census.gov>) or the Securities and Exchange Commission’s EDGAR site (<http://www.sec.gov/edgarhp.htm>). State and local government sites included state, county, and city public records sites, school system sites, and elections sites. Newspaper sites, particularly those with searchable archives, were also in wide use by respondents. Furthermore, search sites were also often named as “favorite” sites. These included Yahoo!, AltaVista, Switchboard (<http://www.switchboard.com>).

*3. What characteristics of Web sites used for gathering information are perceived by journalists to be strongest and weakest?*

Journalists evaluated Web sites and the information on the sites in much the same way they assessed other, more traditional, information such as faxes, mailed documents,

or information obtained from personal interviews. This was evident in the data presented in Table 4. “Strong” Web sites in both 1998 and 1999 were those provided by reputable sources and those offering valid and accurate information. Web site functions, such as searchability and design that affords easy access to information, were also valued. Weak sites in both surveys had inaccurate information, bad or outdated links, lack of attribution, and useless content. Identified problems included lack of verification, unreliable information, and lack of contact information or sourcing. Journalists were less concerned about truthfulness and lack of speed in finding a site URL.

*4. What Web-based technologies do journalists use for gathering information?*

Data in Table 5 indicate that journalists have not taken full advantage of technologies available for communication using the Internet. The main resources used were electronic mail (90.3% in 1998 and 86.9% in 1999) and file transfer protocol (51.4% and 52.8%), but other tools that could have been used were not. This is particularly true of other interactive tools such as bulletin boards, audio and video streaming, push technology, and Internet telephony.

*5. What are the perceived successes and failures of use of the Web as a newsgathering tool?*

Despite lack of use of some interactive technology innovations on the Internet, data presented in Table 6 show that journalists believed the use of online resources have benefited their newsgathering. Online resources added depth and context, extended government coverage, assisted in locating sources, and built background for news

coverage. Even the reported “failures” showed a positive view of the Web as an information resource. Journalists most frequently lamented about not taking greater advantage of online resources that were available. They also noted lack of access to the Web, the need for more expertise and training, and the inability to find information as failures.

## **CONCLUSIONS**

The literature has shown that the Internet and World Wide Web have become dominant newsgathering tools in a short period of time. For the most part, scholars still do not understand the impact of these changes on newsgathering and distribution. While the body of research has developed quickly along with the Web, many unanswered questions remain. This study revealed some of the Web use habits of journalists and creates a research agenda for further investigation.

Among private and public information resources that are online, there are no rivals to the Web. Because of this widespread use, it is essential to study how these resources have become part of the news reporting process. Strengths and weaknesses of the Internet and Web may become characteristic of the reporting itself. Data depicting how journalists use the Web suggest certain innovation adoption tendencies. Perhaps the most interesting finding is that information search habits are still evolving. The search strategies used by respondents to these surveys described a wide range of personal approaches. This suggests considerable experimentation and trial-and-error approaches during learning. The limited use of certain search tools also generates questions about the effect such practices have on news content. Not only are these approaches and strategies

important to understand among professionals, there are implications for individuals who teach journalism students or offer continuous education and training to working professionals. We simply need to learn more about the online research process and how it impacts on news content.

Use of government sites as leading sources of information underscore that news organizations were using the new technologies in old ways— simply to use existing credible sources of information faster and, perhaps, in a more comprehensive manner. There is little evidence in this study that these new technologies have brought new sources or perspectives of information used in news reporting, but more inquiry is needed in this area of online research as well.

Respondents indicated concern for traditional quality issues in newsgathering. When using interactive technologies for news reporting, respondents expressed concern for many of the same problems that might have been presented long before creation of the Web. While concern for reputation, accuracy, validity, and other traditional characteristics of information sources are critical to a journalist's success, they have little to do with the interactive technology of the Web. Only when the respondents addressed such factors as download time, site organization, finding URLs, access to downloadable data, and searchability did they venture into the world of the technology and its performance characteristics. Clearly, this is another item for an online news and online research agenda for scholarly inquiry.

Since there are implications in use of the Internet and Web, it will become necessary to look more closely at content of these online resources in more detail than this study has done. Analysis of the differences of search procedures and content

specialization by leading search tools, such as Yahoo! and AltaVista certainly can have impact on reporting. There is a need, similarly, to evaluate the content of local, state, and federal government Web sites. These sites are, in many cases, quite new. Assessments of the quality of information contained by the sites should study accuracy, thoroughness, and currency of information, for example. Furthermore, study of how this content is integrated into news coverage will be helpful to understanding the entire process.

It is also necessary to look more closely at reasons why journalists do not use advanced technologies for information gathering and communication on the Web. Is it a form of technophobia?<sup>44</sup> Or something else? Why have journalists not become users of interactive, multi-media tools such as conferencing? Further study is necessary, especially looking at training and computer literacy issues. Finally, this study has provided only descriptive analysis of the perceived advantages and disadvantages of use of Web-based information gathering. It would be useful to look further at these cited reasons.

**TABLE 1**  
**SEARCH ENGINES AND INDICES IN NEWSROOMS**

Search engine	1998	1999
Yahoo!	62.2%	68.2%
AltaVista	65.9	61.4
Excite	22.7	26.7
Netscape	18.4	22.7
HotBot	18.4	22.2
InfoSeek	24.3	20.5
Lycos	22.7	19.3
Dogpile	7.6	18.2
Other	4.9	17.6
WebCrawler	13.0	6.8
All-in-One	2.2	2.8
Snap	-----	2.3
	n = 185	n = 176

**TABLE 2**  
**SELECTION AND USE OF SEARCH ENGINES**

Search strategy	1998	1999
<u>Selection of Search Engine</u>		
Type of search site	11.4%	18.2%
Familiarity	11.9	17.0
Depends on information needed	7.0	13.6
Hit or miss	8.6	6.8
Start with major engine	25.4	6.3
Speed	2.2	5.7
Convenience	2.2	4.5
Default from browser	2.7	1.1
Expert recommendation	2.2	0.6
Bookmarks	1.1	0.0
Missing	25.4	25.6
<u>Advanced Search Options</u>		
Uses always	14.1%	12.5%
Uses sometimes	61.6	60.2
Does not use	11.4	23.9
Don't know	5.4	3.4
Missing	7.6	0.0
	n = 185	n = 176

**TABLE 3**  
**FAVORITE WORLD WIDE WEB SITES**

Web site	1997	1998	1999
State government sites	23.9%	24.4%	20.5%
U.S. Census	17.2	24.4	10.2
Various newspaper sites	2.2	4.9	8.0
Yahoo!	11.9	11.4	6.8
AltaVista	13.4	8.1	4.0
Switchboard	3.0	4.1	1.1
SEC Edgar	6.0	3.3	1.1
	n = 134	n = 123	n = 120

Note: First-listed responses only.

**TABLE 4**  
**CHARACTERISTICS OF WEB SITES**

Characteristics	1998	1999
<u>Strong Web Sites</u>		
Reputable source	80.5%	89.2%
Valid, accurate information	77.8	87.5
Searchable	70.3	72.2
Easy access to information	57.8	69.3
Downloadable delimited data	60.5	61.4
Speed	41.1	38.6
Indexed	32.4	38.6
Minimum graphics	17.8	20.5
Other	3.8	4.0
<u>Weak Web Sites</u>		
Inaccurate information	81.6%	90.3%
Bad, outdated links	67.6	75.6
No attribution	61.6	69.3
Useless or bad content	70.3	68.8
Not searchable	51.9	60.8
Poor site organization	47.0	50.6
Slow to load	53.0	48.9
Pointless graphics	44.3	41.5
No time or date stamp	-----	34.1
Hard to find	26.5	30.7
Public relations-oriented content	27.6	19.9
Other	3.8	2.8
<u>Problems of Web Sites as News Sources</u>		
No verification	54.1%	58.0%
Unreliable information	44.9	51.1
No contact name	-----	51.1
Badly sourced	44.3	47.2
Lack of site credibility	43.8	45.5
Slow to find the site or URL	24.3	13.1
Truthfulness	18.4	18.2
Other	11.9	5.7
	n = 185	n = 176

**TABLE 5**  
**USE OF INTERNET TECHNOLOGIES**

Technology	1998	1999
Electronic mail	90.3%	86.9%
File transfer protocol	51.4	52.8
Bulletin board systems	28.1	26.7
Audio streaming	8.1	6.8
Push technology	6.5	5.7
Video conferencing	0.5	2.8
Audio conferencing	3.2	2.3
Internet telephony	0.0	1.7
Other	1.1	0.6
	n = 185	n = 176

**TABLE 6**  
**LEADING ONLINE USE SUCCESSES AND FAILURES**

Category	1997	1998	1999
<u>Successes</u>			
Added depth, context	7.1%	4.1%	20.8%
Extending government coverage	8.0	8.2	14.9
Finding sources	9.8	8.2	8.9
Background	12.5	15.3	8.9
Getting news fast	8.9	6.1	5.0
Finding difficult-to-find facts	11.6	9.2	3.0
	n = 112	n = 98	n = 101
<u>Failures</u>			
Not taking advantage of online	35.1%	30.4%	37.9%
Lack of access	5.3	15.7	10.5
Need expertise	1.8	3.9	10.5
Not enough training for use	8.8	5.9	7.4
Cannot find what we want	0.9	3.9	5.3
Too much dependence	1.8	1.0	4.2
Not enough resources	8.8	2.0	4.2
Slow to learn to use online	8.8	3.9	3.2
Too much time	5.3	2.0	3.2
	n = 114	n = 102	n = 95

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