

**HOW U.S. DAILY NEWSPAPERS
ARE USING THEIR INTERNET COUNTERPARTS**

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Abstract

This study examined the extent that U.S. daily newspapers are using available technologies, including multimedia and interactivity, for development of World Wide Web sites. It also looks at how the three content types (local, regional, and national online newspapers) vary in their use of features commonly found in the design of a Web site. The study found, through content analysis of the sites, that most online newspapers have adopted innovations--- such as links to related information--- and consumer services--- such as searchable classifieds. When it comes to other features, such as the use of Java, chat rooms, and other plug-in based technologies, most sites have not used them. However, regional online newspapers are more likely to adopt such innovations than are local and national online newspapers.

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With the development of the World Wide Web, businesses of all kinds are taking advantage of the new communication technology. News media, including U.S. daily newspapers, have followed suit and implemented Web sites of their own. The number of newspapers in the United States has grown rapidly in recent years. One study reported online editions had increased from 745 in July 1996 to 2,059 a year later (Li, 1998).

In 1999, online newspapers are at an important point of media convergence. Newspapers still have many ties to traditional print newspapers, but also have the potential for many new features from the world of mixed-media digital communication, including audio, video, animation, and increased user control.

This paper explores six Internet versions of newspapers. It looks at the technologies used by these newspapers, compares them on the basis of content type, and explores reasons why there are differences between the three content types of online newspapers.

The transition to this new medium has not been simple. Many critics of the move have pointed out that newspapers are not using this new technology to its potential (Outing, 1998). They argue that daily newspapers have not made necessary changes in the way they collect and distribute news to stay ahead (Lasica, 1998). Some authorities say that newspapers are following the old newspaper guidelines of presenting news every 24 hours instead of continuous updates, that they are just creating "shovelware"--- a term for the process of taking their print edition and reproducing it on a Web site (Cochran, 1995). Critics have argued that newspapers are not taking advantage of such special features of the World Wide Web as interactivity, hypertext, and

multimedia (Cochran, 1995).

Outing studied newspapers in Colorado. According to Outing, "It's a no-brainer that newspapers' archives are of interest to readers, and a potential revenue stream." Yet, he found that the majority of sites had yet to make their archives available online. He determined that a good number of sites either included no names of staff members or included staff listings but no electronic mail addresses, offering no way for readers to interact with the newspaper staff. He also found a large absence of obituaries, birth notices, and other matters of interest to local readers, especially on small-town newspaper Web sites. Few sites operated online discussion forums (Outing, 1998).

An *Editor & Publisher* article on electronic commerce, also called "e-commerce," found that online news sites are moving into the realm of e-commerce. BarnesandNoble.com has started on "Affiliate Network" that creates co-branded marketing and book selling opportunities. Newspapers involved in the affiliate program include the *Chicago Tribune*, *USA Today Online* and the *LATimes.com*. Other newspapers, including the Hartford Courant Online, have launched an online auction that allows online newspaper visitors to bid on a range of items. The SunOne Web site of the *Gainesville Sun* launched a "sports boutique" selling products related to the University of Florida "Gators" football team. Tampa Bay Online is offering popular CD-ROMs for sale. The Star Tribune Online has developed a project called Gift Generator, a way to connect buyers and sellers for holiday gifts ("E-Commerce and Online News," 1997).

Cochran found one of the best examples of interactivity on the San Jose Mercury Center. They incorporate ways to send electronic mail to groups related to the topic of the article, links to related sites, and connections to sites that offer more information on the topic in a feature called Modem Driver. Because this column was about a bill, just introduced in Congress, that many

Internet users believed would affect them, it was very popular. He used these features so, "if the reader were so inclined, she could have (a) learned about an important issue, (b) gathered additional information not provided by the newspapers, (c) seen what other folks were saying about the proposal, and (d) taken steps to register her position on the issue with lawmakers." He also found that *The Wall Street Journal* offers a personalized version of the newspaper that will contain news on just the topics the reader selects (Cochran, 1995).

Astor discussed the quantity and revenues of using syndicated materials on newspaper Web sites in his *E & P Interactive* article. Newspapers have had difficulty putting their syndicated and supplemental news service material on their Web sites. The *Minneapolis Star Tribune's* online service was one of the first online newspapers to offer syndicated general-interest columns. But, since newspapers have started to generate more revenue, the extra cost of using syndicated materials has become less of a problem (Astor, 1996).

When the *Los Angeles Times* first launched its Web site, its goal was to offer the most comprehensive guide to California on the Web. It offered calendar events, archived reviews, community databases and minimal discussion forums and live chat sessions (Outing, April 1996).

Lessons newspapers on the Internet are learning include "don't go it alone." Outing stated that "newspaper companies generally do not have all the skills and resources necessary to succeed in new media." Some examples of online newspapers that have learned from this advice include *The Washington Post*, which teamed with *Newsweek* magazine and ABC-TV News to operate site ElectionLine. Boston.com is a compilation of all competing New England media, including *The Boston Globe* (Outing, March 1996).

Newspapers need to offer more breaking news. Lasica offers some solutions to this problem. Companies like Marimba, PointCast, and Starwave have made push news software

popular. Multiple deadlines are necessary for newspapers to keep up with other news Web sites (Lasica, 1997). “If you look at newspaper deadlines, that’s an artificial deadline based on distribution needs,” observed Scott Woelfel, editor-in-chief of CNN Interactive (Lasica, 1997). “In a way, it’s a throwback to the old days when newspapers had three or four editions a day. It will require newsrooms to recruit staff members with an entirely different set of skills,” added Valerie Hyman of the Poynter Institute for Media Studies (Lasica, 1997).

Traditional newspapers have been divided into categories based on circulation size – small, medium, and large. “Too Many Newspapers Web Sites Get Poor Grades” looked at different newspapers in order to “grade” them. Outing mostly looked “at the Web sites of small and medium size newspapers.” Although he does not define what is meant by these classifications (Outing, 1998). Bruce Garrison defined large newspapers as those with a circulation larger than 50,000 and small newspapers as those with a circulation smaller than 50,000 (Garrison, 1998).

These classifications aided in the formation of classifications of online newspapers as a separate entity, but dividing online newspapers on basis of circulation is not feasible, therefore for this study, content types have been defined.

Newspapers are using their Internet counterparts in diverse ways. Those who have studied online newspapers have not been able to agree about whether newspapers are living up to their potential on the Web.

Methods

The goal of this study was to find out how U.S. daily newspapers use the World Wide Web to publish information. More specifically, this study compared the approaches of three

content types of online newspapers.

Exploratory research questions include:

1. To what extent are U.S. daily newspapers using technologies available for development of Web sites?

2. How do the three content types (local, regional, and national online newspapers) vary in their use of the technological features commonly found in the design of a Web site?

For this analysis, there are three major content types that will be studied. These content types were chosen in relation to the audience they cater to, which in some ways is based on their print circulation. *USA Today*, print circulation of 1,629,665 (Editor & Publisher International Yearbook, p. xi), was the first national service newspaper chosen. *The New York Times*, the other national service newspaper, is published in New York City and has a print circulation of 1,074,741 (Editor & Publisher International Yearbook, p. xi). The regional newspapers chosen were *The Boston Globe*, in Boston, Mass. with a print circulation of 476,966 (Editor & Publisher International Yearbook, p. xi), and *The Orlando Sentinel*, in Orlando, Fla. with a print circulation of 255,037 (Editor & Publisher International Yearbook p. xi). *The Naples Daily News*, in Naples, Fla. with a print circulation of 49,206 (Editor & Publisher International Yearbook, p. I-84), and *The Macon Telegraph*, in Macon, Ga. with a print circulation of 72,218 (Editor & Publisher International Yearbook, p. I-98) fit into the regional Web site category. Table 1 lists the newspapers and their Web site addresses.

The newspapers studied were chosen because they fit the content types analyzed. Many other newspapers fit in one of the above content types and could be used, but for the needs of this study, it had to be narrowed to two of each and thus, six online newspapers that this researcher was fairly familiar with, but not too close to were chosen.

Ten days (November 5 to November 15, 1998) of home pages and top news story pages of the above six electronic newspapers were content analyzed. The ten-day time frame of analysis was used by Li (1998). The home page was defined as the initial page of the initial page of the Web site. Top news story page was defined as the story link on the home page that is given the most prominence, either by position, size of type or use of art, on the page. For analysis purposes, the data collected from each of these pages was combined for a total of occurrences per day, per site.

The units of analysis were the components of a Web page listed below. The variables examined include forums, chat rooms, related information for stories, video, audio, flash, other plug-in based technologies, Java applets, other language use outside of the basic HTML 4.0 standard, electronic mail, polls with instantaneous results, search tools, consumer services (including searchable classifieds, home finders, job finders, and merchandise sales), sign-up for electronic delivery of a personalized newspaper and instantaneous updates of information (including stocks, sports scores, and weather) that are located on the home page and top news article page (see Appendix 1), and links to the above uses of the new technology.

Each instance of the above features as well as a link to one of the features was counted on both the home page and the top news article page by two coders. Intercoder reliability was computed with data collected during three days of the study. The reliability coefficient was 0.96, using the $R = (2(C_{12})) / (C_1 + C_2)$ (Budd, p.68).

Findings

Analysis of the data brought about clear-cut findings. In reference to the first research question, to what extent are U.S. daily newspapers using technologies available for development of Web sites, the data in Table 2 show that a majority of the pages had related information (53%),

electronic mail addresses (59.8%), site searches (79.5%), and consumer services (95.5%). Very little use of chat rooms (2.3%), audio (12.1%), video (10.6%), Java applets (15.2%), other languages use (6.1%), polls with instantaneous updates (9.1%), and sign-up for personal delivery (2.3%) was found. No instances of flash or other plug-in based technologies were found on any of the sites studied. Forums (31.9%) and instantaneous updates (25.8%) were used on certain sites, but had not taken hold on the majority of newspaper sites.

A breakdown of the technologies used by each newspaper shows dominance by the two regional newspapers. *The Orlando Sentinel* had more occurrences per day in links to related information, audio, video and polls with instantaneous results. *The Boston Globe* had the most occurrences of search engines, consumer services, sign-up for personal delivery and instantaneous updates. *The Naples Daily News* had the most occurrences of chat rooms and electronic mail, *The Macon Telegraph* had the most occurrences of Java applets, and *The New York Times* had the most occurrences of forums, but none lead by a very large margin, as shown in Table 3.

With regard to the second research question--- how do the three content types vary in their use of the technological features commonly found in the design of a Web site--- the data show that the content types vary greatly in the technologies they offer their readers. National online newspapers show a considerably higher adaptation of forums. Local online newspapers show a notably higher adaptation of Java applets, and electronic mail use. Regional online newspapers show a remarkably higher adaptation of polls with instantaneous updates, related information, video, audio, polls, search, consumer services, and instantaneous updates, as shown in Table 4.

Conclusion

The most prominent technology used by all three categories of online newspaper was consumer services, which is a technology that any person with any browser can utilize. Consumer services usually allow a person to insert a value of something that is desired and it returns what is available in the database. This is used for automobile sales, home rental and sales, dating services, and many other classified related services.

The two technologies that were not used by any of the online newspapers studied were both plug-in based technologies, which require the reader to have extra software on her/his computer to utilize the technology.

The domination of technology used by the regional online newspapers brings about the question of why this is the case. The two online newspapers studied in this category are both newspapers that have a major focus on the communities that their newspapers serve. *The Boston Globe's* Boston.com offers more than just the newspaper for residents of New England, with a particular focus on Boston and its suburbs. *The Boston Globe* has formed partnerships with many other local media providers and entertainment providers in the area to offer a wide array of services for its readers. *The Orlando Sentinel's* online counterpart also offers more than just its stories for its readers. *The Orlando Sentinel* has formed a partnership with Digital City Orlando to offer the residence of Central Florida many more services than the newspaper alone could provide.

The local and national online newspapers studied seem to be publishing the Web sites alone and, therefore, are limiting the services and technologies that can provide for their readers.

Online newspapers are constantly changing. *The Orlando Sentinel* recently has added new services that offer their readers an electronic mail account through them. Some of the newer services were still in testing mode on some sites in late 1998, and so, although they are offered,

they may not have shown up very prominently on the pages studied. With time, it is expected that more of the technologies will appear with more prominence on the sites. Since this is still a very new medium and the technology is still being developed, changes occur every day.

With this growth, it will be interesting to see how the popularity of online newspapers will grow along with it. The regional newspapers, with a large base of technological use will steadily grow in popularity. Unless national and local online newspapers catch up in the use of technologies, regional newspapers will take over their readership.

It is not probable that any online newspapers will take up use of plug-in based technologies, such as Flash and Shockwave, or even RealMedia, unless they are made easier for the consumer to use. Further studies should be conducted to measure this change. Also, other online newspapers should be studied to further test the differences in the content types.

Tables

Table 1
Newspapers Studied and Web Addresses

National service	<i>USA Today</i> http://www.usatoday.com	<i>New York Times</i> http://www.nytimes.com
Regional service	<i>Boston Globe</i> Http://www.bostonglobe.com	<i>Orlando Sentinel</i> http://www.orlandosentinel.com
Local service	<i>Naples News</i> http://www.naplesnews.com	<i>Macon Telegraph</i> http://www.macontelegraph.com

Table 2
Pages with at Least One Instance of Technology

	Percent
Forums	31.9
Chat	2.3
Related information	53.0
Video	10.6
Audio	12.1
Flash	0.0
Plug-in	0.0
Java applets	15.2
Other languages	6.1
Electronic mail	59.8
Polls with instantaneous results	9.1
Search	79.5
Consumer services	95.5
Sign-up for personal delivery	2.3
Instantaneous updates	25.8

N = 120

Table 3
Mean Occurrence of Technologies per Newspaper

	Macon Telegraph	Naples News	Boston Globe	Orlando Sentinel	New York Times	USA Today
Forum	1.82	0.00	0.00	0.09	3.73	0
Chat room	0	0.18	0.00	0.00	0.09	0.00
Related information	7.18	3.27	8.82	15.36	1.91	3.82
Audio	0.00	0.00	0.00	8.64	.55	0.00
Video	0.27	0.00	0.73	3.55	0.09	0.00
Flash	0.00	0.00	0.00	0.00	0.00	0.00
Plug-in	0.00	0.00	0.00	0.00	0.00	0.00
Java applet	1.82	0.00	0.00	0.00	0.00	0.00
Other language use	0.00	0.27	0.18	0.09	0.00	0.27
Electronic mail	3.45	4.64	0.64	1.55	0.55	1.09
Polls with instantaneous results	0.00	0.00	0.00	1.00	0.00	0.09
Search	0.73	1.64	9.27	2.73	2.91	5.27
Consumer services	26.27	5.55	43.82	10.09	14.00	16.27
Sign-up for personal delivery	0.00	0.00	0.18	0.00	0.09	0.00
Instantaneous updates	0.00	0.55	5.27	0.00	1.91	0.91

N = 11

Table 4
Mean Occurrences of Technologies Used

	National	Regional	Local	Sig.
Forums	.93	.02	.48	.00
Chat room	.02	0.00	.05	.37
Related information	1.48	6.16	2.66	.00
Video	.02	1.07	.07	.00
Audio	.14	2.16	0.00	.00
Flash	0.00	0.00	0.00	
Plug-in	0.00	0.00	0.00	
Java applet	0.00	0.00	.45	.00
Other language use	.07	.07	.07	1.00
Electronic mail	.43	.57	2.02	.00
Polls with instantaneous updates	.02	.25	0.00	.00
Search	2.05	3.00	.59	.00
Consumer services	7.34	13.48	8.05	.00
Sign-up for personal delivery	.02	.05	0.00	.37
Instantaneous updates	.70	1.32	.14	.00

Appendix 1

1. Forums are areas on Web pages that allow posting of continuous discussions by readers about any topic.
2. Chat rooms are areas on Web pages that allow real-time discussions by readers.
3. Related information for stories are links or pull-outs of information from other web sources.
4. Video on a Web page is a moving image in the movie format. This does not include animated gifs. Video is usually found in the RealVideo or Quicktime format.
5. Audio is any sound that loads on from a Web page. This includes RealAudio.
6. Flash is a plug-in based product that allows for moving graphics and interactivity. Flash can be recognized by the loading of the Flash Plug-in before the images load.
7. Other plug-in based technologies include Shockwave, QuicktimeVR, IPIX, or any other technology that loads a plug-in before loading the image or information.
8. Java applets are scripts added to a Web page to add extra functionality and interactivity. It is usually spotted when the browser prompts "Loading Java" on the status bar. Java applets can be image or text based.
9. Other language use outside of the basic HTML 4.0 standard include the use of such languages as JavaScript, Perl, and C. The most common uses of other languages are the image mouse-overs and scrolling text on the status bar. These are not easily spotted due to the variety of functions. The best way to pick out another language is by viewing the source of the page and searching for the .pl or .c file extensions.
10. Electronic mail is any link that allows users to send electronic mail to anyone, including the reporters, editors and people included in a story.
11. Polls with instantaneous results are a spot on a Web page that allows the reader to answer a question and pushes on the next page the results, including all participants up to and including the user.
12. Search tool is the ability to enter keywords to find articles or other information on the Web site.
13. Consumer services include searchable classifieds, home finders, job finders, merchandise sales, and any other service that makes it easier for the reader to find things apart from news stories and information.
14. Sign-up for electronic delivery of a personalized newspaper is a spot that allows the reader to

enter her/his e-mail address to receive a version of the day's news in their e-mail inbox.

15. Instantaneous updates of information are information found on a page that is loaded current with each reload. This usually includes stocks, sports scores, and weather updates.

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