A CONTENT ANALYSIS OF AMERICAN ONLINE NEWSPAPERS DISTRIBUTED ON THE INTERNET

Ву

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CHAPTER I

INTRODUCTION

General

Online communication is a new and developing form of media. Up to this point, studies and articles on the subject have focused primarily on its use as a research tool, rather than an area worthy of research. Meanwhile the Internet and commercial online services are becoming increasingly popular and are being used more and more to communicate on several levels. While experts continue to debate what exact form the "information superhighway" will take, or even if the Internet will develop into that "superhighway" over time, the experts agree that the primary value of the "superhighway" is the communications it will provide.

This is not the first time "electronic newspapers" have been attempted. In the early 1980's the BBC introduced Datacast, an early entry into the failed teletext market. Under this system, news and information was transmitted in the empty spaces not used by a television signal. A special decoder box translated the signals into text on the viewer's screen. ¹

Teletext suffered from a lack of standards. The FCC chose not to set a standard encoding method for teletext and two competing and incompatible systems emerged. The British World System Teletext and the North American Broadcast Teletext Specification competed for acceptance. Decoders were too expensive for consumers, ranging anywhere from 250 to 500 dollars.² In addition, users found it slow with a lack of "compelling content."³

Videotex, a variation of teletext, gave users a certain degree of interactivity.

Videotex users could select from a menu of information rather than watching a continuous scrolling text. While videotex was shown to deliver the news faster than printed newspapers, it too was slow and limited to displaying only a few paragraphs at once.⁴

One writer called it an ocean of news delivered a cupful at a time.⁵

The Internet represents a different type of opportunity for newpaper publishers.

Through the use of the World Wide Web, true online interactive multimedia is possible.

Instead of tiny text menus on a television, an online version of the newspaper can be laid out to look like a full color newpaper -- with color graphics, sound, video, advertising, and a searchable archive of background information.

Online newspapers also have the potential to do things printed newspapers can never do. Instead of just using a quote in a story, an online paper can include a video clip or sound bite. Online newspapers can have the immediacy that traditional newspapers lack. The Internet also has the potential to include a world-wide audience. It reaches people around the world from a wide range of backgrounds. While historically, Internet access has been primarily available to those connected with educational institutions or the government, the general public is going online in increasing numbers through commercial access providers.

Background

The Internet was first developed throughout the early 1970's when the Department of Defense decided research could be conducted faster if its computer networks were interconnected. The Department of Defense wanted the system to be designed in such a way that if the country was attacked, the network would continue to function. In its original incarnation, the system was called ARPANET. It used a technique called "virtual re-routing" to keep its 30 computer sites online and all times. But J.C.R. Licklider, who was the first head of ARPA's computer unit felt that the system's real strength was not the

technology, but its potential as a communications tool. Robert Taylor, who succeeded Licklider, said Licklider saw it as "the interconnection of interactive, online communities of people." Dave Clark, senior research scientist at MIT agreed. "It is not proper to think of networks as connecting computers," said Clark. "Rather they connect people using computers to mediate. The great success of the Internet is not technical, but its human impact." 7

Meanwhile, the Internet continues to grow in both size and popularity. As of May 1994, the Internet had grown to nearly 2.2 million host computers worldwide -- about a fourth of which are education related.⁸ In 1992 the Internet Society estimated that there were 5 million users online.⁹ Two years later that number had quintupled to about 25 million 10 and based on present growth it the number will easily top 50 million before the end of 1995. 11

The appeal of the Internet is, and has to be, content. Lately it seems, the mainstream media are rushing online to provide the public with meaningful information. In fact, one speaker at a conference on publishing technology is quoted as saying that those whose background is in the print media are best suited for creating that content. 12

In one week alone, three major papers announced plans for new online editions. The Los Angeles Times, the Washington Post and the Philadelphia Inquirer each announced plans for expansion into the electronic marketplace. While the Inquirer's immediate plans were for a television newscast, a Knight-Ridder spokesman admitted their strategy is to get the video experience now so they will be prepared for full multi-media capability within a year or two. Roger Fidler of the Knight-Ridder Information Design Laboratory said the company plans "a newspaper where you actually touch a picture and it becomes a full-motion video segment with sound."

Newspaper publishers are realizing that the future of their livelihood may lie in online interactive communications. James Longson, vice-president of technology at the Tribune company pointed out that, "There will be some segment of the population that will

prefer to receive their information electronically; if we don't meet that need, someone else will." ¹⁶ The statistics seem to bear this out -- the number of people, particularly younger people, who get their daily news from the newspaper is continuing to decline. Instead they tend to seek their news from the electronic media. ¹⁷

As the Internet and other online services continue to change and grow, so do the online newspapers available on these services. At present, there are over 60 online newspapers in various stages of development. Many charge a monthly or annual subscription fee for complete access to the online paper. Others are bundled with commercial online services such as CompuServe or America Online. These are either included in the monthly fee for those services, or more frequently they are considered "premium" services available at an additional fee. ¹⁸

America Online subscribers, for example, have access to 15 major newspapers including the *New York Times*, and the *Chicago Tribune* as well as selections from over 25 magazines such as *Time* and *Atlantic Monthly*. CompuServe offers free access to *US News and World Report* with full-color pictures -- including even the political cartoons. Internet users can connect to a site called the *Electronic Newstand* which offers selections from over 100 different magazines. Online journals have begun to appear, such as the *Electronic Journal of Communications* -- a bilingual quarterly for the communications field 19

There are also a number of newspapers available free of charge through the Internet. These include the *Hartford Courant*, the Tacoma (WA) *News Tribune*, the *San Jose Mercury*, and the Greensboro (NC) *News & Record*, as well as many foreign newspapers such as *Die Welt* (Germany), the Jerusalem *Post*, Kamloops (BC) *Daily News Online*, and *Dagbladet* (Norway).

Statement of the Problem

There is a general lack of information about online newspapers. As Chapter II will show in greater detail, there has been little research done on online newspapers or any other form of online communication. Most writing on the subject consists of announcements of new services and guides to existing ones, generally published in the popular press. Most journal articles about online resources tend to discuss online newspapers as a tool to be used for research rather than a topic which should be researched.

Purpose

The purpose of this study is to "describe" the American online newspapers available freely over the Internet through content analysis. It will explore the content that makes up an online newspaper as well as some of the ways online newspapers differ from printed ones, thus filling an information gap.

Methodology

This study will be conducted through the use of content analysis. A selection of online newspapers available freely on the Internet will be compared with their printed counterparts. A list of possible differences will be tallied along with some basic characteristics of the stories included online. Tabulation of this data is expected to provide a profile of the type of content found in an online newspaper and show some of the ways those papers differ from the printed versions.

Significance

This study will provide insight into what one can find in an online newspaper. It will show that there are a variety of approaches to online newspaper publishing and may even provide some ideas for others. Because of the way this field is rapidly changing, this study may also prove to have historical value. Parts of this study will likely be out-of-date within a short period of time, but may retain value as a snapshot of this new media during a period of its infancy.

This study may also provide some guidance to other publishers who are interested in setting up a paper online. There are many advantages to this technology over the printed paper that have not been fully realized yet by those who are already online. Largely, the sound and video elements have not yet been fully utilized by an online newspaper. Outside of this study, the author has found only one use of a sound clip in an online newspaper -- a sports announcer calling the end of the 1995 Superbowl.

It is also hoped that this work can serve as the foundation for future study. "What is it?" is only the first of many questions to consider.

Limitations and Assumptions

Because this form of media is so new and so experimental, it is likely that there will be many changes in some of these papers as the study continues. Some of the papers originally intended for this study, for example, were eliminated from the list because they no longer are offered for free, but by subscription only. Additionally, two new papers started publishing online between the time this study was originally proposed and the time data gathering began and several others have gone online since then and obviously could not be included.

The study was conducted under the assumption that the publishers would take advantage of the immediacy online publishing has to offer. This did not always turn out to be the case. Some papers printed the same stories in Monday's online paper as in Monday's printed paper. Others printed stories as they broke -- meaning stories in Monday's online paper either appeared in Tuesday's paper or the story was out-of-date by the time Tuesday's paper went to press. One online paper is the complete content of the previous day's paper (Tuesday's online paper is Monday's paper).

Organization

Chapter II: Literature Review - This chapter examines some additional background and previous related research.

Chapter III: Methodology - This chapter explains the methods used to conduct this study along with the statistical methods employed to analyze the data.

Chapter IV: Data Analysis - This section details the findings for each hypothesis.

Chapter V: Conclusions and Recommendations - The final chapter consists of an interpretation of the data, some recommendations and raises some additional questions for future study.

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CHAPTER II

LITERATURE REVIEW

General

New users are flocking to the Internet in ever increasing numbers. Once online, they begin searching -- or as it is usually called, "surfing" -- the Internet for interesting information. Possibly they are seeking something more entertaining or more interesting than what they see on TV. Meanwhile, the mainstream media is rushing online to provide that information. Movie studios, radio stations, magazines are all beginning to offer online information services. Newspapers however, most likely driven by falling subscriber bases and rising newsprint costs seem to have the head start at providing information to these online "surfers."

Studies of gatekeeping have focused on what items are newsworthy and how editors decide what stories should be printed. White's early study of a solitary copy editor has served as the example of the media gatekeeper. More recent studies have examined the dynamics of the newsroom, since few modern media outlets rely on a single editor for all journalistic decisions. Gans, for example, studied the news content of two major television networks and two national news magazines. After gathering information on what items made the news, Gans spent time in each newsroom to study the process used by journalists to decide what is news.

Unlike Gans' work, this study examines only one portion of this process. The results of this study show the fruits of the gatekeeping process. It examines what makes the news in an online newspaper and points out some of the differences in content between

the online and printed paper. However it does not examine how or why those gatekeeping decisions were made.

There has also been much written on the diffusion of innovations. Rogers theorized that adoption of a new innovation generally followed a normal distribution curve. He categorized adopters as "innovators," "early adopters," the "early majority," the "late majority" or as "laggards." Diffusion studies of this particular innovation have not yet been done, probably because adoption of online publishing is incomplete.³

This study does not examine this process in relation to online publishing.

However, the researcher does acknowledge that the online papers included in this study will likely prove to be among the "innovators" or "early adopters."

The Internet as a Research Tool

While the Internet provides a wide variety of methods of communication, very little research about this system of communication has been done. So far, researchers have primarily written about the Internet as a research tool, not as a communications tool. It is no surprise then, that online newspapers specifically have not yet received much attention from researchers.

Articles are beginning to appear in communications journals discussing the use of online services as research tools. *Communication Education* devoted a significant portion of one issue to the discussion of Internet research. Three of these articles were confined to basic information on how to access and use the Internet and what services are available. The fourth article was a call for additional online training.

Collins, for example, discussed the confusion surrounding the various data search methods available to users of the Internet. She explained the capabilities of the different file search programs and gave some basic instruction on how to use them.⁴ Rowland

talked about the increasing number of libraries connected to the Internet and pointed out that librarians are becoming online data search experts. Rowland encouraged researchers to enlist the aid of librarians to expedite the search process, concluding that information on the Internet is extremely disorganized and that some of it is so trivial that it is useless. Some explained how researchers can find government information on the Internet, but devoted most of the article to a list of online addresses for a variety of databases.

Bailey and Cotlar expressed a need for hands-on computer and data-search training within the realm of higher education. They found that by incorporating hands-on instruction in the classroom, students were more likely to actually use the computer to assist them with their work. Bailey and Cotlar maintained that these skills are needed because "these methods illustrate a more efficient, and more effective, allocation of institutional resources." They concluded that implementation of computer instruction would lead to "continued growth, development, and research possibilities for both faculty and students."

Hausman examined some of the ethical issues surrounding the use of information found online. He discussed the balance between the public's right to know versus the individual's right to privacy as applied to database searches. Hausman concluded that there is no clear precedent for determining policy or resolving this particular ethical dilemma. Additionally, Hausman pointed out that our society tends to enact policy reactively and called for a proactive approach toward online privacy issues. ⁸

The Internet as a Communications Tool

Over the last two years, studies of the Internet itself have only begun to appear.

One study attempted to profile the users of the Internet, the types of information they are seeking and how they go about finding it. The researcher concluded that the Internet is not yet an "ideal" information source and that users are dissatisfied with it. He found that most

users use gopher and Listservs to search for data. Unfortunately, the methodology of this study is questionable. It was based on a questionnaire posted to 18 Listservs for users to respond to voluntarily. This automatically eliminated Internet users who do not use Listservs in favor of a graphical interface, for instance. Other problems include a small sample and poor survey design. 9

More recently, Ogan and Morris questioned whether the Internet could possibly fit the existing paradigm of mass communication. They found that the components of traditional communication (such as audience size, senders and receivers) are both variable and interchangeable. The interactive nature of the Internet does not fit with established definitions of mass communication. They concluded that new communications models would be needed. \$10\$

Allen attempted to examine some of the gatekeeping issues involved in the distribution of information on the Internet. Allen surveyed the administrators of 223 Internet listservs to find out if they ever deleted or edited messages posted to the list, and if so, why. Rather than finding answers to his research question, Allen instead found that accepted methodology for conducting surveys does not work on the Internet, possibly explaining in part why there is so little communication research in this area. 11

Electronic News

In a study published in *Journalism Quarterly*, Kaufman, Dykers and Caldwell examined the pitfalls of relying on electronic archives of newspapers for content analysis research. They compared stories found in the electronic archives of 20 major newspapers with the actual paper copies, and found that many stories are omitted when the newspaper is archived. They also found discrepancies between editions of the same newspaper. The archival copies were not always the same edition each day.¹²

While this study did examine news stored in an electronic format, it focused on electronic search and retrieval services such as Vu/Text and Nexus, not actual online newspapers.

The following year Ruggiero and Van Kleij publicized the results of their experiment to publish a newspaper on the Internet written in HyperText Markup Language (HTML). In their experiment, the Italian newspaper *L'Unione Sarda* was transferred electronically each evening from the editorial database (a standard PC) to a larger computer which inserted the HTML code. The online newspaper included the full text of the printed paper along with photos, archival search features, and hypertext links of interest. The researchers concluded that the World Wide Web provided an "ideal solution for multimedia publishing." ¹³

This study focused primarily on how to transfer a newspaper from the printed form to an online one. The methods described -- the use of HTML, the inclusion of photos, archives and hypertext links -- are typical of the online papers available today. This study did not discuss the content of an online newspaper, however. In the experiment, the researchers used the full text of *L'Unione Sarda* -- a practice which is not typically done today. The content of most online newspapers can vary widely from the printed edition.

Martin examined what she termed the "virtual newspaper of record." Bodies of government designate a newspaper of record for publishing public notices. Many of those papers, Martin noted, have begun to publish online editions in keeping with technological trends and rising costs of newsprint. In her study, Martin set out to examine the suitability of these online newspapers to serve as a newspaper of record. ¹⁴

Martin concluded that online newspapers currently do not address the needs of a "newspaper of record." Publishers of online newspapers are not yet addressing the needs of a librarians, historians and lawyers. Specifically, Martin wrote, "little, if any, of the current literature among newspaper scholars addresses the concerns of reliability, authority or permanence with newspaper editions published online..." 15

Martin's study looked at the online newspaper from the perspective of the librarian, historian and lawyer -- those who use the paper for record-keeping purposes. This study takes a wider view of the online newspaper, determining its properties rather than its specific usefulness.

Brown and Atwater conducted a content analysis of three Videotex services and compared the content of each with a companion newspaper. They found that the Videotex services relied strictly on wire services and other newspapers for their stories. They also found that less than a third of the stories on the Videotex services were also included in the print newspaper. In addition, the Videotex stories were more timely than the print stories. ¹⁶

This study differs from the Brown and Atwater study in that it examines newspapers on the Internet rather than Videotex. In addition, the companion newspapers in the Brown and Atwater study were chosen because they had the largest circulation within the cities where the Videotex services operated. The electronic and print versions were each operated independent of each other. In this study the printed and electronic papers are actually two versions of the same paper.

Summary

If nothing else, this review of existing literature clearly shows that the Internet holds a wide open field for the communications researcher. Most studies to date have focused primarily on the use of the Internet and other online services as a tool for research. Slowly, other studies are beginning to surface examining the nature of the Internet itself.

Research on online newspapers has also been very limited. The existing studies show how to publish a newspaper on the Internet. They also show that the Internet is an ideal forum for multi-media publishing. In addition, there are questions about the permanence of anything published electronically.

Ruggiero and Van Kleij used the full content of *L'Unione Sarda* when they conducted their online experiment. Newspaper publishers since then have not followed that model when publishing online. There is a need then, to establish the nature on online newspapers, and to discover how they differ from the printed papers.

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CHAPTER III

METHODOLOGY

Overview

This section details the methods used to conduct this study. It discusses the hypothesis posed by the researcher, a description of the sample, and the methods used to gather and analyze the data. Limitations of the study are also discussed.

Research Questions

The primary focus of this study can be generalized in one overall research question:

What content makes up an online newspaper? This question can be broken down into several more specific questions: Since the Internet has a worldwide audience, what is the geographic scope of the stories printed in an online newspaper? Are the stories published online more timely than those in the paper version? Do the stories published online tend to be written by staff writers, other newspapers or wire services? Are the stories altered in any way between the two versions? Do online papers use more supporting materials (photos, sidebars, graphics, sound, video, etc.) than their printed counterparts? Do the stories published online also appear in the paper edition?

Hypothesis

Because there is no prior research in this area, the following null hypotheses were used:

H1: There is no difference in the proportion of world, national, state or local stories

included online.

To answer this question, a tally was kept of each type of story. In every case, either the printed paper or the online paper (and often both) had these classifications already applied to each story. To eliminate the need for a judgments to be made as each story was examined, the classifications used by the paper itself were used for the study.

H2:There is no difference in the timeliness of stories published online compared to those in the print edition.

A preliminary look at stories appearing online revealed that there were four possible situations that could occur which would define the timeliness of a story. The story was printed on the same day both online and in the paper. The online story appeared in the next day's paper (it was a breaking story). The online story was topped by the story that appeared in the next day's paper (there were further developments which made it out-of-date). The online story appeared in the previous day's paper. Each of these four possibilities was tallied in order to answer the question of timeliness.

H3:There is no difference in the number of stories published online that were written by the paper's staff reporters compared to those used online from wire services or other newspapers.

As each story was was examined, the bylines were tallied. Most papers, if a reporter was credited, mentioned whether or not the reporter was a staff reporter. A tally was kept of each source credited including non-specific ones, such as "from staff and wire reports" and an uncredited byline (a reporter was credited but no mention is given as to whether the reporter was from the paper or a wire service.)

H4:There are no differences in the length and language used in the stories published online when compared to the same story in the paper.

Four criteria were counted to answer the question of whether or not a story had been altered. Either the paper or its online counterpart printed only a synopsis while the other printed a full-length story. One version or the other would have one or more additional paragraphs. (A single added sentence was not counted). One version or the other had undergone some amount of rewriting. Each version had a different headline.

H5: The stories published online will also be published in the paper edition.

A tally was kept of the number of stories published online which also appeared in the paper edition. The story did not necessarily appear in the same day's edition, but could also appear in the prior or following day's edition.

H6: There is no difference in the amount of supporting materials (photos, graphics, sidebars, sound, video, etc) used online compared to those in the paper.

To answer this question, the following instances were tallied:

- How many photographs appeared in one version that did not appear in the other.
- How many graphics were used in one version that were not used in the other.
- If a sidebar appeared in one version and not the other.
- If a sound or video clip was used online.
- If the online version contained a link to another related location on the Internet.
- If the online version had a link to background or archival information pertaining to the history of the topic or prior stories.
- If either version had any type of other related information that the other did not include.

Data Collection and Sampling

This study compared American online newspapers available at no additional cost to users of the Internet with their paper counterparts. The sample consisted of every story in the selected online papers which were categorized as world, national, state, local or breaking news for each day of the week beginning July 10, 1995. That particular week was chosen randomly from the weeks of June, July, and August -- the time frame available to the researcher to complete this project.

This study was to originally include the following online newspapers:

Hartford Courant

The Times (San Mateo, California)

The News Tribune (Tacoma, Washington)

San Francisco Chronicle

San Diego Source (San Diego Daily Transcript)

Star-Tribune (Casper, Wyoming)

San Francisco Examiner

San Jose Mercury News

Virginian-Pilot (Norfolk, Virginia)

At the time the study was proposed, these were all of the American online newspapers available free on the Internet known to the researcher. The Casper Star-Tribune was omitted because it contained no original content. It contained only links to some of the other online papers. The Hartford paper was also omitted because the paper was offline for most of the week of the study. Two additional online papers were found and included later - the Lafayette (IN) Journal and Courier and The Central Ohio Source (The Daily Reporter). (See Appendix A)

During the week beginning July 10th, 1995, the news content of the online newspapers was downloaded and compared with their printed counterparts. The sample included only stories categorized as world, national, regional, state, local or breaking news. Sports, features, personals, advertising and op/ed material were omitted.

Research Instrument

A checklist was created for coding the data, along with coding instructions (see Appendices B and C). These were pretested and revised and tested again prior to the data coding. A computer program called *Helix Express* was used to enter and tabulate the data. This program was also used to export a data matrix to a statistical package called *Systat*. A simple spreadsheet program was used to create tables and compute chi-squares.

Data Analysis

Final counts of the stories found were broken down into their respective categories in order to study the various hypotheses.

Tallies of stories were broken down by geographic scope, timeliness, source, length, changes found, and inclusion in print. The tally of supporting materials found was broken down by print and online edition.

Scope was broken down into world, national, state and local news. Timeliness was broken down into stories which were breaking, topped, from yesterday and from the same day. (Full explanations of the categories appear in chapter IV). Source included stories by the newspaper staff, from wire services and from other newspapers.

Story length included a count of stories which were longer in print, longer online or the same in each edition. Changes included a count of stories with different headlines in each edition, stories which were rewritten for one edition or another, and stories which were taken from a different source for each edition.

Inclusion was broken down into stories published online and stories published in both editions. Stories published in print only were not included in this study.

The results of each tally were compared and simple chi-squares were used to test for significant differences when appropriate.

Limitations

This study has a number of limitations. First, the online papers studied include only those available free over the Internet. There are a number of papers available online by subscription or pay-per-access basis. There are also a number of international papers available online. This study is also limited by time. Online communications is changing very quickly. Many online services start out as free services and become subscription services. Others reformat, expand or disappear completely over time. Until this medium becomes more mature, studies such as these can only be a "snapshot" of conditions at that time.

CHAPTER IV

FINDINGS

Overview

This study examined 9 online newspapers and compared their content to that of their printed counterparts. The study included an examination of geographic scope, timeliness, source of stories, length and language, inclusion and supporting materials accompanying each story.

Stories were downloaded from the Internet for a full week and compared to the stories published in the print edition of the corresponding paper. A total of 1007 stories were included in the sample. Characteristics of each story were tabulated along with any differences found between the online and print versions.

Geographic Scope of Stories Published Online

A tally was kept of the geographical scope of each story examined. The stories were categorized as either world, national, state or local news. In each case, the categories were based on those used by the newspaper itself. The count for each category was tallied at a simple chi-square was performed on the totals. Table I shows the results of this analysis.

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TABLE I OVERALL GEOGRAPHIC SCOPE OF STORIES PUBLISHED ONLINE $$N\!\!=\!\!1007$

Geographic Scope	Stories N=1007
World National State Local	24% 36 14 26
TOTAL	100%
$\chi^2 = 97.63$ df=3 p<.99	

As the table shows, the online versions of the newspaper tended to carry more world and national news than state and local news. National news was found most often followed by world, local and state news. Also a significant difference in total stories was found among the various story types at a confidence level of 99 percent. H1 then, was rejected.

Not all of the papers studied follow this pattern, however. To illustrate this, the results were broken down on a paper-by-paper basis as shown in Table II.

TABLE II

GEOGRAPHIC SCOPE OF STORIES BY NEWSPAPER
N=1007

Geographic Scope		News	paper		
200,0	Virginian Pilot N=23	The Times San Mateo N=25	San Jose Mercury N=103	SF Chronicle N=130	SF Examiner N=256
World	4%	0%	50%	3%	21%
National	13	0	42	15	41
State	17	0	5	28	19
Local	66	100	3	54	19
Total	100%	100%	100%	100%	100%

TABLE II (CONTINUED)

Geographic Scope		Newspaper			Overall	
	Lafayette Journal N=191	San Diego Source N=62	Central OH Source N=23	Tacoma News Trib N=194	_	
World	21%	19%		40%	24%	
National	32	47	9	53	36	
State	19	5	39	1	14	
Local	28	29	52	6	26	
Total	100%	100%	100%	100%	100%	

This table shows that some of the papers, specifically the *Virginian-Pilot*, the *San Francisco Chronicle*, and the *Central Ohio Source* tend to publish more state and local news, while the *The Times* publishes only local news.

Timeliness of Stories Published Online

Data were also tabulated for each story regarding the its timeliness in relation to the print edition. A story was coded as "breaking" if it appeared in the following day's print edition; "topped" if it updated the story in that day's print edition or was updated by a story in the following day's print edition (or both); "yesterday" if it appeared in the prior day's print edition; and "same day" if it appeared in the same day's print edition. In addition, stories were coded as "not published" if they did not appear in the print edition. The results of this tally is illustrated in Table III.

TABLE III
TIMELINESS OF STORIES PUBLISHED ONLINE
N=778

Timeliness	Stories N=778
Breaking	16%
Topped	4
Yesterday	4
Same Day	76
TOTAL	100%

The null hypothesis states that no difference in timeliness is expected between the online and the print editions. If this were true, all of the stories would appear on the same day's print and online editions. Table III shows that this is not the case. Instead, only three-quarters of the stories published in both editions appeared on the same day. However, an additional 20 percent of those stories were more timely in the online edition (coded either "breaking" or "topped"). Another 4 percent were less timely than the print edition, appearing in the following day's online edition.

The results were broken down by newspaper as shown in Table IV.

TABLE IV
TIMELINESS OF STORIES PUBLISHED ONLINE BY NEWSPAPER
N=778

Timeliness		News	paper		
	Virginian Pilot N=22	The Times San Mateo N=25	San Jose Mercury N=73	SF Chronicle N=117	SF Examiner N=220
Breaking	0%	0%	41%	0%	0%
Topped	0	0	15	1	6
Yesterday	0	100	0	0	1
Same Day	100	0	44	99	93
Total	100%	100%	100%	100%	100%

TABLE IV (CONTINUED)

Timeliness	Newspaper				Overall
	Lafayette Journal N=172	San Diego Source N=23	Central OH Source N=23	Tacoma News Trib N=103	
Breaking	2%	26%	0%	85%	16%
Topped	1	0	0	3	4
Yesterday	0	0	0	0	4
Same Day	97	74	100	12	76
Total	100%	100%	100%	100%	100%

This shows that almost all of the stories coded "yesterday" came from the same newspaper, the *The Times*. Five papers publish at least 90 percent of their stories in each edition on the same day. *The News-Tribune* has the most timely online edition, with 85 percent breaking stories. Seven of the nine papers do carry some content online that is more timely than the print edition. In general then, it can be said that the online editions are more timely than the print editions and H2 is rejected.

Sources of Stories Published Online

Data were tabulated concerning the sources of the stories published online. The information was taken from the by-line of each story. Stories lacking by-lines were coded as "uncredited." In addition, some papers use the name of the wire reporter in the by-line. If a name was credited but there was no indication as to whether that reporter was a staff or wire reporter, that story was also coded as "uncredited." The results of this tabulation are shown in Table V.

TABLE V

OVERALL SOURCES OF STORIES PUBLISHED ONLINE
N=977

Source	Stories N=977
Own Staff Other Newspapers Wire Services	43% 10 47
TOTAL	100%
$\chi^2 = 239.62$ df=2 p<.99	

As the table shows, the sources were almost split evenly between staff and wire services, with wire copy providing the greater number of stories. The table also shows a larger difference between either of these two sources and other newspapers. A simple chi-square was calculated on these results and a significant difference was found at a confidence level of 99 percent. H3 was rejected because there is a difference in the number of stories provided by each of these three types of sources.

For reference purposes, Table VI gives a complete breakdown of all the different sources for stories found in this study.

TABLE VI BREAKDOWN OF SOURCES OF STORIES PUBLISHED ONLINE $N\!=\!1007$

Source	#	Stories
Own Staff		417
Associated Press		381
NY Times		33
Uncredited		30
from Wire Reports		26
LA Times		22
Reuters		20
Washington Post		17
Scripps-Howard		8
Knight-Ridder		7
London Independent		6
Gannett		6
NY Newsday		6 5 5 5 3 3 2 2 1 1
Chicago Tribune		5
McClatchey News Service		5
USA Today		3
Boston Globe		3
Cox News Service		3
Dallas Morning News		2
Deutsche Presse Agentur		2
NY Daily News		1
St. Petersburg Times		1
Baltimore Sun		1
Meddill News Service		1
Newhouse News Service		1
Bloomberg Business News		1
TOTAL		1007

The table shows that the newspapers' staff reporters provided more stories than any other single source. The Associated Press provided the majority of stories compared to the other wire services, and the *New York* and *Los Angeles Times* were the most popular newspaper sources found.

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Length of Stories Published Online

Data were tabulated concerning the length of the stories included in the study. Originally, five categories were coded, but they were reduced to three during the analysis portion of the study because of redundancy. Either the online version was longer than the print version, the print version was longer than the online version, or both versions were the same.

Length was measured in actual content, since physical length would be meaningless for the online edition. A column inch of newspaper copy cannot be compared to a column inch on the computer screen, since the size of a user's screen can vary, and the point size of the text can be changed by the user. Instead, the actual text was compared paragraph by paragraph. If one version contained paragraphs not included in the other version, it was counted as being longer.

The results of this tally are shown in Table VII.

TABLE VII

OVERALL LENGTH OF STORIES PUBLISHED ONLINE

N=1007

Length	Stories N=1007
Online Version Longer	11%
Both Versions Same Length	80
Print Version Longer	9
TOTAL	100%

Table VII shows that most of the stories are the same length. However, 20 percent of the stories are longer in one version or another. This was broken down further in Table VIII.

TABLE VIII

OVERALL LENGTH OF STORIES PUBLISHED ONLINE BY
NEWSPAPER
N=1007

Story Length		News	paper		
	Virginian Pilot N=23	The Times San Mateo N=25	San Jose Mercury N=103	SF Chronicle N=130	SF Examiner N=256
Online Version	1				
Longer	4%	8%	0%	8%	2%
Both Versions					
Same Length	96	84	20	92	95
Print Version					
Longer	0	8	80	0	3
Total	100%	100%	100%	100%	100%

TABLE VIII (CONTNIUED)

Story Length .	Newspaper				Overall
	Lafayette Journal N=191	San Diego Source N=62	Central OH Source N=23	Tacoma News Trib N=194	
Online Version	n				
Longer	0%	2%	0%	44%	11%
Both Versions					
Same Length	100	96	100	55	80
Print Version					
Longer	0	2	0	1	9
Total	1000	1000	1000	1000	100%
Total	100%	100%	100%	100%	100%

This Table shows that most of the occurrences of a longer online story are from the Tacoma *News-Tribune*, while most of the occurrences of a longer print story are from the San Jose *Mercury*. For the other 7 papers, at least 84 percent of the stories are the same length. Otherwise, there is no overwhelming tendency for one edition to have longer stories than the other.

Language Changes Between Print and Online Editions

Data were tabulated to record changes within the story itself. All together, three types of changes were noted. Each version of the story could have a different headline. One version or the other could contain minor rewrites. Each version of the story could be from a different source. (The online version was from the Associated Press while the printed version was written by staff reporters, for example.) These results are listed in Table IX.

TABLE IX
SUMMARY OF LANGUAGE CHANGES BETWEEN PRINT AND ONLINE
VERSIONS
N=1007

Type of Change	Stories N=1007
	N=1007
Different Headlines	10%
Minor Rewrite	2
Different Sources	2
No Alteration	88%
TOTAL	*

^{*}Totals are not meaningful because multiples changes are possible for each story

This table shows that most stories were identical in both the print and online editions of the paper. Most frequently, the change between the two editions was a different headline for each version. Table X breaks this information down by paper.

TABLE X
SUMMARY OF CHANGES BETWEEN PRINT AND ONLINE STORIES
BY PAPER
N=1007

Changes Found —			Newspape	r				
	Virginian Pilot N=23	The Times San Mateo N=25	San Jose Mercury N=103	SF Chronicle N=130	SF Examiner N=256			
Different								
Headlines	83%	8%	31%	2%	5%			
Story Rewritten	n 4	0	6	0	2			
Different Source	ces 0	0	4	0	0			
Unaltered	12%	92%	59%	98%	93%			
Total	*	*	*	*	*			

TABLE X (CONTINUED)

Changes Found _		Newspaper			
	Lafayette Journal N=191	San Diego Source N=62	Central OH Source N=23	Tacoma News Trib N=194	
Different					
Headlines	1%	9%	9%	12%	10%
Story Rewritten	n 0	7	0	0	2
Different Source		0	0	3	1
Unaltered	99%	84%	91%	86%	88%
Total	*	*	*	*	*

^{*}Totals are not meaningful because multiples changes are possible for each story

This table shows that the results for the individual newspapers is generally consistent with the overall findings. The only real exceptions are the *Virginian-Pilot* and the *San Jose Mercury News*, which use a different headline in each edition more frequently than the other papers.

Stories Omitted in Print Edition

The number of stories included online but not in print was tallied as a portion of this study. Table XI lists this information by newspaper and gives the overall totals.

TABLE XI

INCLUSION OF STORIES IN PRINT AND ONLINE EDITION BY
NEWSPAPER
N=1007

Inclusion	Newspaper				
	Virginian Pilot N=23	The Times San Mateo N=25	San Jose Mercury N=103	SF Chronicle N=130	SF Examiner N=256
Online Only	4%	0%	29%	10%	14%
Both Versions	96	100	71	90	86
Total	100%	100%	100%	100%	100%

TABLE XI (CONTINUED)

Inclusion			Newspaper		Summary
	Lafayette Journal N=191	San Diego Source N=62	Central OH Source N=23	Tacoma News Trib N=194	_
Online Only	10%	63%	0%	47 %	23%
Both Versions	90	37	100	53	77
Total	100%	100%	100%	100%	100%

As the table shows, 23 percent of the stories published in the online edition were not published in the print edition. Seven of the 9 papers studied included material published exclusively in the online edition.

The stories which were not published in the print edition were analyzed further, to determine their geographic scope. These results are presented in Table XII.

Table XII
Overall Geographic Scope of Stories Omitted From Print Version
N=229

Geographic S	Scope		Stories N=229
World National			37% 48
State Local			6 9
TOTAL			100%
${\chi 2=118.96}$	df=3	p<.99	

A chi-square analysis was conducted and a significant difference was found at a confidence level of 99 percent. As the table reflects, the additional material published in the online edition (and omitted from the print edition) primarily consists of national and world news.

Supporting Materials

A tally was kept of the supporting materials accompanying each story. These include photos, graphics, sidebars, and archives of background information. Other types of materials were also found, such as foreign language translation, time lines, personality profiles and other information. The tally included only materials which were unique to one version or the other. A photo or sidebar included in both versions, for example, would not be tallied. Table XIII reflects the final count of all materials encountered.

TABLE XIII

BREAKDOWN OF SUPPORTING MATERIALS FOUND
N=1007

	Total Stories	Percent
Online:		
Added Graphic	0	0%
Background Archive	10	1
Photo Changed to Color	1	0
Edited Photo	5	0
Hypertext Links	85	8
Extra Photos	9	1
Other Resources	42	4
Total online stories w/ any materials	123	12 % *
In Print:		
Added Graphic	32	3 %
Added Sidebar	32	3
Extra Photos	229	23 %
Other Resources	4	0
Total print stories w/ any materials	298	30 % *
Stories with no supporting materials:	901	89 % *

^{*} Subtotals do not equal 100 percent because several types of supportingmaterials may appear with the same story

As the table shows, photos accompanied print stories most frequently, while hypertext links accompanied online stories most frequently. In addition, only 12 percent of the stories published online utilized any supporting materials as compared to 30 percent for the print edition. This difference was analyzed further as shown in Table XIV.

TABLE XIV

OVERALL COMPARISON OF SUPPORTING MATERIALS FOUND
ONLINE VERSUS PRINT
N=449

Edition			Total Materials Found N=449
Online Print			34% 66
TOTAL			100%
${\chi 2=46.83}$	df=1	p<.99	

A simple chi-square was performed on the final tallies. A significant difference was found in the amount of materials used between the print and online versions at a confidence level of 99 percent. H6 was therefore rejected because the print edition utilized more supporting materials than the online edition.

Tables XV and XVI show how these materials are utilized in each paper. Table XV shows which materials were found in the online editions of each paper while Table XVI shows which materials were found in the print edition.

TABLE XV SUPPORTING MATERIALS FOUND IN ONLINE EDITION BY PAPER N=1007

Supporting Materials ,			Nev	vspaper	
	Virginian Pilot N=23	The Times San Mateo N=25		SF Chronicle N=130	SF Examiner N=256
Added Photos	9%	0%	7%	0%	0%
Added Graphic	4	0	0	0	0
Background	0	0	7	0	0
Colorized Photo	0	0	1	0	0
Edited Photo	22	0	0	0	0
Hypertext Links	s 4	0	7	0	0
Other	9	0	4	0	0
* Total w/ any	35	0	13	2	0
None	65	100	87	98	100
Total	100%	100%	100%	100%	100%

	Т	Summary			
	Lafayette Journal N=191		Central OH Source N=23	Tacoma News Trib N=194	-
Added Photos	0%	0%	0%	0%	1%
Added Graphic	0	0	0	0	0
Background	2	0	0	0	1
Colorized Phot	o 0	0	0	0	0
Edited Photo	0	0	0	0	0
Hypertext Link	s 8	0	0	31	8
Other	5	0	0	12	4
* Total w/ any	11	0	0	41	12
None	89	100	0	59	88
Total	100%	100%	100%	100%	100%

^{*} Since a story may be accompanied by a variety of materials, this total reflects the total stories utilizing any of the items listed

TABLE XVI

SUPPORTING MATERIALS FOUND IN PRINT EDITION BY PAPER
N=1007

Supporting Materials	Newspaper					
Materials	Virginian Pilot N=23	The Times San Mateo N=25	San Jose Mercury N=103	SF Chronicle N=130	SF Examiner N=256	
Added Photos	43%	40%	17%	19%	30%	
Added Graphic	9	8	5	3	4	
Added Sidebar	17	0	3	3	1	
Other	4	0	3	0	0	
* Total w/ any	57	48	14	18	25	
None	43	52	86	82	75	
Total	100%	100%	100%	100%	100%	

TABLE XVI (CONTINUED)

Supporting Materials		Summary			
	Lafayette Journal N=191	San Diego Source N=62	Central OH Source N=23	Tacoma News Trib N=194	
Added Photos	41%		9%	3%	23%
Added Graphic	: 4	0	4	0	3
Added Sidebar		0	0	1	3
Other	0	0	0	0	0
* Total w/ any	41	0	13	3	21
None	59	100	87	97	79
Total	100%	100%	100%	100%	100%

^{*} Since a story may be accompanied by a variety of materials, this total reflects the total stories utilizing any of the items listed

Summary

These findings provide a profile of online newspapers. In general, online newspapers carry more world and national news than state and local news. They are somewhat timelier than the printed paper. The stories primarily come from wire services and wire reports and typically are not rewritten for each edition, although sometimes each version is given a different headline.

Online newspapers carry some stories, primarily world and national in scope, which are not included in the print edition. A story is more likely to be accompanied by photos and other supplementary materials in the print edition than the online edition. A full discussion of these findings follows in Chapter V.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study sought to define the makeup of an online newspaper. Specifically, it examined certain characteristics including the scope, sources and timeliness of stories as well as the supporting materials included with the stories. It also looked briefly at the stories published online which were not included in the print edition.

During the week beginning July 10th, 1995, the news content of certain online newspapers was downloaded and compared with their printed counterparts. Those papers included: *The Times* (San Mateo, California); *The News Tribune* (Tacoma, Washington); *San Francisco Chronicle*; *San Diego Source* (*San Diego Daily Transcript*); *San Francisco Examiner*; *San Jose Mercury News*; *Virginian-Pilot* (Norfolk, Virginia); Lafayette (IN) *Journal and Courier* and *The Central Ohio Source* (*The Daily Reporter*). Other online papers were omitted because they carried no original news content at the time of the study.

The sample consisted of every story in the selected online papers categorized as world, national, state, local or breaking news for each day of the week beginning July 10, 1995. Sports, features, personals, advertising and op/ed stories were omitted.

Characteristics of each story were tabulated along with any differences found between the online and print versions. Those characteristics included geographic scope, source of material, timeliness, and supporting materials accompanying the story (such as photos, hypertext links, background, etc.). The results were analyzed through the use of descriptive statistics.

Scope of Online Stories

H1: There is no difference in the numbers of world, national, state or local stories included online.

H1 was not supported by the findings. In general, the online versions of the newspaper tended to carry more world and national news than state and local news.

National news was found most often followed by world, local and state news. This may be because the online editions have the potential for a broader audience. However, this study does not compare the overall scope of the online edition to the overall scope of the print edition.

Some of the papers do not follow the overall tendency. Specifically the online editions of the *Virginian-Pilot*, the *San Francisco Chronicle*, and the *Central Ohio Source* tend to publish more state and local news, while *The Times* (San Mateo, California) publishes only local news.

Timeliness of Stories

H2:There is no difference in the timeliness of stories published online compared to those in the paper.

H2 was not supported by the findings. While the majority of stories published online do appear the same day in each edition, a full 20 percent of the stories published in both editions appeared earlier (more timely) in the online edition. In comparison, only 3 percent of the print stories were more timely. However, of those which were more timely in print, all but 2 stories were from The *Times*, which publishes the entire online edition a day behind the print edition. Seven of the nine papers studied had some content that was more timely online than in print. In general, it can be said that online version of the newspaper is more timely than the printed edition.

Certain online papers appear to be more timely than others. Nearly 88 percent of the content of the Tacoma *News-Tribune* 's online edition was more timely than the print edition. Over half of the online content of the *San Jose Mercury News* was more timely than the print edition. Several of the other online papers did include breaking news, but not

to the extent of these two.

This analysis also reveals an additional strength of the online newspapers. Four percent of the stories found in both editions were stories which were more up-to-date than the story in the printed paper, but out-of-date by the following day. These particular versions of the story would not normally be available to the consumer of print news. They could only be found in broadcast news. Online newspapers give publishers the ability to continue to update a developing story in the same edition of the paper. They are not forced to go with a story which they know will be out of date by the time the paper goes to press.

Sources of Online Stories

H3:There is no difference in the number of stories published online that were written by the paper's staff reporters compared to those used online from wire services or other newspapers.

H3 was not supported. Instead, 47 percent of the stories found online came from wire services, 43 percent were written by the newspaper staff, and 10 percent were reprinted from other newspapers. Thirty stories were excluded from this analysis because the paper did not give sufficient information to determine the source of those stories.

Of the wire services, Associated Press and Reuters were used most often. Of other newspapers, the *New York Times* and *Los Angeles Times* were used most often.

The prolific use of wire copy was unexpected. Less than a year ago, online services were forced to stop publishing copy from Associated Press because of copyright concerns. Associated Press has apparently resolved those concerns. The online papers carrying AP material require a password to access them, but the passwords are issued free of charge to anyone who requests one.

Are the Stories Altered?

H4:There are no differences in the length and language used in the stories published online when compared to the same story in the print edition.

H4 was supported by the data. Two separate analyses were used to answer this question. The first examined the length of the stories based on actual content. Of the

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stories analyzed, nearly 80 percent were identical, about 11 percent had longer stories in the online edition, and about 9 percent had longer stories in the print edition. Most of the occurrence of a longer online story came from the Tacoma News-Tribune, while most of the occurrences of a longer print story came from the San Jose Mercury News. The News-Tribune publishes one paragraph synopses of world and national stories in its print edition and refers the reader to the online edition for the complete story. The Mercury includes one paragraph synopses of world and national news in its online edition and requires readers to subscribe to their premium online service to receive the complete story. In general however, stories tend to be the same length in each edition of the papers.

The second analysis looked at other changes in the story itself. A tally was kept of instances in which the stories had different headlines for each edition, minor rewrites were found, or each edition used a story from a different source (such as AP for the print edition and *New York Times* for the online edition). Altogether, nearly 88 percent of the stories contained none of these changes. About 10 percent had different headlines, 2 percent had minor rewrites, and less than 2 percent were from different sources. One particular paper used different headlines for each edition more frequently than the others. The *Virginian-Pilot* used different headlines for each story 83 percent of the time, while most other papers did this less than 10 percent of the time. In general, it was concluded that stories remain unchanged between the print and online edition.

Inclusion of Stories

H5: The stories published online will also be published in the paper edition.

H5 was not supported. Over 22% of the stories found in the online edition were not included in the print edition. Seven of the 9 papers studied published some material exclusively in the online edition. This may indicate a strategy for online publishing. Those including exclusive material online may approach the online edition as a newspaper supplement, while those who do not may see the online edition as an electronic archive of the printed paper.

The stories omitted from the printed edition were analyzed by geographic scope. Of those stories appearing exclusively in the online edition, almost 48 percent were national

news, about 37 percent were world news, 9 percent were local news, and about 6 percent were state news. Further analysis of these exclusive stories could be revealing.

Inclusion of Supporting Materials

H6:There is no difference in the amount of supporting materials (photos, graphics, sidebars, sound, video, etc.) used online compared to those in the paper.

H6 was not supported. The print editions tended to include more supporting materials than the online editions. This finding was unexpected. Discussion of online newspapers has often revolved around the multimedia potential of this form. However, these findings show that publishers are not yet taking advantage of the multimedia potential of the online newspaper. While video clips and sound bites can be included, none were found in this study. In fact, online newspapers included fewer photographs than the print editions. Publishers may be concerned about the extra time required for the user to load a page laden with photos and graphics. However, some papers utilize graphics heavily for advertising and mastheads, but still decline to publish photos to accompany a story.

Profile of Newspapers

Based on the data collected, it is possible to profile the characteristics of each paper included in this study. While the purpose of the study is to draw some general conclusions about the nature of online newspapers as a whole, it is at the same time useful to note the individual differences the newspapers have between them.

<u>Virginian-Pilot</u> (Norfolk, Virginia) The online edition of this paper carried very little news. It includes an overall top story plus the top story in each of the following categories: metro, nation, state, sports, business and sometimes military. Often, the overall top story and the military story were both local stories. The online edition is not published Saturday or Sunday even though the paper edition runs those days. The stories always appeared on the same day in both editions, and only one story appeared online which wasn't in the print edition. All of the stories in the online edition were written by the newspaper staff.

Photographs used online tended to be edited versions of the photos appearing in the paper. However, the print edition often carried multiple photos for the same story, while the online edition usually had only one.

Journal and Courier (Lafayette, Indiana) The online edition of this paper carried more of a balance between world, national, state and local news than the others. The majority of the stories appear the same day in both editions. Over half of the stories published online are from the Associated Press, and over a third are written by the newspaper staff. The remainder come from a variety of sources.

About 10 percent of the stories online were not published in the print edition. The online stories occasionally use hypertext links to provide additional information.

Background or other information on a story is sometimes available. The printed stories often included photos which were not published online.

The Times (San Mateo, California) This online edition of this paper is very different in many ways from the others included in this study. The online edition of *The Times* includes exactly 5 local stories each day, all written by their staff reporters. Usually both the online and print versions of the story are the same length. While the print edition uses photos and graphics, the online edition does not use any supporting materials at all. Most interestingly, the stories are always published online one day behind the print edition! This is a curious approach to an online newspaper since it seems to run contrary to all of the advantages of online publishing. Perhaps the publisher is concerned that the online edition could cut into the sales of the paper since there is no charge for the online edition.

The News Tribune (Tacoma, Washington) The online edition of this paper isn't laid out like a newspaper, but like a searchable database. Very little state and local news was found online, but it appeared that the publishers were just beginning to include them online. However, each category of news is searchable. In other words, you could select world news, type in "Yeltsin", for example, and see a list of stories in which his name appears.

It is obvious that the publishers approach the online edition of this paper a supplement to the printed edition. At the end of each story in the printed edition, they publish a list of related articles in the online edition (for additional information on this subject see stories 664-667 in today's trib.com). The paper tends to include one overall story on the subject, and the online edition includes several other angles of the story. As a result of this approach, about half of the stories published online do not appear in the paper. About half of those which appear in both are national and world stories which received only one paragraph in the paper (sometimes only a single sentence), but a full-length story online.

The online edition uses no photographs. Instead, it uses hypertext links rather heavily. However, the links aren't particularly well thought out. For instance, every time the word 'congress' appears, there is a link to Thomas -- the congressional file server on the Internet. It would be more effective to link to the specific legislation discussed in the article.

San Francisco Chronicle The online edition of this paper stays pretty much to the content of the print edition. It tends to contain more state and local news, and the stories almost always appear on the same day in both editions. All but two stories in the online edition were written by the newspaper's own staff. The online stories also include the section and page where the story appeared in print. If a story was rewritten for a regional edition, that information is given too, and both versions are available. The archives of back "issues" of the online paper are very good and can be searched by subject or date.

The stories published online rarely vary from the printed version, but if they do, the online version will contain additional information. It is even rare for the online version to use a different headline. The online paper does not use photos, graphics or hypertext links (although 2 stories included additional information in the online edition).

<u>San Francisco Examiner</u> The Examiner is a distinctly different paper than the

Chronicle. While the Chronicle publishes more state and local news, the Examiner publishes more world and national news. The stories tend to be unchanged between the print and online editions and also tend to be published on the same day. The online edition uses no additional resources whatsoever -- no photos, no graphics, no background information.

About half of the stories are written by the newspaper staff, about a third are from the Associated press, and the remainder come from a variety of other newspapers and wire services. The online edition of the paper does not always credit the wire service or other paper, but lists a reporter's name instead. Most of the uncredited stories in the study came from this paper.

<u>San Diego Source</u> (San Diego Daily Transcript) This is a business paper. However, one would not get that impression just from looking at the online edition. The paper edition uses few photos and is unattractive, while the online edition uses colorful graphics and a futuristic layout. However, none of the stories in either edition used any of the supporting materials included in this study - no photos, graphics, sidebars or anything.

The online edition carries local news written by their own staff and relies on the Associated Press for all other news. About two-thirds of those stories, however, do not appear in the print edition. It appears then, that the online edition has a wider geographic scope than the printed edition. Most stories appear in both editions on the same day.

San Jose Mercury News This paper has undergone some changes since this study was first proposed. At that time, the online edition of the Mercury News included electronic advertising to help cover their costs. Later, as this study was getting underway, the publishers reduced the amount of information Internet users could access for free. Instead of full free access to the entire paper, Internet users could only access the top story plus a one-paragraph synopsis of other stories. Full access is now available by subscription only. Subscribers are assigned an ID and password which allows them to access the remainder of the online paper.

Nevertheless, the content which remains available free to Internet users was

included in this study. One noticeable difference between the printed and online editions is prominence. This aspect of the news was not included in this study, but some of the differences were very noticeable, raising questions for further study. For example, the top story online one day was buried on page 8 in the print edition!

Very little local or state news is available online. Slightly less than half of the stories online are more timely than those in the print edition. Also, the *Mercury* tends to publish stories from a wide variety of sources, and uses a different headline about half of the time.

The overall top story in the online edition tends to include many additional resources including color photos, hypertext links and other background information. The other stories online are only one paragraph synopses, however, and include no additional resources.

The publishers of this paper have been experimenting and making frequent changes to it, and it would not be surprising if this paper is completely different again in six months.

The Central Ohio Source (The Daily Reporter) This is a business newspaper under the same ownership as the San Diego Source. In fact, the mastheads of the two online newspapers are nearly identical. The online edition of this paper however, carries state and local news almost exclusively. It is published on weekdays only, with 4 to 5 stories each day. The stories always appear the same day in each paper, are always written by the newspaper's staff and are always identical in length and content. Two stories were found with different headlines than the print edition, but no other differences were noted. The online edition never carried any supporting materials with a story. (In fact, only 2 of the stories were accompanied by photos in the print edition.)

Conclusions

There appear to be some patterns developing in the way publishers put an online newspaper together. An online newspaper can serve as an electronic archive of the printed paper. It includes a searchable database of past stories which are the original content of that newspaper. *The Times* of San Mateo and the *Central Ohio* and *San Diego Source* newspapers are examples of these. The second approach is a newspaper supplement. Available space and newsprint costs may prevent a publisher from including all of the relevant stories of the day. But the publisher has no such limitation in the online edition, which can include other story angles, alternate viewpoints, and important stories that just don't rate high enough to make the print edition. The Tacoma *News Tribune* uses this approach effectively, referring readers of the print edition to additional information published online.

The multimedia newspaper, however, has not yet arrived. There has been discussion of newspapers including sound, graphics and video. The ideal multimedia newspaper would have the immediacy of television, a world-wide scope of stories and a variety of sound and video clips. For example, a reader should be able to click on a quote within the story and either see or hear a clip of the person speaking. Knight-Ridder has boasted that they intend to create a newspaper that will read itself to you. The online multimedia newspaper could include clips of a newspaper anchor reading the story to you in either sound or video formats. The technology for this is already here, but isn't being fully utilized.

Online newspapers have the advantage of immediacy, multimedia, a broader audience, and can provide background and additional information on demand. The existing online newspapers are beginning to utilize most of these advantages, with the exception of multimedia. Those that succeed through this transition will probably be those best able to provide the user with information on demand. It should be easy to find whatever you want to know about a developing situation quickly.

The state of online publishing has only reached the first plateau - get online. Now that these and other papers have established an online presence, they will begin to explore the potential of this medium over the next year or so. Since this study began, the number of newspapers available over the Internet has more than tripled.

Recommendations

Recommendations for Consumers of News

Online newspapers offer their readers a broader scope of timely information than does the printed paper. The reader who needs to know the news faster should try some of the online newspapers. The offer a greater scope of news than the printed paper, timeliness which could eventually be on par with radio and television, but still allow the reader to select news of relevance or interest to him or her.

Recommendations for Online Newspaper Publishers

The potential of this medium is far from realized. Publishers should consider the feasibility of adding elements such as photos, sound, and video to their online newspaper. Digital photography is gaining acceptance in newspaper publishing already. The next step is to put copies of those same digital photos online.

Since wire copy is used heavily online already, how much difficulty and expense would there be in adding something like the Associated Press audio or video feed? Those AP media clips could easily be digitized and added to an online story.

Recommendations for Journalism Educators

The rapid increase in the number of online newspapers available indicates a corresponding need for journalists to be aware of them and be able to write for them. Journalism students will need to have at least some minimal computer skills to work with online newspapers. Some may even have to learn how to insert HTML code into their stories so they can be used online. Other skills may also be required as this medium evolves.

Recommendations for Further Study

The next logical step in this research would be a gatekeeping study involving the editors and/or publishers of the online newspapers. This study has raised a number of crucial questions which could be answered by such a study. What do they perceive to be the purpose of the online edition? Who do they see as the target audience? What criteria do they use when selecting stories for the online edition? Are those decisions made independently from the printed edition? Why are online publishers not they taking advantage of the multimedia potential of the Internet?

Another issue to consider is story prominence. This study did not look at prominence because the online newspapers included here are not laid out in a consistent fashion. Some arrange the mast head and stories to present the look and feel of a newspaper while others just list the headlines in no particular order.

During the data gathering process, it became obvious that certain stories were a very different treatment in each edition. A top story in the online edition, for example, might appear on page 5 or 6 in the print edition. It is possible that the online editions grant higher prominence to important world or national stories over an important local story.

The stories published online but not in the print edition will clearly need to be studied further. There is clearly another facet to gatekeeping at work here which could be influenced by finances, the potential Internet audience or other factors. The decision to include or not include materials such as photographs and background information is a form of gatekeeping which needs to be examined in depth.

If more and more information becomes available only through online services, there may be a widening of the knowledge gap between individuals who can and cannot afford to go online. If online newspapers follow the model of a "newspaper supplement" (publishing more general stories in print, and more details and other angles online), those without access to the online paper could find themselves to be less informed about current issues and events.

This study included no discussion of the financial aspects of online newspaper publishing, but leaves that aspect for future study. Will online papers continue to be available free on the Internet and leading perhaps to a virtual "penny press" or will

publishers eventually charge subscription fees and issue passwords to access the newspaper?

Researchers of diffusion will also want to examine the growth of online publishing. As the process continues researchers will want to examine publishers as they adopt this new medium and put their papers online as well as readers as they adopt the online paper as a source for news and information.

Concluding Comments

Online newspapers are still under development. Already they offer certain advantages over the printed newspaper. Online newspapers include stories not found in print, can deliver the news faster, and still allow the reader to select only desired stories. In fact, these papers have the potential to eventually rival the broadcast media in terms of timeliness. Online newspapers are not subject to the space limitations of print or time limitations of broadcast, and can therefore offer as much or as little information as the publisher desires.

This study reflects only on the state of the medium at the time of this writing. The online newspaper will continue to evolve from a newspaper supplement to a full-fledged multimedia news source. Over the next year or two, the publishers of these papers should continue to explore the potential of online publishing and hopefully make the multimedia newspaper a reality.

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APPENDIX A

INTERNET ADDRESSES OF ONLINE NEWSPAPERS STUDIED

The Times (San Mateo, California)

http://www.baynet.com/smtimes/

The News Tribune (Tacoma, Washington)

http://www.tribnet.com/

San Francisco Chronicle

http://www.sfgate.com/cgi-bin/chronicle/index.cgi

San Diego Source (San Diego Daily Transcript)

http://www.sddt.com/

San Francisco Examiner

http://cyber.sfgate.com/examiner/

San Jose Mercury News

http://www.sjmercury.com/

Virginian-Pilot (Norfolk, Virginia)

http://www.infi.net/pilot/

Journal and Courier (Lafayette, Indiana)

http://matrix.mdn.com/jconline

The Central Ohio Source (The Daily Reporter)

http://sddtsun.sddt.com:80/~columbus/

APPENDIX B

CODING FORM

Coding Form

1. Newspaper:	Virginian-Pilot San Mateo Times San Jose Mercury San Francisco Chronicle San Francisco Examiner Lafayette Journal San Diego Transcript Columbus Daily Record Tacoma News Tribune			miner ipt ecord			
2. Story Type: World New National No State News Local News			vs				
3. Source: In-House AP Reuters Other (Speci		fy)	 				
4. Note differences	:						
Online: Extra photo (#) Extended story Synopsis Only Additional Resources Added Graphic Links of Interest Background (Archive) Cropped Photo Different Headline Each Used a Different Source				On Pa	Extra Photo (#) Extended Story Synopsis Only Add'l Resources Added Graphic Added Sidebar Not Published Story Topped Breaking Yesterday		
5. Day of Week:							
Mon Tue	Wed '	Րիս	Fri	Sat	Sun		

APPENDIX C

CODING INSTRUCTIONS

- 1. Paper Check which paper the story came from.
- 2. Story Type Check the scope of the story as designated by the paper. Always use the newspapers' designations.
- 3. Source In-house means the story was written by reporter's from this newspaper. Write in the source if it is not one of those listed. If the byline is "wire reports", list it as such. Check the byline on BOTH copies the online versions frequently neglect to list the source by print the author's name. If there is an author's name, but it doesn't say if it is a wire service or the paper itself, list it as unknown.

4. Differences:

Photos: Indicate how many photos appear in one place and not the other.

Story length: Check "extended story" here if extra paragraphs are printed in one version or the other - editors frequently cut from the bottom so extra paragraphs are more likely to appear at the end. Do not check for a single extra sentence. Check "synopsis only" if one version of the story is limited to only a single paragraph while the other version is significantly longer.

Graphics: Check added graphic if one story or the other has an artist's rendering, a map or other type of graphic that does not appear in the other version.

Added Sidebar: Check if the paper has a sidebar of information that does not appear online - be careful - online papers often print the sidebars under a separate headline.

Background: Check if the online newspaper offers back stories or archives on the subject.

Links of Interest: Check if there are links embedded in the story to other related internet pages.

Additional Resources: Check if there is any kind of extra supporting material. This could be but is not limited to: bios, transcripts, background information other than prior stories, foreign language translation, sound, video, etc.

Cropped Photo: Check if the photo is a cropped version of one appearing in the paper.

Timeliness: Check "Breaking" if the story appears in the next day's newspaper. Check "Old News" if the story appears in a prior day's newspaper.

Story Topped: This means the story fell in between two day's paper's. The story has new information compared to what was printed in the paper, but the story in tomorrow's paper has newer information than this story does.

Different Headline: Check if the headlines differ.

Different Source: Check if the paper ran the same story, but from different sources (Online used an AP story, but the paper ran *LA Times* version for example.)

5. Day of week - circle which day's online paper you are examining.

VITA

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