Online Databases and Newspapers: An Assessment of Utilization and Attitudes.

Forty-eight Michigan newspapers were surveyed by telephone to determine their criteria in selecting online database services, type of personnel using them, training procedures, budgets, and perceptions of the impact of these services on the speed of writing stories and quality of reporting. Data collection involved two phases: (1) researchers surveyed Michigan daily newspapers about their use of electronic databases and microcomputers; and (2) examining U.S. and Canadian dailies that are online contributors to VU/TEXT, DATATIMES or NEXIS. Results show that 96% do not subscribe to any online services, with a majority indicating that the services were too expensive, 50% saying they had no need for them, and 15% reporting lack of the expertise to use the services. More than half viewed online search skills as not very important. The two papers that did subscribe were the "Detroit Free Press" and the "Detroit News." The "Free Press" also maintains its own computerized "morgue," or archive, which is integrated with ongoing stories and is provided to the VU/TEXT database. Only three other Michigan newspapers operate micro-computer based "morgues." The survey also revealed that while 25% of Michigan newspapers have no personal computers of any kind, the rest have most or all of the equipment needed to access online databases should they choose to. Michigan newspapers' apparent lack of interest in online databases contrasts starkly with the growing national interest, reflected in the range of national newspapers contributing to online databases. (Appended tables compare penetration of IBM PC's, MacIntoshes and laptop computers, correlate computer use with newspaper characteristics, and analyze database contributors by city size and circulation.)
Online Databases and Newspapers:  
An Assessment of Utilization and Attitudes

Stan Soffin  
Carrie Heeter  
Pamela Deiter


Soffin is Chair of the School of Journalism at Michigan State University, where Heeter is Director of the Communication Technology Laboratory and Deiter is a Journalism MA student and Research Assistant in the Comm Tech Lab.
INTRODUCTION

For reporters, gathering information requires skills that go well beyond interviewing techniques. They must know how and where to seek information for an interview and how and where to verify information gathered during the interview. While most reporters rely on their newspapers' library--the morgue--for this process, those libraries can be inadequate, especially in providing resource material on the most recent events and issues. Computerized databases, which are at the center of the new information technology for journalists, enable a reporter to access the most recent information available for a story--without leaving the newsroom.

Using a computer, a modem and a telephone, a reporter can retrieve information stored in computers from almost anywhere in the country at anytime. Information available over online services range from specialized topics, such as medicine, to the complete morgue of another newspaper, such as the New York Times. Thus, within minutes, reporters can search for a specific fact to fill in a gap in a story, or background themselves on a special topic. By narrowing in on a key word or group of words that represent the major concept the reporter seeks from a selected database, the reporter can read the information on the computer screen, and, if necessary, save the information for future use in a format which may be directly compatible with the newspaper's front end system.

Databases, or electronic sources, contain either the complete text of the information sought, such as the legal service, NEXIS, or bibliographic references to and a summary of a complete text, such as Social SCISEARCH. The former, of course, instantly provides the reporter with the information sought and allows the reporter to print out the article. The latter, on the other hand, directs the reporter to sources, such as magazines or conference papers, and therefore requires a library search for the material cited. Because the user is charged for time spent on-line, searches in bibliographic databases are less costly than full-text services.

Current estimates put the number of electronic databases at more than 1,300. (1) The sheer number of services, variations in access modes and conventions across services as well as high costs for connect time necessitate considerable expertise in using the database services.

LITERATURE REVIEW

A search of the literature produced sparse information on newspaper uses of electronic databases associated with the editorial product. A 1983 study by Ullmann found use of electronic databases not widespread. Twenty of 54 newspapers responding to a questionnaire sent to 97 newspapers with circulation larger than 100,000 subscribed to at
least one database. Ten of the 20 subscribed to three or more databases. User reaction to
the databases was uniformly favorable, with most responses indicating satisfaction with
enhanced research capabilities of the newspapers' library. (2)

McDonald found that business writers at large newspapers were the most likely of all
reporters to access databases (3), while Endres found general assignment reporters to be
the most frequent users (4). The later study also supported the Ullmann position that on-line
databases services can improve the quality of the editorial content of newspapers by
providing greater and more efficient information retrieval than traditional methods. Kerr and
Niebauer, however, discovered that among a sample of 40 editorial writers at 27
newspapers, 67.5 percent said they rarely if ever used electronic information retrieval
systems. (5) The writers cited three factors that minimized use of these systems: no
recognizable benefits of electronic searches over manual searches; cumbersome accessing
procedures for electronic retrieval; and inadequate training in electronic search procedures.

How newsrooms use this new reporting tool is of increasing interest to scholars and
editors, who direct the news gathering processes in the news organization. This study
seeks to add to literature of how newspapers are adapting to the explosion of information
technology to improve the news product. Specifically, the present study explores all daily
newspapers in Michigan to determine which papers subscribe to electronic databases; why
newspapers do not subscribe to online databases; and if editors at newspapers currently not
using databases expect to subscribe to any electronic database in the future. Because
online database searches require a microcomputer, this study also seeks to determine the
penetration and uses of microcomputers in Michigan daily newspapers. Even if a
newspaper is not currently using online services, the presence of a microcomputer in the
newsroom will enable access, when the newspaper elects to make use of such services.
This is the first study of the uses of online databases by small and medium sized daily
newspapers.

One manifestation of online databases in the newspaper industry is the emergence of
national services which compile electronic morgues from a variety of newspapers, making
the content available to other newspapers and businesses. Thus, newspapers are faced
with at least two choices regarding online databases: whether to subscribe to any and
whether to contribute their newspaper content to an online service.

There are three leading full-text database services which predominate in the
newspaper industry. VU/TEXT is an electronic information service operated by
Knight-Ridder company that features the full-text of stories appearing in 34 newspapers;
DATATIMES is a subsidiary of the Oklahoma Publishing Company, which carries the
full-text of 33 newspapers and has just signed an agreement to automate the Gannett
newspapers; and NEXIS is Mead Data Central's collection of databases that include the
full-text of more than 125 newspapers, magazines, newsletters, wire services, and broadcast scripts.

This study attempts to identify common characteristics of newspapers that are currently contributing content to national online databases, to further explore factors which differentiate newspapers which make use of electronic database opportunities from those which do not.

Methods

In the first of two phases of data collection, researchers surveyed Michigan daily newspapers about their use of electronic databases and microcomputers. The second phase involved examining U.S. and Canada dailies that are online contributors to VU/TEXT, DATATIMES or NEXIS.

A preliminary survey was conducted to determine electronic database use. Questionnaires were mailed in two waves to all 51 daily newspapers in Michigan. The mailing took place in December 1986. The preliminary survey included questions about circulation, number of editors and reporters, use of syndicates and wire services, computerized morgues and the employment of a full- or part-time librarian, as well as questions about subscription to electronic databases, the importance of such databases, and reasons for choosing to use them or not to use them. Thirty three of the 51 papers responded by mail by early February 1987.

In January 1987 the preliminary questionnaire was embedded in a follow-up survey that added questions about computer use. Penetration and uses of portable computers, Macintoshes, IBM and IBM-compatible PCs and desktop modems were assessed. One member of the research team then interviewed representatives of the Michigan dailies by telephone. Dailies that had not replied by mail responded to the complete instrument, made up of the preliminary and follow-up questionnaires, in one phone interview. Those that had replied by mail answered only the follow-up questions about computer use. Two dailies could not be reached and one paper declined the interview. Thus, out of 51 Michigan dailies, data were collected for 48.

Final telephone or personal interviews were conducted with three small dailies that indicated use of a computerized morgue.

The second phase of the study involved collection of descriptive data about newspapers in the U.S. and Canada that provide content to one of three online databases: VU/TEXT, DATATIMES or NEXIS.

The three database companies provided researchers with lists of U.S. and Canada daily newspapers that were online contributors in June, 1987.

Using the 1985 Editor and Publisher Yearbook, the following information was collected
about each online paper: Circulation; time of publication; city size; group or non-group ownership; and number of competing dailies. Fifty online papers in the U.S. and Canada were evaluated.

The total number of contributing U.S. and Canada dailies contributing is 61. Four of the online papers were not found in Editor and Publisher, and one was a college paper, also unlisted in Editor and Publisher. The Washington Post contributes to all three databases, and the Los Angeles Times contributes to two (NEXIS and VU/TEXT).

Results

Online Database Use by Michigan Newspapers

This project began as an attempt to characterize the use of online databases by Michigan newspapers. The initial survey included numerous questions about criteria newspapers used in selecting particular online services, which newspaper personnel (librarians, reporters, editors) used online services, training procedures, budget for online services, perceptions of the impact of online services on speed of writing stories and quality of reporting, verification procedures, etc.

What we were not prepared for was the extreme extent to which Michigan newspapers do not use online databases. Forty-six of 48 newspapers surveyed (96%) do not subscribe to any online services. It was unfortunate that our first question was not "Do you know what an online database is?" rather than "Does your newspaper subscribe to an online database?" In telephone interviews, the interviewer was frequently asked to define the concept.

Among the 46 newspapers which do not subscribe to online services, 74% indicated that the services were too expensive, 50% said they had no need for them and 15% lacked the expertise to use the services. Skills in searching online databases were considered very important by 6% of Michigan newspapers, important by 34% and not very important by 60%.

The two Michigan newspapers which do subscribe to one or more online services are the Detroit Free Press and the Detroit News, by far the largest papers in the state. At the time of this survey, the Free Press is far more oriented to online services than the Detroit News. The Free Press subscribes to VU/TEXT, NEXIS, DATATIMES and MIPIE (Michigan Products Information Exchange). The paper also operates a fully computerized online morgue, which is interfaced with the front end system for instant access to stories by reporters and editors. Past stories can be called up from the morgue and stored on the VDT system, to be integrated directly with ongoing stories. Thus, the Free Press's own computerized morgue is the primary "online" service, used many times a day by reporters, editors and librarians. The Free Press also provides their computerized morgue to VU/TEXT, contributing content as well as subscribing. Access to online services beyond its
own morgue is handled by librarians. The annual online services budget is $40,000. Use of online databases is believed to save reporters time and to improve the overall quality of reporting, permitting more complete, up-to-date information, quickly retrieved.

The *Detroit News* subscribes only to NEXIS. Reporters, editors and librarians all access NEXIS directly, on the average several times a week. The *News* does not have a computerized morgue. The online budget is approximately $6,000/year. Use of online database services is believed to save reporters time but not to improve the overall quality of reporting.

In addition to the *Detroit Free Press*, two small and one medium-sized Michigan newspapers operate some form of computerized morgues. The *Marshall Chronicle* (daily circulation 2,000) and the *Albion Recorder* (daily circulation 3,500) are owned by the Bedient family. Publisher John Bedient designed a Macintosh-based morgue to store and access stories. Stories are stored in folders, labeled by major category, on a Mac Plus. Searching the folders yields relevant stories filed by headline. The system was initiated at the *Albion Recorder* in October, 1986 and at the *Marshall Chronicle* in December, 1986.

The *Oakland Press* (daily circulation 71,000) is owned by the Capital Cities group. At the *Oakland Press*, a stand alone, dedicated microcomputer is used to store and access stories.

None of these papers subscribes to any online databases.

**Computer Penetration at Michigan Newspapers**

One fourth of Michigan newspapers have no personal computers of any kind. Sixty percent of Michigan newspapers have one or more portable personal computers like the Radio Shack Model 100. Fifty-one percent have an IBM or compatible personal computer. Forty-four percent have a Macintosh computer and 42% have a modem which can be used with a desktop computer. Table 1 shows the penetration of Macintosh and IBM computers. One third of the papers have neither a Mac nor an IBM. Fifteen percent have only Macintoshes. Twenty-three percent have only IBM compatibles. And 29% have both IBM and Macintosh units.

The penetration of computers is related to the number of reporters and editors, daily circulation and the presence of full-time, part-time, or no librarians. Table 2 presents the correlations. The number of editors at a newspaper is correlated more strongly than the number of reporters or circulation size with the number of Macintosh computers available and therefore with the overall availability of desktop PCs. Having more reporters is somewhat more strongly correlated with assessments of the importance of database skills for reporters. The presence of librarians is the worst predictor of availability of personal computers.
Table 3 explores the relationship between the presence of full- or part-time librarians (for newspapers which reported this information) and the penetration of PCs. Newspapers with no librarian were most likely to have either a Macintosh or an IBM-compatible unit (62%). Newspapers with a part-time librarian were the least likely to have any personal computers (54%). And newspapers with full-time librarians were most likely to have both IBMs and Macs (59%). The inhibiting impact of a part-time librarian on adoption of microcomputer technology is striking. Further investigation is needed to determine whether this effect is the result of the part-time individual or of the general attitude of the newspaper that happens to correspond to hiring a part-time librarian.

Table 4 examines PC penetration by circulation size, comparing small (under 30,000), medium sized (30,000-60,000) and large (100,000+) newspapers. The small papers employed an average of six reporters and four editors; the medium sized papers, 23 reporters and 11 editors; and the large papers, 99 reporters and 87 editors. Small papers had an average of one or two portable PCs and about the same number of Macs and IBMs. Medium-sized papers had considerably more portables (9.6) and IBMs (3.5) but fewer Macintoshes. The two large papers had an average of 70 portable units, 36.5 IBM-compatibles and 5.5 Macs. Thus, the relative penetration of Macintoshes is highest in the smaller papers. Small papers were least likely to have modems for their desktop PCs (28%) compared to medium-sized (64%) and large (100%) papers.

The average estimated importance on online database skills for reporters was equivalent between small and medium-sized papers: half-way between not very important and important.

Personal computers were used least often by small papers for all of the functions assessed (in the newsroom, for remote access, for design and layout, for statistical analysis and for business). One of the two large newspapers used Macintoshes for design and layout.

In sum, three fourths of Michigan newspapers have most or all of the equipment needed to access online databases, should they choose to. Currently, they do not choose to.

**Newspapers Contributing Content to Online Databases**

Table 5 presents a breakdown, by circulation size, of the 50 newspapers identified at the time of this study as contributing content to VU/TEXT, DATATIMES and NEXIS. Participation is not limited to large circulation papers. Twelve newspapers with circulation sizes under 200,000 were identified as contributors. For many of the smaller newspapers, one major benefit of contributing stories is that the online database serves the function of an electronic morgue, eliminating the need to set up an operate their own system. Another
advantage is access to all of the other participating papers' content. The primary
disadvantage is the cost of accessing stories, even on their own morgue.

Although the Washington Post appears on all three services, and the Los Angeles
Times on two, there tends to be little overlap. There are five cities in which two newspapers
provide content to an online service: Los Angeles, Chicago, Seattle, Philadelphia and
Houston. In Los Angeles the Times participates in two databases and the Daily News in
just one; in Philadelphia the Daily News and the Inquirer both contribute to VU/Text. In the
other three cities, competing dailies provide content to competing online services.

Table 6 summarizes publication schedule, group ownership and competing daily
characteristics of newspapers participating in online services, by city population size.
Seventy percent of the 50 contributing papers are group-owned. Groups owning more than
one contributing paper include:

- Knight Ridder -- 9 newspapers
- McClatchy -- 3 newspapers
- Chicago Tribune -- 3 newspapers
- Southam -- 3 newspapers
- Hearst -- 2 newspapers.

Currently, no Gannett-owned papers were identified as contributing to online databases.
However, with the soon-to-be-announced contract for DATATEXT to serve all Gannett
papers, this picture will change dramatically.

Overall, 36% of participating newspapers compete with another daily newspaper.
Competition is least likely in cities with populations of under 500,000.

Table 7 shows the regional distribution of participating dailies across the United States
and Canada. Of note is the absence of participation by newspapers in western states, as
well as the dominance by newspapers in north-east coast states.

Discussion

If one looked only at the use of databases by Michigan daily newspapers, one could
conclude that online databases have very little impact on or importance to the newspaper
industry. If one looked only at the variety of newspapers contributing content to three
fast-growing online databases, one could conclude that online databases are the wave of
the future for the newspaper industry. The contrast is stark.

Perhaps the problem is Michigan. The Detroit Free Press representative responsible
for selling VU/TEXT services in the state of Michigan reports that sales are very slow and
that companies and individuals are totally unaware of the benefits of and need for online
newspaper services. In contrast, she indicates that the Chicago salesperson has no trouble
and does not have to begin with a definition of what the service is and why anyone would
want it.

Time will tell, probably quite quickly, whether small and medium sized newspapers are about to be educated, or whether the optimists who have invested in online database services will find themselves in the same painful position as other new technology optimists like those who invested in videotex.
Table 1

IBM and Macintosh Penetration

<table>
<thead>
<tr>
<th></th>
<th>No IBMs</th>
<th>1 or more IBM-compatibles</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Macintoshes</td>
<td>33%</td>
<td>23%</td>
</tr>
<tr>
<td>1 or more Macs</td>
<td>15%</td>
<td>29%</td>
</tr>
</tbody>
</table>

(n=48)

Table 2

Correlations between Newspaper Characteristics and PC Penetration

<table>
<thead>
<tr>
<th></th>
<th>Reporters</th>
<th>Editors</th>
<th>Circulation</th>
<th>Librarians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop PCs</td>
<td>.83</td>
<td>.92</td>
<td>.86</td>
<td>.25</td>
</tr>
<tr>
<td>Macintoshes</td>
<td>.32</td>
<td>.58</td>
<td>.34</td>
<td>-.04</td>
</tr>
<tr>
<td>IBM-compatibles</td>
<td>.87</td>
<td>.93</td>
<td>.91</td>
<td>.30</td>
</tr>
<tr>
<td>Portables</td>
<td>.93</td>
<td>.96</td>
<td>.93</td>
<td>.44</td>
</tr>
<tr>
<td>Modem (yes=high)</td>
<td>.46</td>
<td>.32</td>
<td>.33</td>
<td>.36</td>
</tr>
<tr>
<td>Importance of Database Skill</td>
<td>.26</td>
<td>.18</td>
<td>.19</td>
<td>.15</td>
</tr>
</tbody>
</table>

Correlations of .25 or greater are significant at p<=.05.
<table>
<thead>
<tr>
<th>Librarian Type</th>
<th>No PCs</th>
<th>IBM or Mac</th>
<th>IBM+Mac</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Librarian</td>
<td>23%</td>
<td>62%</td>
<td>15%</td>
<td>(13)</td>
</tr>
<tr>
<td>Part-Time Librarian</td>
<td>54%</td>
<td>31%</td>
<td>15%</td>
<td>(13)</td>
</tr>
<tr>
<td>Full-Time Librarian</td>
<td>6%</td>
<td>35%</td>
<td>59%</td>
<td>(17)</td>
</tr>
<tr>
<td>(n)</td>
<td>(11)</td>
<td>(18)</td>
<td>(14)</td>
<td>43</td>
</tr>
<tr>
<td>(%)</td>
<td>26%</td>
<td>42%</td>
<td>33%</td>
<td></td>
</tr>
</tbody>
</table>
Table 4
Circulation Size and PC Penetration of Michigan Newspapers

<table>
<thead>
<tr>
<th>Circulation Size</th>
<th>30,000-60,000 (n=33)</th>
<th>OVER 100,000 (n=2)</th>
</tr>
</thead>
<tbody>
<tr>
<td># reporters</td>
<td>6.0</td>
<td>23.0</td>
</tr>
<tr>
<td># editors</td>
<td>4.4</td>
<td>11.0</td>
</tr>
<tr>
<td># portables</td>
<td>1.6</td>
<td>9.6</td>
</tr>
<tr>
<td># Macintoshes</td>
<td>1.2</td>
<td>0.9</td>
</tr>
<tr>
<td># IBM-compatibles</td>
<td>1.3</td>
<td>3.5</td>
</tr>
<tr>
<td># personal computers</td>
<td>4.0</td>
<td>13.8</td>
</tr>
<tr>
<td>modem for desktop (%yes)</td>
<td>28%</td>
<td>64%</td>
</tr>
<tr>
<td>online database skill important</td>
<td>1.5</td>
<td>1.4</td>
</tr>
</tbody>
</table>

use computers:
- in newsroom       38%  50%  100%
- for remote entry   47%  79%  100%
- for design & layout 25%  43%  50%
- for statistical analysis 41%  57%  100%
- for business       47%  86%  100%

reasons for not using online databases:
- too expensive      75%  71%  -
- no need            47%  57%  -
- no expertise       9%  29%  -

1 (1=not important at all, 2=somewhat important, 3=very important)
# Newspapers Contributing to Online Databases

## By City Size

<table>
<thead>
<tr>
<th>POPULATION</th>
<th>VU/TEXT</th>
<th>DATA TIMES</th>
<th>NEXIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>800,000-1 million</td>
<td>(2) Arizona Republic (Phoenix), Detroit Free Press</td>
<td>Dallas Morning News, Montreal Gazette</td>
<td></td>
</tr>
<tr>
<td>200,000-500,000</td>
<td>(9) Akron Beacon-Journal, Fresno Bee, Greensboro Herald-Leader, Miami Herald, Richmond News-Leader, Sacramento Bee, Wichita Eagle-Beacon, Charlotte Observer,</td>
<td>Minneapolis Star-Tribune, Baton Rouge State Times, Ottawa Citizen, St. Petersburg Times, Orange County Register, Daily Oklahoman</td>
<td></td>
</tr>
<tr>
<td>Less Than 200,000</td>
<td>(7) Albany Times-Union, Annapolis Capital, Allentown Call-Chronicle, Fort Lauderdale News, Gilroy Dispatch (CA), Orlando Sentinel, Sarasota Post-Tribune</td>
<td>Arkansas Daily Gazette, Windsor Star, Patriot (PA), Reading Eagle, Bergen Record</td>
<td></td>
</tr>
</tbody>
</table>
Table 6

Characteristics of Newspapers Contributing to Online Databases
By City Size

<table>
<thead>
<tr>
<th>Pop.</th>
<th>N</th>
<th>Mean Circ.</th>
<th>%AM</th>
<th>%PM</th>
<th>%ALLDay</th>
<th>%Group Owned</th>
<th>%Compet. Dailies</th>
<th>%VU</th>
<th>%DT</th>
<th>%NX</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 mill.</td>
<td>11</td>
<td>647,400</td>
<td>73</td>
<td>9</td>
<td>18</td>
<td>82</td>
<td>73</td>
<td>64</td>
<td>27</td>
<td>18</td>
</tr>
<tr>
<td>800,000-1 mill.</td>
<td>4</td>
<td>334,700</td>
<td>100</td>
<td>25</td>
<td>--</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>--</td>
</tr>
<tr>
<td>500,000-800,000</td>
<td>9</td>
<td>366,200</td>
<td>55</td>
<td>22</td>
<td>22</td>
<td>67</td>
<td>66</td>
<td>56</td>
<td>44</td>
<td>22</td>
</tr>
<tr>
<td>200,000-300,000</td>
<td>14</td>
<td>225,500</td>
<td>79</td>
<td>29</td>
<td>14</td>
<td>71</td>
<td>7</td>
<td>57</td>
<td>43</td>
<td>--</td>
</tr>
<tr>
<td>less than 200,000</td>
<td>12</td>
<td>108,500</td>
<td>41</td>
<td>75</td>
<td>8</td>
<td>58</td>
<td>8</td>
<td>58</td>
<td>42</td>
<td>--</td>
</tr>
<tr>
<td>OVERALL</td>
<td>50</td>
<td>324,300</td>
<td>66</td>
<td>34</td>
<td>14</td>
<td>68</td>
<td>36</td>
<td>58</td>
<td>40</td>
<td>8</td>
</tr>
</tbody>
</table>

1. %AM, %PM and % ALLDAY may add to more than 100%. This is accounted for by the presence of newspapers with both AM and PM editions (see footnote 1, Methods).

2. %VU (Yu/Text), %DT (DataTimes) and %NX (Nexis) may add to more than 100%. This is accounted for by the presence of the Washington Post and the Los Angeles Times, which participate in all more than one online database.
END NOTES


6. Six papers were listed with two names in Editor and Publisher Yearbook, 1985, with the same owners, management and basic information. In this study, those papers are identified only by the first paper name listed. The Albany Times-Union represents the Editor and Publisher listing for Albany Times-Union (an AM paper) and the Knickerbocker News (PM paper); the Arizona Republic also represents the Phoenix Gazette; the Richmond News-Leader also represents the Richmond Times-Dispatch; the Reading Eagle represents the Reading Times; the Patriot (Pennsylvania) represents the Evening News and the St. Petersburg Times represents the Evening Independent.