CD-ROM, ONLINE, AND DATABASES ON OPACS IN RESEARCH LIBRARIES: COMPETITION OR COEXISTENCE?

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INTRODUCTION

Librarians in academic and other research libraries have been enthusiastic users of electronic databases for many years. Since the 1970s most research libraries have offered online searching. This searching was usually done by an intermediary, typically on a fee basis. In the mid-1980s many research libraries added end user online searching, usually with DIALOG's Knowledge Index or BRS/AfterDark. By the late 1980s most provided databases on CD-ROM and in the last couple of years, periodical databases on Online Public Access Catalogs (OPACs) have gained in popularity.

We know that many research libraries now offer two or three or all of these forms of database access, but there are many unanswered questions about their interaction and use. For example, are these different ways to access electronic information competing or peacefully coexisting? Does introduction of a new form, such as CD-ROM, cause an increase or decrease in an older form, such as online? Do certain types of users gravitate toward one form? Is one more popular than another and, if so, why? Do librarians believe that all forms will continue in their libraries?

To answer some of these questions, we surveyed research libraries to find out how many libraries offer each option and how the different options coexist within each library. In addition, we examined in detail database use at the University of Hawaii Hamilton Library.

RESEARCH LIBRARIES SURVEY

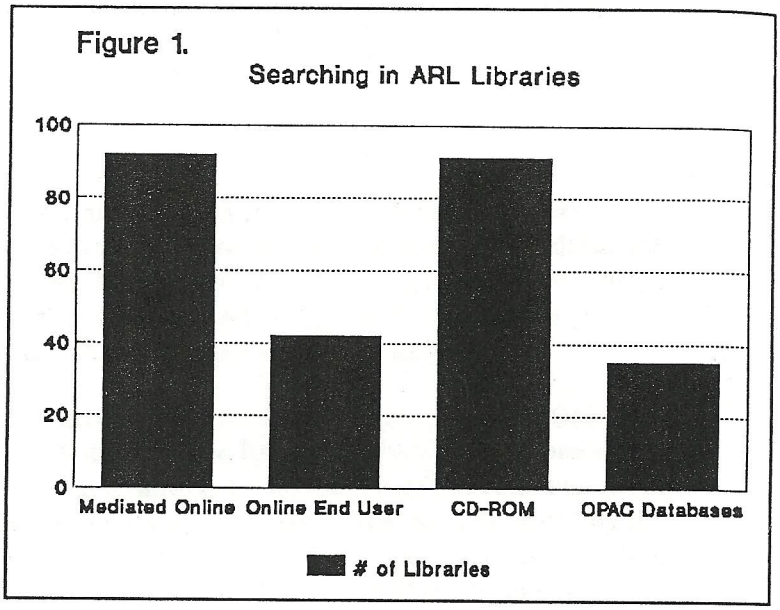
In the spring of 1991 we sent a questionnaire to the member libraries of the Association of Research Libraries (ARL). Most of the ARL libraries are academic (university) libraries, but some members are libraries in research organizations or in large public or government libraries.

Ninety-five of the 119 libraries responded (for a return rate of 80%). The libraries are in all parts of the U.S. and Canada and more than half serve constituencies of 20,000 or more (including students, faculty, and/or researchers.) Each research institution has from between one to over 17 individual libraries on-site, with an average of 6-9.

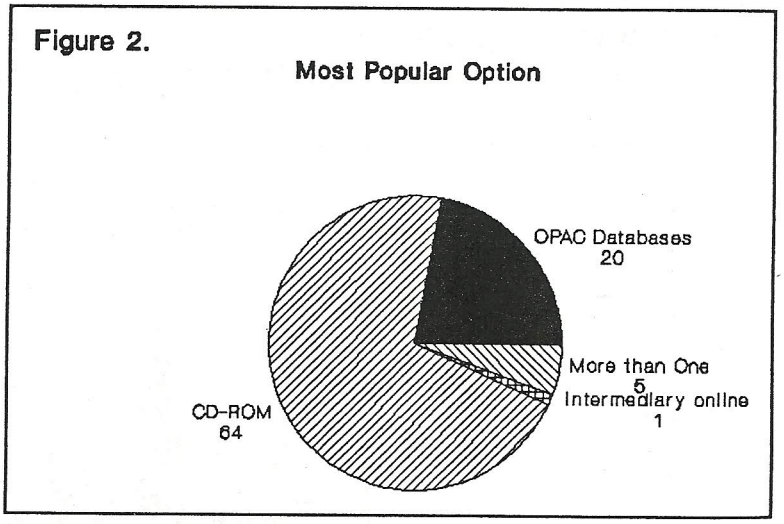
Figure 1 shows how many libraries offer each of the four searching options: 1) online mediated searching (92 of 95), 2) online end user searching (42 of 95), 3) CD-ROM searching (91 of 95), and 4) reference databases mounted on an OPAC (35 of 95).

Quite distinct patterns for the use of each of the options are developing. For example, online mediated searching is used mostly by faculty or researchers and graduate students in most libraries. End-user online searching is most popular with graduate students, followed by undergraduates. CD-ROM searching, on the other hand, is most widely used by undergraduates (in a majority of libraries they are the number one users of CD-ROM), followed by graduate students. Use of databases on OPACs seems to be distributed across all types of users.

In terms of sheer amount of use, Figure 2 shows that CD-ROM searching is a clear winner (67.4% say it is used the most), although OPAC searching is catching up in those libraries offering both (over 21% say it is used the most).



To determine how the introduction of each medium has affected the others, we asked if the use of any service has increased or decreased in the last two years. 87% believe that CD or CD and some other service has increased, while 82% report a decrease in intermediary and/or end-user online search services. Still, only one of the reporting libraries anticipates dropping online searching in the next two years.



Reasons for increases or decreases seem to vary with each library. Price is clearly a factor, since 95% of the libraries charge for mediated online searches and none do for CD or OPAC searches (except some charge for paper). Other comments from libraries include: "Simple searches are now done by users primarily on CD; mediated searches tend to be those that are complex." "Undergraduates did not have access due to cost until we got CD." "Initially, CD-ROM services contributed to a decreased use of intermediary online services. However, intermediary online has returned to heavy use. The free to user nature of CD-ROM is certainly one reason for its immense popularity. But users who recognize that intermediary assistance or access to particular databases unavailable through other avenues are still willing to pay for online services." "Intermediary online is disappearing as CD-ROM and OPAC databases increase and become better known, but will continue to be necessary for specialized services and specialized topics." "CD-ROM and OPAC reinforce each other." "People like using the OPAC databases because they don't have to come to the library." "Most users prefer independent searching without professional advice." "So far every service has increased." "I think our CD and online users are fairly separate groups and likely to remain so. We never did much online searching for undergraduates due to the fact that we charge all users and we do 24 hour turn

around. Using the CDs, which are free and available anytime the library is open, is much more attractive to the undergraduates than the more formal process of filling out a search request and talking to a reference librarian."

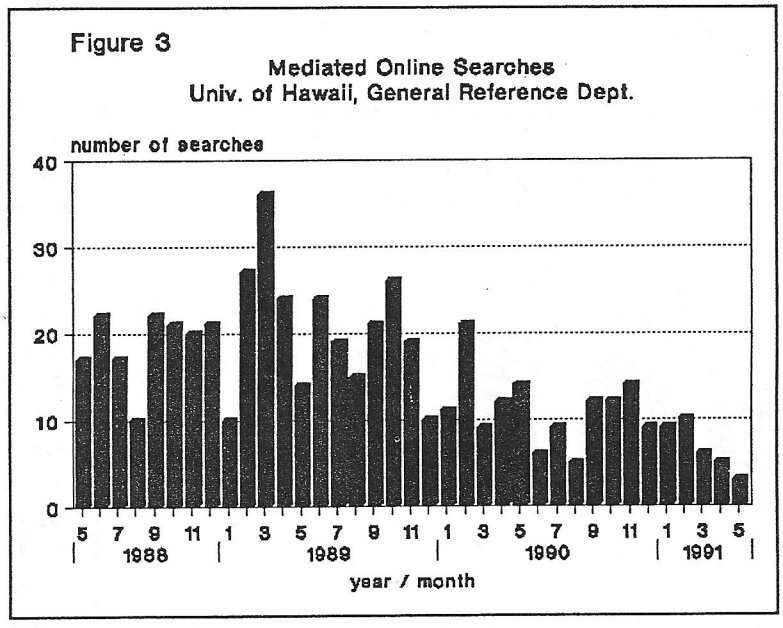
UNIVERSITY OF HAWAII

Like many academic libraries, at the University of Hawaii we have augmented our mediated online searching service with CD-ROM searching by end users and, more recently, with reference databases searchable over the online public access catalog. We have never offered online end-user searching. Online searching began in the mid-1970s in the Science/Technology and late 1970s in the Humanities/Social Sciences departments. Patrons are charged online and print charges.

CD-ROM databases were added in 1987, first with InfoTrac and DIALOG's ERIC. A CD-ROM local area network was installed in 1989 in the Humanities/Social Science Reference department, representing a major commitment to CD-ROM databases. The LAN now has two CD-ROM servers and seven workstations. Users select databases from an opening menu and use of each database is recorded by the LAN software. Over forty databases on CD-ROM are now offered in various departments of Hamilton library, with 11 available on the LAN. Dial-up access to the CD-LAN from neighbor island users was added in the summer of 1991.

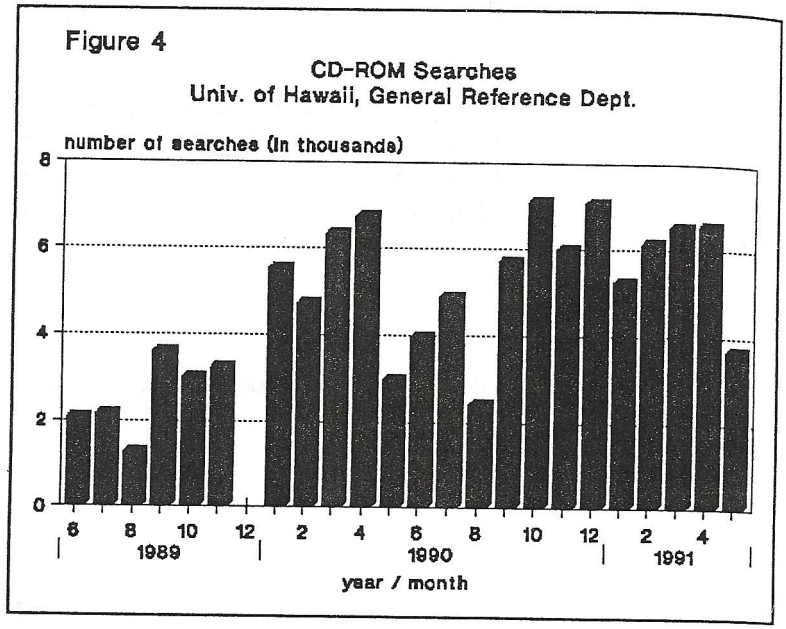
In January 1991 the UH online catalog was converted to the CARL system. In addition to providing access to the UH collection, users may search other libraries' catalogs, the government documents collection, several local databases, and the UnCover periodical database. The OPAC software automatically records use of each database from terminals within the library and from dial-in access.

Figure 3 shows the number of mediated online searches conducted in the Humanities/Social Sciences department since 1988. (The Science/Technology Department also conducts about the same number of online searches.) When a large number of CD-ROM databases became available on a LAN, online searches decreased from an average of 20 per month in 1988 and 1989 to an average of only 9 per month in 1990-1991. (These numbers are for patrons served, not for individual databases accessed. If each search uses an average of three databases these figures should be tripled to get the total number of database searches.) At the same time, CD-ROM searches of the databases on the LAN alone are averaging over 166 per day. CD use is shown in Figure 4.



Previously, most online searches were done in the subject areas of education, psychology and business. As a CD-ROM database was introduced in each of these subject areas, the number of online searches decreased. Now, most online searches are done in one or two databases in specialized areas (e.g., trademarks, patents, grants).

Figure 4

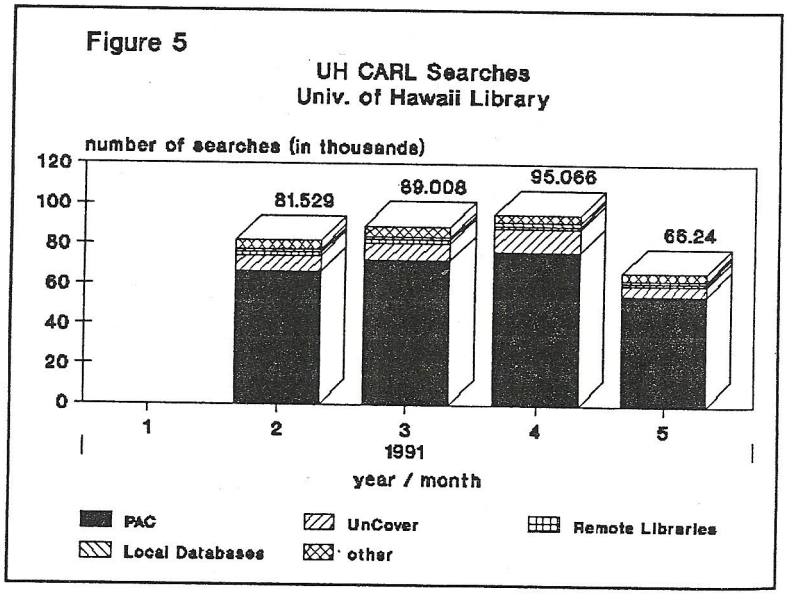


Convenience can influence CD-ROM use. In addition to the LAN, a stand-alone workstation is available in the Humanities/Social Sciences CD area for databases not on the LAN. Users must go to a reference librarian and check out the database they want to search. The amount of use of a CD-ROM title rises dramatically when it is mounted on the LAN. For example, MLA was used approximately 50 times per month on the stand-alone workstation, but use increased threefold when it was brought up on the LAN.

Figure 5 shows the use of databases on the CARL OPAC for the first five full months of its availability. Use of UnCover and the local resource databases is steady, but does not seem to have had an impact on CD-ROM or online searching. Use includes dial-up and in-library access. None of the databases duplicate the CD-ROM or online databases, so the systems are coexisting, not competing.

The most dramatic effect of databases on CD and the OPAC will come as no surprise--library patrons are now doing thousands of searches each month on a variety of electronic reference products. When there is no cost, when access to a variety of sources is easily accomplished with an opening menu screen, and when they can do it themselves, university students and faculty quickly become avid users of databases. Use is expected to increase even more dramatically with increased dial-up capabilities from home or office on a statewide gateway and as users gain more experience.

Figure 5



CONCLUSION

In all libraries, several factors dictate the overall interaction of the various media. These include convenience to the users, duplication of resources, library policies regarding fees, and perceived ease of use. Whether one decreases due to competition or all coexist varies from library to library. Each medium has a role in the academic research library as overall searching of electronic databases increases dramatically.

ACKNOWLEDGEMENTS

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