

# Understanding Electronic Resources and Library Materials Expenditures: An Incomplete Picture

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Questions asked both of ARL generally and of ARL member libraries individually are: How much are research libraries spending for electronic resources collectively and how much on average? How does an individual institution's expenditures for electronic resources compare with other research libraries? Such questions are to be expected as libraries move into a digital environment, but simple and credible answers remain elusive. Since fall of 1996, and with the support of the Council on Library and Information Resources and the University of Washington Libraries, the ARL Statistics and Measurement Program has been exploring the character and nature of library investment in electronic resources in order to develop standard definitions to more systematically collect information about the transformation of research library collections. Timothy D. Jewell has been serving as a Visiting Program Officer for the project by analyzing data from ARL's main and supplementary surveys and by talking with member libraries about how to measure the investment being made in electronic resources.

ARL has had a supplementary statistics questionnaire since 1984. This survey serves as a testbed for developing questions and for gathering new forms of data. Questions asked on this survey can be subsequently added to the main statistics survey, dropped from consideration due to an inability to collect reliable data, or modified over several years while determining the best means by which to ask them. The reports from the supplementary statistics survey are not generally published because, due to their experimental nature, the results are not considered sufficiently reliable. They are, however, made available to member libraries for their information. Data on expenditures for electronic resources were first requested as part of this testbed survey in 1992-93, with questions on expenditures for (a) computer files and search services; (b) document delivery/interlibrary loan; (c) computer hardware and software; and (d) bibliographic utilities, networks, and consortia. A fifth question on expenditures for electronic serials was asked beginning in 1994-95.

The 1992-93 question on expenditures for "Computer Files and Search Services" was defined to collect data on "expenditures for software and machine-readable materials considered part of the collections, whether purchased or leased," and expenditures for online database searches. It excluded expenses for library system and staff software, and for "bibliographic utilities, networks and consortia," and, according to the instructions, only those expenses that would have been counted in the main ARL Statistics survey as part of expenditures for "Other Library Materials or Miscellaneous" were to be included. In 1994-95, the question on "Expenditures for Electronic Serials" was added, covering subscriptions whose primary format is electronic. The instructions stated that only those expenses that would have been reported in the main ARL Statistics survey as part of "Current Serials" were to be included.

Overall, there was a reasonably good (and improving) response rate for these questions, with 82 of the 108 academic ARL libraries (Academic ARLs) providing a non-zero figure for the "Computer Files and Search Services" in 1992-1993, and 101 of 109 providing a non-zero

response for either or both of the questions in 1995-1996. The responses themselves ranged widely, with some very large figures reported. Although no responses were excluded on this basis, both average and median figures are provided in the accompanying table for better understanding of the data. As can be seen, the reported amount spent on computer files increased more than \$10 million overall between 1992-1993 and 1995-1996. When expenditures for electronic serials are added for the last two years, the total of what can be called "electronic resources" nearly tripled from more than \$14 million in 1992-1993 to nearly \$40 million in 1995-96. The average and median figures have both doubled in that period. The percentage of "Library Materials Expenditures" devoted to electronic resources, although still modest, has almost doubled, from 3.6% in 1992-1993 to nearly 7.0% in 1995-1996.

Mr. Jewell's project has confirmed that these figures underestimate the actual expenditures by some unknown amount. The reasons stem from the difficulty in finding adequate definitions to collect data in a standard and comprehensive way when libraries are employing a wide variety of funding and budgeting strategies to acquire electronic resources. For instance, the largest jump in reported expenditures occurred in 1994-1995, when the question on electronic serials expenditures was introduced. This suggests that actual library expenditures for the prior two years were higher than reported. In addition, after having thoroughly reviewed the survey questions' intent, and by reviewing one institution's responses and consulting with other librarians, Mr. Jewell concludes that local record-keeping practices made it difficult to respond to the question accurately and that, as a result, many investments in electronic resources may have been understated. It also seems likely that some expenditures in this area are actually being paid out of a library's operations funds, which would theoretically not be reported in either question (this suggestion was endorsed by several people who attended an ARL survey coordinator meeting), and possibly being paid out of "Consortial and Network Expenditures." Beyond this, several ARL library survey coordinators confirmed that their libraries provide access to resources that are purchased on behalf of their institutions by a state-funded consortium, and that these expenditures also go unreported in the ARL Supplementary Statistics survey. Based on these findings, Mr. Jewell revised the 1996-97 ARL supplementary questionnaire to try to capture those figures that had been elusive in previous surveys. Preliminary reports indicate that this year's results will show a significant increase in total electronic resource expenditures.

In Mr. Jewell's analysis of the 1992-93 to 1995-96 survey data, he identified several other trends regarding the data that member libraries were reporting. A full report was sent to each ARL member library as part of the Report on the 1995-96 ARL Supplementary Statistics and is also available at <http://www.arl.org/stats/specproj/etrends.htm> . After consulting with the ARL Statistics and Measurement Committee and ARL survey coordinators, as well as with other individuals and groups through meetings and presentations, several questions were revised for the 1996-97 Supplementary Statistics Survey. Data from that survey is currently being collected and analyzed. A copy of the survey is available at <http://www.arl.org/stats/sup/97survey.html>.

Mr. Jewell's investigation of data on research library expenditures for electronic resources confirmed that existing data is neither comprehensive nor comparable from one library to

another. The revised questions on the 1996-97 ARL Supplementary Statistics survey are expected to yield a more comprehensive picture of library expenditures for electronic resources. However, the picture will remain incomplete until definitions are resolved and practical techniques are developed to ensure accurate and consistent reporting. In the meantime, the ARL Statistics and Measurement Program will continue to monitor this and other measures to track how research libraries are responding to the digital environment.

Electronic Resources and ARL Library Materials Expenditures, 1992/93-1995/96

	92-93	93-94	94-95	95-96
<b>Computer File Expenditures</b>				
Total	\$14,147,625	\$20,132,553	\$22,030,727	\$24,609,821
Average	\$172,532	\$236,854	\$249,286	\$253,709
Median	\$148,158	\$212,936	\$226,318	\$210,890
<b>Electronic Serial Expenditures</b>				
Total			\$11,847,577	\$15,170,972
Average			\$188,057	\$174,379
Median			\$156,754	\$148,166
<b>Electronic Resources Expenditures (total of above)</b>				
Total	\$14,147,625	\$20,132,553	\$33,878,304	\$39,780,793
Average	\$172,532	\$236,854	\$349,261	\$364,961
Median	\$148,158	\$212,936	\$278,404	\$301,992
<b>Lib. Materials Expenditures (for</b>				

<b>respondents)</b>				
Total	\$393,271,073	\$425,287,651	\$489,664,539	\$571,145,986
Average	\$4,795,989	\$5,003,384	\$5,380,929	\$5,654,911
Median	\$4,242,887	\$4,527,122	\$4,714,384	\$4,975,353
<b>E-Resource \$ as Percent of Library Materials Expenditures</b>	3.60%	4.73%	6.92%	6.97%
<b>N= (of 108 Academic ARLs through 94-95, 109 in 95-96)</b>	82	85	97	101

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