

# COLLECTION MANAGEMENT STRATEGIES IN A DIGITAL ENVIRONMENT

A Project of the University of California Libraries' Collection Management Initiative

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## **PRELIMINARY RESULTS FROM THE COLLECTION MANAGEMENT INITIATIVE'S JOURNAL USE STUDY AND USER PREFERENCE SURVEY**

**Report for the April 29, 2003 Meeting of the Systemwide Library and Scholarly  
Information Advisory Committee**  
April 18, 2003

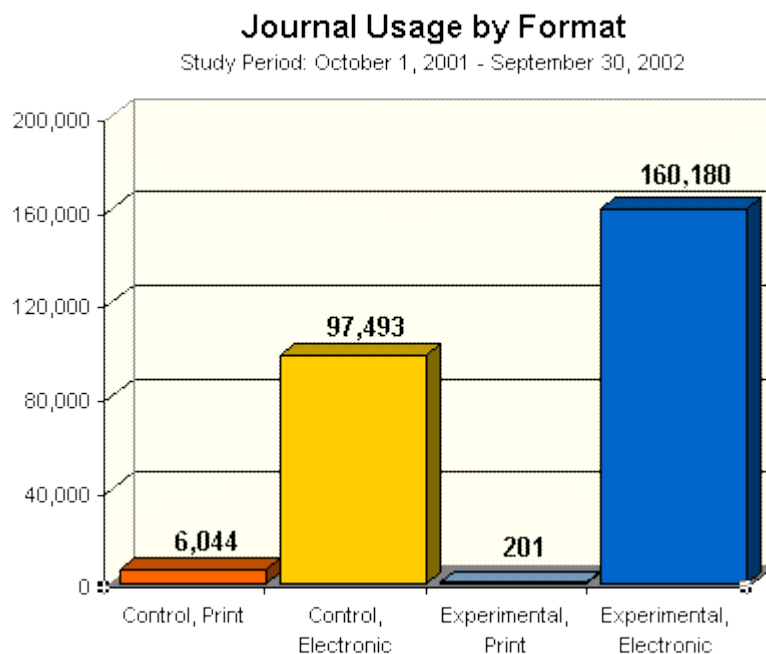
This report highlights some basic statistical results from the CMI Journal Use Study conducted from October 2001 through September 2002, and the CMI User Preference Survey conducted in February and March, 2003.

### JOURNAL USE STUDY

In spring and summer, 2001, approximately 300 journal titles were selected by campuses from a universe of about 3,000 titles that were a) licensed for Universitywide access in digital form, b) held in print by at least two campuses, and c) able to provide reliable and timely data on use of the digital versions. For each of the 300 or so titles selected for study, one campus (the "experimental" campus) relocated to storage all issues of the journal that were also available digitally, and monitored requests for recall of the print from storage; another campus (the "control" campus) retained these same issues on its library shelves, and actively monitored all uses of those print issues for the duration of the study. Use of the digital versions of the same journal issues was provided by their publishers for both the "control" and "experimental" campuses. Data collection began on October 1, 2001, and ceased on September 30, 2002.

**Use of Print Journals Removed to Storage.** Journal issues removed to storage at Experimental campuses were not frequently requested (Chart 1).

**Chart 1:**



**Relative Use of Digital Journals at Experimental and Control Campuses.** The digital use of study journals at Experimental campuses was substantially greater than the use of the same titles at Control campuses (Chart 1). However, these titles were more heavily used in digital form at Experimental campuses in the year before the study as well (Table 1), suggesting that this finding may be an artifact of the differences in use rates at the campuses that chose to serve the Experimental role, and not a result of the experiment itself.

**Table 1:**  
**Journal Usage Over Time**

The table below shows electronic usage for January-September 2002 of the study year and January-September 2001 of the prior year. Publisher usage statistics were not universally available for October-December 2000, the first quarter of the prior year, so only 9 months of each year were included in these calculations.

Subject Category	Number of Titles	Control Campus Electronic Use				Experimental Campus Electronic Use			
		Prior Year Uses	Study Year Uses	Prior to Study Year Ratio	Change from Prior Year to Study Year	Prior Year Uses	Study Year Uses	Prior to Study Year Ratio	Change from Prior Year to Study Year
Arts & Humanities	22	4,763	4,256	1.119	-10.6%	5,278	7,733	0.683	46.5%
Life & Health Sciences	130	20,333	27,407	0.742	34.8%	50,665	65,183	0.777	28.7%
Physical Sciences & Engineering	102	32,466	44,607	0.728	37.4%	33,194	46,937	0.707	41.4%
Social Sciences	26	1,885	2,132	0.884	13.1%	3,398	4,546	0.747	33.8%
<b>Grand Total</b>	<b>280</b>	<b>59,447</b>	<b>78,402</b>	<b>0.758</b>	<b>31.9%</b>	<b>92,535</b>	<b>124,399</b>	<b>0.744</b>	<b>34.4%</b>

**Relative Use of Print and Digital Formats of Study Journals.** The use of these titles in digital form is considerably greater than the use of the same titles in print form (Chart 1). For most disciplinary areas, the ratio of digital to print use is about 10 to 1 (Table 2). The Physical Sciences and Engineering journals display a different pattern, with a ratio of over 33 to 1 (this difference has been found to be statistically significant in several, but not all, statistical analyses of the data). Although the difference in print vs. digital use may arise in some part from differences in the way that use is measured in the two formats, ratios of an order of magnitude and higher suggest strongly that use of the digital format substantially exceeds use of print for these titles.

**Table 2:**  
**Control vs. Experimental Journal Usage, Summarized by Subject Category**

Subject Category	Number of Titles	Control Campus Usage			Experimental Campus Usage		
		Print	Electronic	Ratio of Print to Electronic	Print	Electronic	Ratio of Print to Electronic
Arts & Humanities	22	528	5,475	0.096	46	10,602	0.004
Life & Health Sciences	130	3,601	34,449	0.105	118	84,584	0.001
Physical Sciences & Engineering	102	1,635	54,757	0.030	24	59,207	0.000
Social Sciences	26	280	2,812	0.100	13	5,787	0.002
<b>Grand Total</b>	<b>280</b>	<b>6,044</b>	<b>97,493</b>	<b>0.062</b>	<b>201</b>	<b>160,180</b>	<b>0.001</b>

## USER PREFERENCE SURVEY

Invitations to participate in the survey were sent to approximately 20,000 UC faculty, students and staff in February, 2003, based on a stratified sampling plan that provided for campus-level significance testing for the responses of faculty and graduate students, and systemwide significance testing for undergraduate students, campus professional staff, and health science professionals. Faculty and graduate students received a letter enclosing a printed questionnaire and providing a URL if respondents elected to use a Web-based survey; other demographic groups received an email invitation incorporating the URL for the Web survey, and instructions for requesting a printed survey if they wished. By the end of the data collection period on April 1, 2003, more than 6,000 responses had been received.

### CHARACTERISTICS OF THE SAMPLE

**Distribution by Campus.** As shown in Table 3 below, responses were fairly equally distributed among campuses, ranging from 503 at UCLA to 990 at UCSF.

**Table 3:**

#### Home campus

		Frequency	Percent	Valid Percent
Valid	UCB	685	11.2	11.3
	UCD	772	12.7	12.8
	UCI	633	10.4	10.5
	UCLA	503	8.3	8.3
	UCR	620	10.2	10.2
	UCSB	645	10.6	10.7
	UCSC	523	8.6	8.6
	UCSD	682	11.2	11.3
	UCSF	990	16.2	16.4
	Total	6053	99.3	100.0
Missing	System	41	.7	
Total		6094	100.0	

**Status of Respondents.** As shown in Table 4 below, more than 6,000 completed surveys have been received, an amount sufficient to support the Universitywide analyses proposed in the project's research plan. About 55% of responses were from graduate students, and 24% from faculty. The faculty response, in particular, falls somewhat short of the sampling target shown in the right column of the table, suggesting that there may be some limitations in the ability of campuses to draw conclusions about differences in faculty preferences using data from only their own campus. However, assuming that faculty responses are relatively evenly distributed among campuses, we can expect that each campus should have approximately 120 faculty responses, which should be ample for most analytical purposes.

**Table 4:**

#### Affiliation with the university

		Frequency	Percent	Valid Percent	Target Response
Valid	Undergraduate Student	220	3.6	3.6	400
	Graduate Student	3347	54.9	55.0	3,215
	Post Doc	419	6.9	6.9	-
	Faculty	1476	24.2	24.3	3,097
	Researcher	314	5.2	5.2	-
	Health Care Professional	132	2.2	2.2	368
	Librarian	2	.0	.0	-
	UC Staff	146	2.4	2.4	400
	Other	26	.4	.4	-
	Total	6082	99.8	100.0	7,480
Missing	System	12	.2		-
Total		6094	100.0		

### PREFERENCES FOR PRINT V. DIGITAL

In the discussion that follows, it is important to recall that the aggregate population of this dataset is weighted heavily toward the responses of (first) graduate students and (second) faculty. Subsequent reports of this kind will weight the raw study results to approximate the representation of the study's demographic groups in the University population. For purposes of this discussion, we have included the response distributions of the faculty along with the aggregate distributions to highlight possible issues that may arise in interpreting the unweighted data.

**Uniformly Strong Preferences for Digital.** In general, preliminary data show very high acceptance of electronic journals, although faculty as a group tend systematically to demonstrate somewhat less enthusiasm for the digital format. For example, as shown in Tables 5 and 6, 70% of all respondents (but 57% of faculty) **disagreed** with the statement that print journals are “more reliable” than electronic, and 84% (73% of faculty) **agreed** with the statement that electronic journals are a “suitable alternative” to print.

**Table 5:**

**If both are available, print journals are more reliable than electronic journals:**

		Frequency	Percent	Valid Percent	Cumulative Percent	Faculty Percent
Valid	Strongly Agree	237	3.9	3.9	3.9	6.9
	Agree	723	11.9	12.0	15.9	16.7
	No Opinion	881	14.5	14.6	30.5	16.0
	Disagree	2787	45.7	46.2	76.7	40.0
	Strongly Disagree	1374	22.5	22.8	99.5	17.7
	NA	28	.5	.5	100.0	0.7
	Total	6030	98.9	100.0		98.0
Missing	System	64	1.1			2.0
Total		6094	100.0			100.0

**Table 6:**

**Electronic journals are a suitable alternative to print journals:**

		Frequency	Percent	Valid Percent	Cumulative Percent	Faculty Percent
Valid	Strongly Agree	2702	44.3	45.0	45.0	33.1
	Agree	2350	38.6	39.1	84.1	39.6
	No Opinion	258	4.2	4.3	88.4	5.0
	Disagree	557	9.1	9.3	97.7	15.7
	Strongly Disagree	120	2.0	2.0	99.7	4.2
	NA	17	.3	.3	100.0	.3
	Total	6004	98.5	100.0		97.9
Missing	System	90	1.5			2.1
Total		6094	100.0			100.0

In addition, the questionnaire asked about user preferences for print or digital for 10 kinds of uses in which one format might be superior to another, and in only one case did more than 25% of respondents “definitely” or “mostly” prefer print – when browsing current issues of a journal (Table 7).

**Table 7:**  
When browsing current issues of a journal:

		Frequency	Percent	Valid Percent	Cumulative Percent	Faculty Percent
Valid	Definitely Prefer Print	941	15.4	15.5	15.5	24.7
	Mostly Prefer Print	1101	18.1	18.2	33.7	19.8
	Either Print or Electronic	1255	20.6	20.7	54.4	21.5
	Mostly Prefer Electronic	1137	18.7	18.8	73.1	14.0
	Definitely Prefer Electronic	1600	26.3	26.4	99.5	18.8
	NA	29	.5	.5	100.0	.4
	Total	6063	99.5	100.0		99.2
Missing	System	31	.5			.8
Total		6094	100.0			100.0

Further, 79% of respondents (72% of faculty) said that when a print journal was not available on the shelf, they were very likely or likely to go online and use the electronic version (Table 8) (this percentage would be higher if the group that responded “Not applicable” [NA] were removed from the calculation).

**Table 8:**

Print journal not on shelf: Go online use the electronic version:

		Frequency	Percent	Valid Percent	Cumulative Percent	Faculty Percent
Valid	Very Likely	3361	55.2	56.0	56.0	46.0
	Likely	1380	22.6	23.0	78.9	25.8
	Unlikely	551	9.0	9.2	88.1	11.5
	Very Unlikely	342	5.6	5.7	93.8	7.1
	NA	372	6.1	6.2	100.0	7.4
	Total	6006	98.6	100.0		97.8
Missing	System	88	1.4			2.2
Total		6094	100.0			100.0

**Digital Coverage is a Problem.** While there are few indications at this point in the analysis that digital formats present significant systematic problems for users, it is clear that many perceive short back files of digital journals as a problem. Approximately 67% of respondents (73% of faculty) **disagreed** with the statement that “In my field, electronic journals back issues go far enough back” (Table 9), and 92% of respondents (90% of faculty) reported that unavailability of older issues of journals in electronic form was a barrier to their use of e-journals (Table 10).

**Table 9:**

In my field electronic journal back issues go far enough back:

		Frequency	Percent	Valid Percent	Cumulative Percent	Faculty Percent
Valid	Strongly Agree	225	3.7	3.7	3.7	3.4
	Agree	1084	17.8	17.9	21.6	13.8
	No Opinion	627	10.3	10.4	32.0	7.4
	Disagree	2623	43.0	43.4	75.4	44.2
	Strongly Disagree	1439	23.6	23.8	99.2	28.9
	NA	49	.8	.8	100.0	1.0
	Total	6047	99.2	100.0		98.7
Missing	System	47	.8			1.3
Total		6094	100.0			100.0

**Table 10:**

Barriers: Unavailability of older issues of journals in electronic form:

		Frequency	Percent	Valid Percent	Cumulative Percent	Faculty Percent
Valid	Major Barrier	3892	63.9	64.7	64.7	64.4
	Minor Barrier	1632	26.8	27.2	91.9	25.7
	Not a Barrier	322	5.3	5.4	97.3	4.4
	No Opinion NA	165	2.7	2.7	100.0	4.0
	Total	6011	98.6	100.0		98.5
Missing	System	83	1.4			1.5
Total		6094	100.0			100.0

Interestingly, over 56% of respondents (57% of faculty) also reported that the unavailability of the *most recent* issues in electronic form was a barrier to their use (Table 11).

**Table 11:**  
**Barriers: Unavailability of most recent issues of journals in electronic form:**

		Frequency	Percent	Valid Percent	Cumulative Percent	Faculty Percent
Valid	Major Barrier	1522	25.0	25.3	25.3	27.6
	Minor Barrier	1868	30.7	31.1	56.4	29.5
	Not a Barrier	2277	37.4	37.9	94.3	34.1
	No Opinion NA	342	5.6	5.7	100.0	7.4
	Total	6009	98.6	100.0		98.6
Missing	System	85	1.4			1.4
Total		6094	100.0			100.0