Review of Library Resource Use

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Data Computing Fundamentals

The library inventory, as reported on July 30, 2015, consists of 430002 items. The large majority of these are books, but there are many other formats as well. The following types compose 99.9% of the library holdings.

Material.Format	n
Book	362871
Jrnl	30240
Video_DVD	13812
Music_CD	5399
Video_VHS	5176
MsScr	4180
Object	2458
Map	1699
Book_Mic	1505
Book_thsis	1052
Book_Digital	720
Video_Bluray	157
News	150
Video	137
Book_LargePrint	104

A record is kept of how many times each item has been checked out since the start of record-keeping, and how many times it has been checked out in the last year.[1] In addition, the date of the most recent check out is recorded.

[1] Judging from the dates in the records, record keeping for the data studied here started in January 2001.

Material.Format	events_per_item_total	events_per_item_YTD	count
Object	116.45	36.20	2458
Video_DVD	10.14	0.77	13812
Music_CD	9.62	0.22	5399
Video_VHS	3.31	0.18	5176
Book	1.98	0.22	362871
MsScr	0.86	0.02	4180
Book_thsis	0.64	0.06	1052
Map	0.62	0.03	1699
Book_Digital	0.11	0.04	720
Book_Mic	0.06	0.00	1505
Jrnl	0.04	0.00	30240

Presumably, some kinds of items (e.g. newspapers) are not checked out. Others are in obsolete formats (e.g. audiobook cassettes). By far the most heavily used items in the inventory are "Objects" and "otr." For books and journals, by far the largest components of the library's collection, use is much less. The average book has been checked out about 2 times since January 2001. Journals seem not to be checked out much. This could be because of sparse use or because they are used without being checked out.

Books

The analysis presented above indicates that the "average book" has been used about 2 times since 2001, and about 0.2 times in the last year. It's important to note, however, that book use is highly skewed. Some books are used many times; many books are not used at all.

Focussing on the 330425 books in the circulating stacks or service desk, the distribution of times a books has been checked out since January 2001 is:

Shelving.Location	0	1	2	3	4	5	Six or more
Service Desk - Reserves - 2 hour	195	24	22	12	21	16	270
Service Desk - Reserves - 24 hour	11	6	0	5	4	11	259
Service Desk - Reserves - 48 hour	3	0	0	0	2	3	83
Stacks - Level 2	48887	16873	8691	5204	3128	2211	7028
Stacks - Level 3	63645	26504	14343	9397	6254	4354	13812
Stacks - Level 4	35115	22887	12673	8071	5369	3653	11377

Note that the "Six or more" category includes some items checked out dozens of times.

The overall pattern is that items at the service desk tend to be heavily used (with 24-hour or longer being the most popular). Items in the stacks are much less heavily used: the large majority have never been checked out since January 2001.

The pattern for book use in the last year is similar:

Shelving.Location	0	1	2	3	4	5	Six or more
Service Desk - Reserves - 2 hour	197	44	54	12	32	15	206
Service Desk - Reserves - 24 hour	11	29	27	24	18	24	163
Service Desk - Reserves - 48 hour	3	16	9	6	0	0	57
Stacks - Level 2	82689	6692	1576	697	217	70	81
Stacks - Level 3	118079	14761	3289	1419	437	140	184
Stacks - Level 4	83478	11574	2522	980	355	95	141

Revived books

That a book has not been used much in previous years may indicate how likely that book is to be used in the last year. How many books that were not previously used were checked out in the last year?

The following table breaks down the books that are sparsely used since 2001 according to how many times they were used in the last year.

Issued.Count		0	1	2	3	4	5	7	10
	0	147602	44	1	0	0	0	0	0
	1	57498	8761	3	2	0	0	0	0
	2	28678	5310	1712	1	4	2	0	0
	3	16917	3879	1154	722	0	0	0	0
	4	10391	2982	732	410	230	1	3	2
	5	6775	2355	554	332	142	60	0	0

Of the approximately 150,000 books not checked out between January 2001 and a year ago, only 45 were checked out in the last year.

Circulation by Subject

Another possible predictor of book use is the book's subject. Although a more detailed examination can be made, this report characterizes subject by the first and second letters in the book's Library of Congress call number.

Among the major collections, the most lightly used are:

subject	frac_ever_checked_out	frac_checked_out_this_year	count	description
PR	0.45	0.07	20092	English literature
PQ	0.42	0.07	13594	French literature
PT	0.25	0.05	6959	German literature
PG	0.35	0.08	5885	Slavic languages
LB	0.37	0.09	4508	Theory and practice of educ.
KF	0.38	0.07	3669	Law, United States
QH	0.42	0.09	2932	Biology
QE	0.32	0.05	2894	Geology
QC	0.37	0.07	2738	Physics
QL	0.36	0.07	2669	Zoology
DA	0.59	0.07	2488	Great Britain
QD	0.23	0.04	2454	Chemistry
DC	0.44	0.07	2375	France
JK	0.32	0.06	2371	US Political Institutions
JX	0.33	0.03	1696	International law (obsolete)
QP	0.44	0.09	1643	Physics
HG	0.43	0.08	1280	Finance
JN	0.35	0.07	1221	Polit inst. Europe
QB	0.37	0.07	1132	Astronomy
LA	0.48	0.09	995	History of education

The most heavily used are:

subject	frac_ever_checked_out	frac_checked_out_this_year	count	description
HQ	0.73	0.22	7743	Family, marriage, women
PL	0.67	0.24	3421	Lang of E Asia, Africa, Oceana
DT	0.75	0.21	2768	Africa
RA	0.65	0.23	1860	Public aspects of medicine
BP	0.83	0.26	1102	Islam, Bahaism, Theosophy
NX	0.72	0.26	1065	Arts in general
BQ	0.78	0.22	1057	Buddhism
JV	0.69	0.30	1034	Colonization, migration
TR	0.75	0.32	995	Photography
JZ	0.71	0.29	919	International relations
GF	0.64	0.25	820	Human ecology
NC	0.74	0.21	812	Drawing, design, illust.
GE	0.75	0.29	807	Environmental Sciences
GT	0.77	0.26	767	Manners and Customs
TX	0.71	0.24	591	Home economics
DR	0.75	0.25	539	Balkan peninsula
SB	0.60	0.21	507	Plant culture
NE	0.78	0.33	479	Print media
DP	0.70	0.22	421	Spain/Portugal
JL	0.65	0.26	340	Polit. Inst. Canada, Latin Amer.

Conclusions

For many books, the library plays the role of archivist. The archived books are intermixed with those other books that are used on a regular basis.

For journals, data on how they are used within the library would be helpful.

For books, it would be helpful to have not just the date last checked out, but the one or two dates before that. This would enable a predictive model to be made, based on last use, of how likely a book is to be checked out.

Library collections in the sciences, traditionally taught languages and literatures, US politics, and education are lightly used. Collections about Africa and Asia, international relations, public health and family, and arts are heavily used.