

AN ANALYSIS OF THE CONSORTIAL USE OF ELECTRONIC JOURNALS IN TURKEY: THE CASE OF SPRINGERLINK AND WILEY INTERSCIENCE DATABASES

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Abstract

Collection development and management is the one of the most important functions of libraries. With the introduction of electronic resources, collection development and collection management policies have become much more complex. This study analyzes about 2.8 million full-text journal articles downloaded from SpringerLink and Wiley InterScience databases within a five-year period (2003-2007) by the users of the consortium of Turkish universities (ANKOS). One third of articles used were satisfied by the core journals that constituted some 2.2% and 4.5% of all Springer and Wiley journals, respectively. Distributions of downloaded articles to journals do not conform to the Bradford Law. No correlation was observed between the frequencies of use of core journals and a) their impact factors; and b) total number of citations they received. Findings of this study can be used to shape the consortial collection development and management policies in that frequently used core journals can be retained while rarely used or never used journals can be excluded from the collection. Moreover, better consortial license agreements can be negotiated with publishers.

Keywords: SpringerLink; Wiley InterScience; Bradford Law of Scattering; consortial use of electronic journals; core journal titles.

1. Introduction

Libraries usually spend a large part of the their budgets for licensing electronic journals (e-journals). They sign what is called "big deal"

agreements with journal publishers to get electronic access to all the journals published or aggregated by certain publishers or third-party commercial companies. The “all or nothing” approach inherent in big deal agreements has been criticized in the past in that libraries must license all the journal titles included in a package regardless of their actual use [1]. Use studies on the other hand show that relatively few core journal titles consistently satisfy the large percentage of users’ information needs [2, 3, 4, 5, 6, 7, 8]. Also, a relationship between journal use and some bibliometric indicators such as the impact factor and half-life is observed [5, 8, 9, 10, 11, 12]. Thus, the use of e-journals should be observed and the results should be taken into consideration in order to establish an effective collection development and collection management policies. This study attempts to identify the most frequently used core journal titles in SpringerLink and Wiley InterScience e-journals databases by the users of the consortium of the Turkish University Libraries (ANKOS) between 2003 and 2007.

2. Methodology

Data used in this study come from the SpringerLink and Wiley InterScience e-journals databases, which contain the full-texts of 2,060 and 1,400 e-journal titles, respectively. Four-year’s worth of COUNTER-compliant download statistics of ANKOS members representing about 2.8 million full-text journal articles were obtained from the publishers. ANKOS was created in 2001 as a voluntary association and currently has 104 members, including a few non-academic institutions. Some 61 to 76 ANKOS members licensed the SpringerLink e-journals database in 2004-2007 while 24 to 48 members did Wiley InterScience e-journals database.

The number of full-text articles downloaded from each journal title contained in each database by each ANKOS member was recorded. Using the survey method, download statistics from both databases were analyzed by means of bibliometric laws. “Core” journals were identified. Tests were conducted to see if the distribution of downloaded articles to journals conformed to the Bradford’s Law of Scattering, which is related with the scattering or distribution of scientific literature on a particular subject in journals. The correlation between the journal impact factors of core journals and their usage was calculated to see if journals with high impact factors were also used heavily by the consortium members. Findings are given below.

3. Findings and Discussion

ANKOS members downloaded a total of 1,715,164 full-text articles from 1,779 different Springer journals (2004-2007) while they downloaded a total of 1,055,741 full-text articles from 470 different Wiley journals (2003-2006). Frequencies and percentages of journal titles satisfying one third, two thirds, and all download requests on an annual basis are given (Table 1, Fig. 1). First, second and third regions refer to the frequencies and percentages of titles satisfying one third, two thirds and all requests.

	Number of journals							
	1st region		2nd region		3rd region		Total	
	N	%	N	%	N	%	N	%
SpringerLink								
2004/07	39	2.2	147	8.3	1593	89.5	1779	100.0
2004	19	4.0	55	11.6	402	84.5	476	100.1
2005	19	3.3	53	8.9	526	88.0	598	100.1
2006	52	3.9	165	12.4	1115	83.7	1332	100.0
2007	45	2.5	174	9.9	1547	87.6	1766	100.0
Wiley InterScience								
2003/06	21	4.5	64	13.6	385	81.9	470	100.0
2003	22	5.9	62	16.8	286	77.3	370	100.0
2004	19	4.9	59	15.2	309	79.8	387	99.0
2005	20	5.1	55	13.9	321	81.1	396	100.1
2006	19	4.3	57	13.0	361	82.6	437	99.0

Table 1: Distribution of journals by regions for SpringerLink and Wiley InterScience databases [13]

One third of all downloaded articles (575,268) from SpringerLink came from 39 core journals (2.2% of all SpringerLink titles). Some 147 journals (8.3% of all SpringerLink titles) supplied the second one third (571,486) of the total while 1,593 journals (89.5% of all SpringerLink titles) did the last one third (568,410). The corresponding figures for Wiley InterScience journals are as follows: 21 core journal titles (or 4.5% of all Wiley titles) satisfied one third (348,300) of all downloaded articles while 64 titles (or 13.6 of all titles) did the second one third (351,810) and a further 385 titles (or 81.9% of all titles) did the last one third (355,631) of all articles.

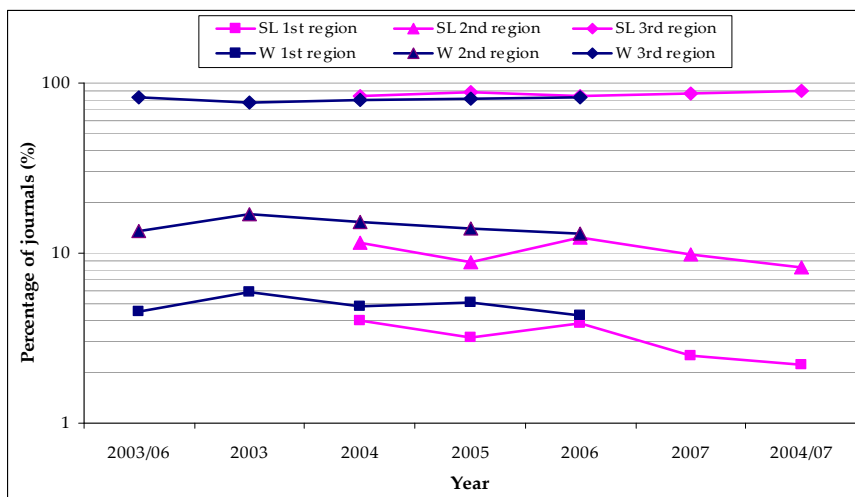


Figure 1: Yearly distributions of journal titles by region for SpringerLink (SL) and Wiley InterScience (W) databases

One third of all downloaded articles came from a few core journals while a large number of journal titles were rarely used. Core journal titles seemed to be quite stable and did not fluctuate much from year to year. Fourteen SpringerLink and 13 Wiley InterScience journals appeared in core journal lists of all years. Their rank orders were similar, too. That's to say, the journal titles that get heavily used for downloads in one year tend to be used heavily in the coming years as well. Spearman rank order correlation coefficients (ρ) were 0.836, 0.505, and 0.781 for SpringerLink core journal titles for three consecutive years. The corresponding coefficients for Wiley InterScience core journal titles were 0.556, 0.796, and 0.760 (Table 2).

However, distributions of downloaded articles to journal titles in both databases did not conform to the Bradford's Law of Scattering (Fig. 2), which may be due to the fact that data used in this study come from many different Turkish universities with varying student and faculty populations. Core journal titles are usually located in the lower left-hand side of Fig. 2 while the rarely used ones are scattered in the upper middle and upper right-hand side of Fig. 2.

Years	Spearman rank order correlation coefficient (ρ)	
	SpringerLink	Wiley InterScience
2003 - 2004	-	0.556
2004 - 2005	0.836	0.796
2005 - 2006	0.505	0.760
2006 - 2007	0.781	-

Table 2: Correlation coefficients for the core journal titles that were common in two consecutive years

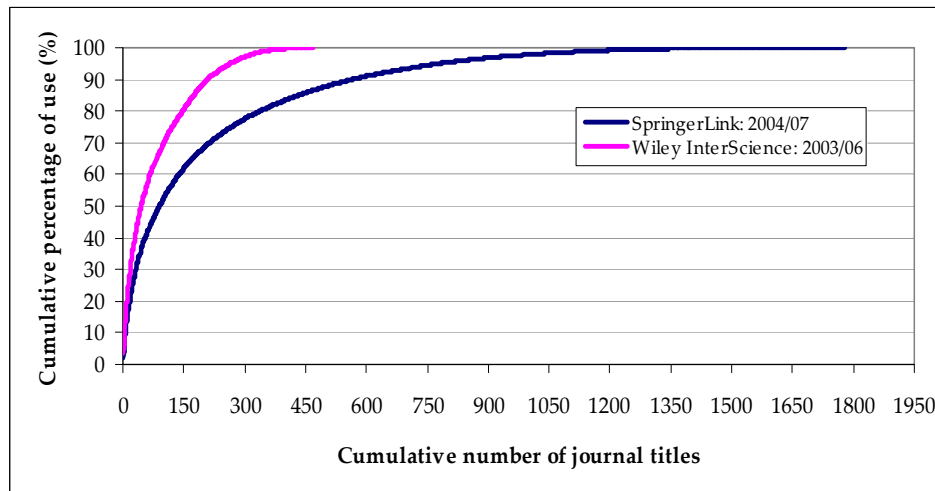


Figure 2: Bradford curves for the use of journal titles in SpringerLink (N= 1779) and Wiley InterScience (N= 470).

No correlation was observed between the frequencies of use of core journals and a) their impact factors (obtained from ISI's Journal Citation Reports 2006); b) the total number of citations they received; and c) their ranks. For example, the *Diabetologia*, the top Springer journal with the highest IF, ranks 31th in the list based on use. It appears that the use based on downloads is quite different from that of citations.

4. Conclusion

We reported the preliminary findings of our study based on download statistics of all ANKOS members from SpringerLink and Wiley InterScience e-journal databases show that 39 SpringerLink and 21 Wiley InterScience core journals invariably satisfied one third of all the download requests. Lists of core journal titles do not change much on an annual basis. Most of journal titles were rarely used. Findings of this study can be used by individual libraries as well as by the consortium management to develop better collection management policies and negotiate more favorable “big deals” with publishers, thereby improving the conditions of the national consortial license for all Turkish universities [14].

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