

Correlation between Impact Factor and Public Availability of Published Research Data in Information Science & Library Science Journals

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Introduction

Scientists continuously generate research data but only a few part of them are published. If these data were accessible and reusable, researchers could examine them and generate new knowledge. Currently, the barriers to data sharing are phased out and public research organizations are demanding ever more insistently that publications resulting from publicly funded projects and data that support them should be published in open (Savage & Vickers, 2009). The purpose of this work is: a) to analyse policies concerning open availability of raw research data in journals in the Information Science & Library Science (ISLS); and b) to determine whether there is a correlation between the impact factor and policies of these journals concerning storage and reuse of scientific data.

Method

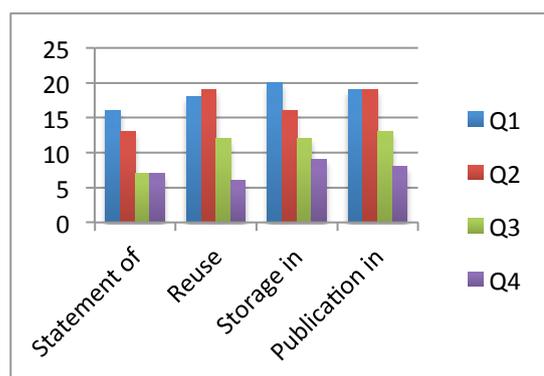
We reviewed the policies related to public availability of papers and data sharing in the 85 journals included in the ISLS category of Journal Citation Reports, 2012 edition. We reported information about the statement of policy regarding: a) complementary material; b) reuse; c) storage in repositories; d) publication on a website; e) journal impact factor; and f) quartile (Q). We have performed a statistical analysis using Chi-square test of the difference regarding each point considered.

Results

The results obtained after analysing the four main variables are presented in Table 1. The variable "Statement of complementary material" was accepted in 50% of the journals. The results were

quite similar between the first and second Q and between the third and fourth Q. Regarding the reuse of data, 65% of the journals support this possibility. The highest percentage of response was in the journals of the first Q that accept the reuse of data (86%). The variable "Storage in thematic or institutional repositories", 67% of the journals specified that it was possible. The percentage of journals that accepts storage in institutional repositories decreases by the quartile of journals (e.g., journals in lower quartiles are less supportive). For publication of the manuscript in a website, 69% of the journals accepted it (Figure 1).

Figure 1. Journals supporting each variable by quartile (Q).



Statistical analysis:

Chi-square tests suggest that there is a strong correlation between being a top quartile journal and allowing (a) complementary material ($\chi^2=11.318$, $p < .001$); (b) reuse of research data ($\chi^2=19.888$, $p < .001$); (c) storage in thematic and institutional repositories ($\chi^2=13.080$, $p < .001$); and (d) in personal websites ($\chi^2=17.350$, $p < .001$).

Conclusions

Our results show that, of the four variables analysed, three have an acceptance rate close to 70% (reuse, publication of the manuscript in a website and storage in thematic or institutional repositories), while the percentage of journals that include the ability to deposit data as supplementary material is lower (50%). These percentages are somewhat higher than those found in a previous study that analysed public availability of published research data in Substance abuse journals (Aleixandre-Benavent et al., 2014). In another study that analysed the same variable in high-impact journals (Alsheikh-Ali et al., 2011), 88% had a statement in their instructions to authors related to public availability and sharing of data, which is 38 percentage points above the average found in the LISIS journals (50%). We found a positive correlation between being a top journal in JCR and having an open policy. A previous paper pointed out that, despite the willingness of some journals to accept supplementary materials, policies, when present, were weak (Borrego & Garcia, 2013). As future research, it would be interesting to raise the question whether journals having high impact factor and open research data is related to the fact that these journals are often owned by rich publishers that are more open for new developments and also have the financial capacities to support such developments.

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Table 1. Results from main variables analysed in the 85 ISLS journals.

Quartile *	Statement of complementary material			Reuse			Storage in thematic or institutional repositories			Publication in website		
	A	NA	NS	A	NA	NS	A	NA	NS	A	NA	NS
	n (%)	n (%)	N (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
1	16 (76%)	-	5 (24%)	18 (86%)	-	3 (14%)	20 (95%)	-	1 (5%)	19 (90%)	-	2 (%)
2	13 (62%)	-	8 (38%)	19 (90%)	1 (5%)	1 (5%)	16 (76%)	-	5 (24%)	19 (90%)	1 (5%)	1 (5%)
3	7 (33%)	2 (10%)	12 (57%)	12 (57%)	3 (14%)	6 (29%)	12 (57%)	-	9 (43%)	13 (61%)	2 (10)	6 (29%)
4	7 (32%)	2 (9%)	13 (59%)	6 (27%)	1 (5%)	15 (68%)	9 (40 %)	1 (5%)	12 (55%)	8 (36%)	1 (5%)	13 (59%)
Total	43 (50%)	4 (5%)	38 (45%)	55(65%)	5 (6%)	25 (29%)	57 (67%)	1 (1%)	27(32%)	59 (69%)	4 (5%)	22 (26%)
	85			85			85			85		

Quartile on ISLS journals in JCR-2012. A: Accepted. NA: Not Accepted. NS: Not Specified