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International visibility of European and in particular German-language publications in library and information science

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Abstract

This paper presents a scientometric study of articles from journals indexed in Web of Science (WoS), subject category "Information Science & Library Science". The results confirm the Anglo-American dominance in the library and information science literature (included in WoS), which is even stronger if only research-oriented information science journals are considered. The two major exceptions are the Scandinavian countries and the field of scientometrics. The visibility of Germany and Austria turned out to be relatively low.

Zusammenfassung

In diesem Beitrag wird eine Publikationsanalyse von Beiträgen in von im Web of Science (WoS) indizierten bibliotheks- und informationswissenschaftlichen Zeitschriften vorgestellt. Die Ergebnisse dieser Analyse bestätigen die anglo-amerikanische Dominanz in der facheinschlägigen Literatur, die bei den primär informationswissenschaftlichen Zeitschriften sogar noch deutlicher ausfällt. Die skandinavischen Länder und der Bereich der Szientometrie stellen gewisse Ausnahmen dar. Die internationale Sichtbarkeit Deutschlands und Österreichs ist hingegen „ausbaufähig".

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1 Introduction

An expert survey which was conducted in 2002 revealed that information specialists from German-speaking countries strongly prefer to publish in German-language library and information science (LIS) periodicals. Out of the 50 suggested journals (most of them were international in scope), only those publishing in German were top-ranked. As a consequence, it was not surprising that the citation analysis showed that the majority of LIS publications from German-speaking countries were not perceived in an international context (Schlögl/Stock 2004; Grazia Colonia 2002). A possible reason could have been that mainly practitioners participated in the survey and LIS scholars were in the minority.

After 10 years these circumstances are to be re-examined. Furthermore, the situation in other European countries also needs to be explored. This will be done by means of a publication analysis which investigates the European research output in LIS. The following research questions are to be addressed: What is the European research output in international LIS journals? Which European countries do fairly well? Are the majority of LIS publications from Anglo-American countries? Where are the "hot spots" (institutions) in LIS in Europe?

2 Methodology

Since journals are the prime publication channel in all scientific disciplines (Deutsche Forschungsgemeinschaft 2005: 22), a first restriction was made to journal articles. As journal selection in the Web of Science (WoS) is subject to several quality criteria (Garfield 1990; Testa 2012) and as it provides basic scientometric functionalities (ANALYZE command), it was decided to use this database. As with Larivière, Sugimoto and Cronin (2012: 1000) LIS publications were identified on the basis of the journal classification. Accordingly, all publications from journals belonging to the subject category Information Science & Library Science were analyzed. Information systems journals and periodicals from other neighboring disciplines, which constituted between one fifth and nearly one third of all journals from this subject cate-

gory in the investigation period, were excluded from the following analyses (a list of the analyzed journals can be found in the Appendix). To make sure that mainly scholarly publications are regarded, a limitation was made to WoS document types “article” and “review”. The period of analysis was from 2000 to 2011. The documents were retrieved using the following command: SU = information science* AND PY = 2000-2011 Refined by: Document Types = (ARTICLE OR REVIEW) AND Source Titles = (AFRICAN JOURNAL OF LIBRARY ARCHIVES AND INFORMATION SCIENCE OR INTERNATIONAL INFORMATION LIBRARY REVIEW OR …). The search was performed on October 9 2012 and resulted in 21870 hits.

3 Results

At the beginning of this section the results of the publication analyses of the LIS journals will be presented. Afterwards, these results will be critically reflected on. Finally, the analyses will be replicated with primarily research-oriented information science journals.

3.1 Analysis of LIS journals

All in all, 65 journals were identified in the analysis period. In the following, the articles and reviews published in these journals are analyzed with regard to different criteria (countries, organizations and authors). The geographical focus of the analyses varies between worldwide and German-language countries.

Table 1 shows the number of research publications ranked by country. The ranking is headed by the USA (nearly 38%). More than 9% of all publications (2054) were (co)written by English authors. This proportion is nearly twice as high as that of the country ranked third, which was surprisingly Spain. Germany is ranked fifth. The share of all Anglo-Saxon countries amounts to approximately 58%, which underlines their dominance in LIS. By comparison, authors from mainland Europe are involved in approximately 5200 publications (24%).

Table 1: Publications in LIS journals (source: Web of Science) (2000–2011) – ranking by countries (n = 21870 articles)

Rank	Country	No. of articles	Proportion	Rank	Country	No. of articles	Proportion
1	USA	8274	37.8%	6	People's Republic of China	710	3.2%
2	England	2054	9.4%	7	Australia	595	2.7%
3	Spain	1086	5.0%	8	The Netherlands	543	2.5%
4	Canada	923	4%	9	Brazil	485	2.2%
5	Germany	766	4%	10	Taiwan	447	2.0%

The ranking by European countries (see Table 2) manifests a few results which were expected. Among them are the top position of Great Britain and the good positioning of the Scandinavian countries. However, it was not anticipated that the Netherlands and Belgium would be in the top 5. As will be revealed later, this good position is mainly due to the engagement of these two countries in scientometrics and research evaluation. Also worth mentioning is that a few small countries do quite well. If one relates the research output of, for instance, Slovenia to its population, its relative research output is approximately four times higher than that of Austria.

Table 2: Publications in LIS journals (source: Web of Science) (2000–2011) – ranking by European countries

Rank	Country	No. of articles	Rank	Country	No. of articles
1	Great Britain	2497	11	Switzerland	179
2	Spain	1086	12	Hungary	156
3	Germany	766	13	Turkey	120
4	The Netherlands	543	14	Greece	109
5	Belgium	382	15	Norway	100
6	France	362	16	Ireland	89
7	Italy	279	17	Austria	82
8	Finland	262	18	Slovenia	78
9	Sweden	209	19	Russia	58
10	Denmark	186	20	Poland	56

The ranking by European institutions (see Table 3) reflects a British (7 universities) and Spanish (5 institutions) dominance. A small surprise was

that this ranking is headed by a Spanish university – the University of Granada. The Netherlands is the only additional country with more than one university in the top 20. However, as already mentioned, this good positioning is due to the engagement in scientometric research, since the Katholieke University Leuven (Centre for R&D Monitoring), the University of Amsterdam (School of Communication Research) and Leiden University (Centre for Science and Technology Studies) are all hubs for scientometrics. A strong scientometric research focus (indicated in italics in Table 3) also applies to the Spanish National Research Council (CISC), the Hungarian Academy of Science, the University of Antwerp and the University of Zurich.

Table 3: Publications in LIS journals (source: Web of Science) (2000–2011) – ranking by European organizations

Rank	Organization	No. of articles	Rank	Organization	No. of articles
1	UNIV GRANADA	197	11	UNIV TAMPERE	108
2	UNIV SHEFFIELD	191	*12*	*LEIDEN UNIV*	*106*
3	CITY UNIV LONDON	182	*13*	*HUNGARIAN ACAD SCI*	*99*
4	*KATHOLIEKE UNIV LEUVEN*	*154*	14	UNIV STRATHCLYDE	88
5	UCL (Univ. College London)	152	15	UNIV CARLOS III MADRID	83
6	UNIV LOUGHBOROUGH	145	*16*	*UNIV ANTWERP*	*69*
7	*WOLVERHAMPTON UNIV*	*134*	17	LOUGHBOROUGH UNIV TECHNOL	65
8	*CSIC (Spa. Nat. Research Council)*	*125*	*18*	*UNIV ZURICH*	*61*
9	*UNIV AMSTERDAM*	*117*	19	UNIV POLITECN VALENCIA	60
10	ROYAL SCH LIB INFOR SCI	109	20	UNIV EXTREMADURA	58

As can be seen in Table 3, there is no German-language organization included in the top 20. If only German-language institutions are considered, one outstanding characteristic is that most of them have no LIS department or institute. Only the LIS institutes from Humboldt University, the Universities of Düsseldorf, Graz and Konstanz, and the University of Applied Sciences

Köln (in italics in Table 4) contribute to the good standing of their parent institutions. However, in the case of Humboldt University and the University of Konstanz, only 29 out of 42 and 6 out of 14 publications originate from the LIS institutes.

Table 4: Publications in LIS journals (source: Web of Science) (2000–2011) – ranking by organizations in German-speaking countries

Rank	Organisation	No. of articles	Rank	Organisation	No. of articles
1	UNIV ZURICH	61	11	UNIV MUNSTER	12
2	ETH (SWISS FED INST TECH)	57	12	UNIV VIENNA	12
3	*HUMBOLDT UNIV*	*42 (29)*	13	FREE UNIV BERLIN (1)	11
4	BAYER STAATSBIBLIOTHEK	23		MAX PLANCK INST SOLID STATE RES	11
5	*UNIV DUSSELDORF*	*19 (18)*		UNIV BREMEN	11
6	FRAUNHOFER INST SYST INNOVAT RES	17	16	TECH UNIV CHEMNITZ	10
7	*GRAZ UNIV (KARL FRANZENS UNIV GRAZ)*	*15*	*17*	*FACHHSCH KOLN*	*9*
8	*UNIV KONSTANZ*	14 (6)		MAX PLANCK SOC	9
	UNIV NEUCHATEL	14		UNIV BIELEFELD	9
10	UNIV GENEVA	13		UNIV KARLSRUHE	9

Departments rooted in scientometrics and research evaluation also have a leading role in the listing of the German-language institutions. Examples are the Evaluation Office of the University of Zürich and the department of Social Psychology and Research on Higher Education at the Swiss Federal Institute of Technology in Zurich. 23 publications, most of them very practice-oriented, were (co)authored by staff members from the Bavarian State Library.

According to the results of the institution ranking, it is not surprising that also the author ranking is headed by a scientometrican – Lutz Bornmann. More than half of the top-16 German-speaking authors have such a background. LIS scholars (in italics in Table 5) are also in the minority here. To prevent potential misunderstandings, if an institute or an author is included in one of the above rankings, this does not necessarily mean that they are supe-

rior in terms of scientific quality. However, this means that their publications have a better chance of being perceived beyond their regional community.

Table 5: Publications in LIS journals (source: Web of Science) (2000–2011) – ranking by authors from German-speaking countries

Rank	Author	No. of articles	Rank	Author	No. of articles
1	BORNMANN L	53	7	MARX W	11
2	DANIEL HD	42		MUTZ R	11
3	*SEADLE M*	*15*		*STOCK WG*	*11*
4	KRETSCHMER H	14	*12*	BANIK G	10
5	SAVOY J	12		SCHREIBER M	10
	SCHLO(E)GL C	*12*	*14*	*LEPORI B*	*9*
7	GORRAIZ J	11		*SCHMOCH U*	*9*
	LEWANDOWSKI D	*11*		*WAGNER-DOBLER R*	*9*

3.2 Critical analysis of the results

As the above results show, the international visibility of the representatives of information science in German-language countries has 'some potential for augmentation'. When searching for explanations for the modest standing of German-language information science, it could be argued that the result is influenced to a great extent by the publication language. And indeed, 92% of the analyzed articles and reviews were published in English, 2.9% in Spanish and 1.7% in German. The good positioning of Spain is in fact partly due to the journals appearing in Spanish, since 41% of the publications from Spanish authors were in Spanish. This proportion is even higher for the German-speaking countries. 44% of their publications are in German, most of them appeared in Zeitschrift für Bibliothekswesen und Bibliographie and in NfD as long as it was indexed in WoS.

A further problematic issue is the subject and language orientation of the journals included in WoS. There are several primarily practice-oriented journals (for instance Online and Library Journal) covered by the subject category Information Science & Library Science. Furthermore, the inclusion of journals like Scientometrics, Journal of Informetrics or Research Evaluation might have strongly influenced the results. Therefore, specific journals like Scientometrics or Restaurator were excluded from the following analyses. Accordingly, only research-oriented journals with a broader scope of infor-

mation science were considered. This resulted in seven journals (indicated in bold letters in the Appendix), which conform for the most part to the journal sample by Zhao and Strottmann (2008: 919).[1] In the following they are referred to as research-oriented information science journals or solely information science journals.

3.3 Analysis of research-oriented information science journals

In this subsection a few results of the analyses of the information science journals are presented. The underlying population amounted to 4395 articles and review papers.

Table 6: Publications in information science journals (source: Web of Science) (2000–2011) – ranking by countries (n = 4395 articles)

Rank	Country	No. of articles	Rank	Country	No. of articles
1	USA	1631	11	Singapur	112
2	Great Britain	720	12	Belgium	97
3	Canada	271	13	Israel	91
4	People's Republic of China	221	14	Japan	91
5	Spain	199	15	Denmark	87
6	Taiwan	170	16	Sweden	81
7	Finland	151	17	Germany	66
8	Australia	147	18	France	55
9	The Netherlands	147	19	Italy	51
10	South Korea	128	20	Switzerland	49

The ranking of the articles in information science journals by countries (see Table 6) reveals an even stronger Anglo-American dominance. Authors from Anglo-Saxon countries are involved in nearly two thirds of all articles. With the US, Great Britain and Canada, three representatives lead the publication ranking. As expected, Spain (5th position) and Germany (17th position)

1 The six congruent journals have mainly a scholarly authorship (Schlögl/Petschnig 2005: 31; Schlögl/Stock 2008: 658). The Proceedings of the ASIST Annual Meeting were not considered, since this is not a journal. Instead, the Information Research journal was added.

lose ground, since nearly all articles in the information science journals are in English. Authors from mainland Europe contribute to slightly more than one quarter of all publications. This proportion is slightly higher than the one calculated for all LIS journals. The Scandinavian countries (Finland, Denmark and Sweden), the Netherlands and Belgium do fairly well also in this journal ranking. This is especially true if the publication counts are related to the population of these countries. This is also confirmed in the ranking by the European organizations (see Table 7), which is headed by a Finnish university (University of Tampere). Half of the top-16 universities are from Great Britain. The universities from German-speaking countries are far behind.

Table 7: Publications in information science journals (source: Web of Science) (2000–2011) – ranking by European organizations

Rank	University	No. of articles	Rank	University	No. of articles
1	UNIV TAMPERE	94	9	UNIV STRATHCLYDE	45
2	UNIV SHEFFIELD	90	10	UCL (Univ Coll London)	41
3	WOLVERHAMPTON UNIV	79	11	LOUGHBOROUGH UNIV TECHNOL	29
4	ROYAL SCH LIB INFOR SCI	71	12	UNIV ANTWERP	26
5	UNIV GRANADA	64		UNIV GLASGOW	26
6	CITY UNIV LONDON	59	14	LEIDEN UNIV	24
7	UNIV LOUGHBOROUGH	58	15	KATHOLIEKE UNIV LEUVEN	22
8	UNIV AMSTERDAM	55	16	NAPIER UNIV	20

4 Conclusions

The study at hand which was aimed at investigating the international visibility of the European research output has several limitations. One concerns the restriction to journal articles. This ignores the fact that conferences also have some relevance in LIS. However, the publication shares should not differ strongly from those of the journal articles. The selection of information sci-

ence journals from the Web of Science is also not without problems. This was mainly done for reasons of traceability and objectivity. However, with regard to the research-oriented information science journals (see section 3.3), there should be common agreement that these are the top journals of the discipline. Furthermore, it must be taken into account that national, cultural and language aspects have a strong influence on the publication behavior and, as a consequence, on the visibility in WoS in the social sciences. According to Ingwersen (2000: 39), this is especially true for countries like Germany, France (see, for instance, Ibekwe-SanJuan 2012) and Spain. With regard to the cultural aspect, it is interesting to see that the Protestant countries play a leading role, though it would be difficult to establish a causal relation. However, the Anglo-American dominance can be attributed to some degree to the existing language advantage.

The relatively weak positioning of Germany and a few other European countries, in particular when considering only research-oriented information science journals, can only partly be ascribed to the weaker institutionalization of information science in these countries. For instance, there are also 'only' around 50 LIS programs accredited by the American Library Association (ALA 2012). However, an essential difference might be that LIS in Germany is mainly located at universities of applied sciences. These are characterized by professors who have a high teaching obligation that hardly leaves them any time to do research. The above analyses have also revealed that a few countries (for instance Spain and Brazil) do so well because a few journals in their mother tongue are also included in WoS. From the perspective of German-speaking information science, a re-inclusion of the journal Information – Wissenschaft und Praxis (IWP) is desirable.

Finally, the question arises as to how the situation of information science in mainland Europe could be improved. The country-wise distribution of the LIS journals included in the subject category Information Science & Library Science in WoS could provide an initial indication, since it confirms the results of the publication analysis on the whole. Accordingly, 70% of the 57 LIS journals indexed in WoS in 2011 (41 journals) were published in an Anglo-Saxon country. When considering only the research oriented-information science journals, this proportion amounts to 100%. Four of the seven journals are published in the US, the remaining three in Great Britain. Though no direct relation between the publication country of a journal and the internationality of its authors can be made – indeed, several of these journals have

a more international authorship – this current situation demonstrates some kind of imbalance.

For this reason, the author of this paper supports the initiative by Kuhlen (2012) which is aimed at establishing an open access LIS journal in Central Europe. Such a journal could create a certain counterbalance, albeit only a small one, to the Anglo-Saxon information science journals. The main benefit of such a journal would not so much be that more European LIS research could be made available to a more international audience, but that such a platform could have the potential to establish an enduring European information science community.

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Appendix: List of analyzed journals from WoS subject category "Information Science & Library Science"

1. AFRICAN JOURNAL OF LIBRARY ARCHIVES AND INFORMATION SCIENCE
2. **ANNUAL REVIEW OF INFORMATION SCIENCE AND TECHNOLOGY**
3. ASLIB PROCEEDINGS
4. AUSTRALIAN ACADEMIC RESEARCH LIBRARIES
5. AUSTRALIAN LIBRARY JOURNAL
6. BULLETIN OF THE MEDICAL LIBRARY ASSOCIATION
7. CANADIAN JOURNAL OF INFORMATION AND LIBRARY SCIENCE
8. COLLEGE RESEARCH LIBRARIES
9. ECONTENT
10. ELECTRONIC LIBRARY
11. GOVERNMENT INFORMATION QUARTERLY
12. HEALTH INFORMATION AND LIBRARIES JOURNAL
13. INFORMACAO SOCIEDADE ESTUDOS
14. INFORMACIOS TARSADALOM
15. INFORMATION AND ORGANIZATION
16. INFORMATION DEVELOPMENT
17. **INFORMATION PROCESSING MANAGEMENT**
18. **INFORMATION RESEARCH AN INTERNATIONAL ELECTRONIC JOURNAL**
19. INFORMATION SOCIETY
20. INFORMATION TECHNOLOGY AND LIBRARIES
21. INTERLENDING DOCUMENT SUPPLY
22. INTERNATIONAL INFORMATION LIBRARY REVIEW
23. INTERNATIONAL JOURNAL OF GEOGRAPHICAL INFORMATION SCIENCE

24. INVESTIGACION BIBLIOTECOLOGICA
25. JOURNAL OF ACADEMIC LIBRARIANSHIP
26. JOURNAL OF DOCUMENTATION
27. JOURNAL OF GOVERNMENT INFORMATION
28. JOURNAL OF INFORMATION ETHICS
29. JOURNAL OF INFORMATION SCIENCE
30. JOURNAL OF INFORMETRICS
31. JOURNAL OF LIBRARIANSHIP AND INFORMATION SCIENCE
32. JOURNAL OF SCHOLARLY PUBLISHING
33. JOURNAL OF THE AMERICAN SOCIETY FOR INFORMATION SCIENCE (AND TECHNOLOGY)
34. JOURNAL OF THE MEDICAL LIBRARY ASSOCIATION
35. KNOWLEDGE ORGANIZATION
36. LAW LIBRARY JOURNAL
37. LEARNED PUBLISHING
38. LIBRARY AND INFORMATION SCIENCE
39. LIBRARY COLLECTIONS ACQUISITIONS TECHNICAL SERVICES
40. LIBRARY HI TECH
41. LIBRARY INFORMATION SCIENCE RESEARCH
42. LIBRARY JOURNAL
43. LIBRARY QUARTERLY
44. LIBRARY RESOURCES TECHNICAL SERVICES
45. LIBRARY TRENDS
46. LIBRI
47. MALAYSIAN JOURNAL OF LIBRARY INFORMATION SCIENCE
48. NFD INFORMATION WISSENSCHAFT UND PRAXIS
49. ONLINE
50. ONLINE INFORMATION REVIEW
51. PERSPECTIVAS EM CIENCIA DA INFORMACAO
52. PORTAL LIBRARIES AND THE ACADEM
53. PROFESIONAL DE LA INFORMACION
54. PROGRAM ELECTRONIC LIBRARY AND INFORMATION SYSTEMS
55. PUBLISHING RESEARCH QUARTERLY
56. REFERENCE USER SERVICES QUARTERLY
57. RESEARCH EVALUATION
58. RESTAURATOR INTERNATIONAL JOURNAL FOR THE PRESERVATION OF LIBRARY AND ARCHIVAL MATERIAL
59. REVISTA ESPANOLA DE DOCUMENTACION CIENTIFICA
60. SCIENTOMETRICS
61. SERIALS LIBRARIAN
62. SERIALS REVIEW
63. SOCIAL SCIENCE INFORMATION SUR LES SCIENCES SOCIALES
64. TRANSINFORMACAO
65. ZEITSCHRIFT FUR BIBLIOTHEKSWESEN UND BIBLIOGRAPHIE