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Fair Use in Libraries: A Bibliometric Analysis

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ABSTRACT

The fair use doctrine is commonly applied in libraries as educational institutions, but its application is ambiguous because states regulate it differently. This study describes and analyses the research trend on fair use in academic libraries. It searched the Scopus database with the keywords "Fair Use" AND Library AND Copyright, covering articles, book chapters, reviews, conference papers and books, and found 163 documents published between 1975 and 2022. The analysis, made with the Biblioshiny R package, shows that 211 authors took part and that the United States is the most productive country, with 139 documents. The Journal of Interlibrary Loan, Document Delivery & Electronic Reserve is the source with the most articles, involving 9 authors between 2000 and 2014. "Copyright" and "fair use" are the most frequent author keywords, with 41 occurrences each. The results indicate that copyright is a global issue in library management, in particular because of the limits of fair use in libraries, and that international and comparative research is still scarce.

Keywords: bibliometric analysis; fair use doctrine; academic library; copyright; legal aspect

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1. Introduction

The Berne Convention for the Protection of Literary and Artistic Works binds 181 parties, which must adopt its provisions in national law, including provisions on limitations of copyright. The Convention allows certain limitations and exceptions to the economic rights, cases in which a protected work may be used without the owner's authorisation and without payment. These "free uses" are set out in Article 9(2) (reproduction in certain special cases), Article 10 (quotations and use of works by way of illustration for

teaching), Article 10bis (reproduction of newspaper articles and use of works to report current events) and Article 11bis(3) (ephemeral recordings for broadcasting).

In education, the debate on fair use in libraries is prominent because libraries must comply with copyright in their management.[1] The application of fair use differs between states, which is understandable in the light of the common law and civil law copyright traditions.[2] In many countries academic librarians struggle to apply fair use. Ferullo observed that many colleges and universities have no clear copyright policy, so that many librarians hesitate to take the risk of a copyright suit against their institution, and the growth of electronic resources makes it harder still to balance the interests of creators and access to education.[3] Many studies have tried to resolve the legal questions of fair use so that they fit educational aims, in two ways: by identifying and debunking copyright fallacies that persist in higher education, and by offering analytic evidence of when unlicensed use of copyright material in scholarly papers qualifies as fair use.[4]

This study differs from earlier ones by mapping the literature on one issue, fair use in libraries. Earlier work has concentrated on the legal questions, on librarians' literacy and on the application of the doctrine, and we found no bibliometric map of this topic. Bibliometrics is an efficient way to give policymakers and academics data and to improve the quality of research.[5] The findings give academics a summary of the literature, and they identify the researchers, journals and topics that are most discussed.

2. Method

2.1 Research questions

Three research questions guided the choice of search terms and the analysis. Q1: by number of citations, which article has the most influence on the topic, and who is the most influential author? Q2: which countries and institutions are the most significant and the most connected? Q3: which study topics are the most developed?

2.2 Data and criteria

We searched one database, Scopus, chosen for the high quality of the papers it indexes.[6] Data were extracted through the application programming interface by way of Publish or Perish, with the keywords "Fair Use" AND Library AND Copyright. Between 1975 and 2022 this gave 163 publications in the form of journal articles, conference papers, books, working papers, theses and citations (Table 1).

[1]Adler P and others, 'Challenges in Employing Fair Use in Academic and Research Libraries' (2010) 273 Research Library Issues; Khobragade JW and Anson CJ, 'Fair Use Provisions under the Indian Copyright Act: Awareness Among Librarians of Colleges and Universities in Maharashtra' (2022) 27(1) Journal of Intellectual Property Rights 7; Lakhan S and Khurana M, 'Intellectual Property, Copyright, and Fair Use in Education' (2008) 6(4) Academic Leadership 1.

[2]Senftleben M, 'Bridging the Differences between Copyright's Legal Traditions: The Emerging EC Fair Use Doctrine' (2010) 57(3) Journal of the Copyright Society of the USA 521.

[3]Ferullo DL, 'Major Copyright Issues in Academic Libraries: Legal Implications of a Digital Environment' (2008) 40(1–2) Journal of Library Administration 23; Prilliman JS, 'Copyright and the Academic Library: The Ambiguities of Fair Use Copyright' (2011) SSRN.

[4]Rooksby JH, 'Copyright in Higher Education: A Review of Modern Scholarship' (2016) 54(1) Duquesne Law Review 197.

[5]Al Husaeni DF and Nandiyanto ABD, 'Bibliometric Using Vosviewer with Publish or Perish (using Google Scholar data)' (2022) 2(1) ASEAN Journal of Science and Engineering 19.

[6]Baas J and others, 'Scopus as a Curated, High-Quality Bibliometric Data Source for Academic Research in Quantitative Science Studies' (2020) 1(1) Quantitative Science Studies 377.

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Table 1. Criteria for data collection and selection. Source: the authors' compilation.

Criterion	Description
Search keywords	"Fair Use" AND Library AND Copyright
Database	Scopus
Period	1975–2022
Publication type and language	English articles, book chapters, reviews, conference papers and books, with title and abstract in English
Topic	Fair use in libraries

Three criteria governed selection. The first was the type of publication: all articles, book chapters, reviews, conference papers and books on the theme. The second was language: only English, because the practice of fair use is a global concern. The third was relevance: the documents left out mostly had little to do with fair use, and in particular with its practice in libraries. We also removed duplicates and documents without full text, which left 163 papers for analysis.

2.3 Data analysis

After extraction and processing we ran network and co-citation analyses and analysed research trends. The network analysis used the Biblioshiny R package, a set of tools for science mapping.[7] It had three elements: analysis of words and keywords, mapping of scientific collaboration, and analysis of the leading authors, sources and institutions.

3. Results and Discussion

3.1 General information

The first literature on fair use in libraries appeared in 1975, so the search covers 1975 to 2022. The dataset has 163 documents in 104 sources, 211 authors, of whom 102 wrote single-authored documents, and 1.47 co-authors per document, with an international collaboration index of 2.4 per cent. The authors used 237 keywords and 3,126 references in all the selected articles, and the average citation per document is 3.16. Over 47 years the average number of documents each year is small, and publication grew by 23.08 per cent a year.

3.2 Publication and citation trend

The first article, according to Scopus, was an editorial note by Wells (1975) on copyright concerns in publication.[8] Attention began to build in 1995 with three publications and went on growing until 2021. The peak was 2013, with 18 papers. The United States was one of the first countries to adopt a comprehensive fair use policy, in the Copyright Act 1976, and the first study on the topic came in 1977. After 1977 no document appears until 1981. This may be because later documents were not used as references in later

[7]Aria M and Cuccurullo C, 'bibliometrix: An R-Tool for Comprehensive Science Mapping Analysis' (2017) 11(4) Journal of Informetrics 959.
[8]Wells WF, 'Editorial' (1975) PC-18(1) IEEE Transactions on Professional Communication 1.

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publications; in other words, the research gap widened without taking the latest findings of earlier work into account. Fair use is a live subject because ambiguous rules make it hard to balance the right of the author with the aim of the right to education.

3.3 Author impact

Table 2 lists the most prolific authors, ranked by cited articles, total citations and the h-, g- and m-indices. The most prolific is Juan-Carlos Fernández-Molina of the Universidad de Granada, who first made an impact in 2003 and now has an h-index of 2, a g-index of 2, an m-index of 0.1 and 17 citations from 2 articles. Laura N Gasaway, Sarantos Kapidakis and Alexandros Koulouris follow; they share the same h-index, g-index and number of cited articles and differ in the m-index and total citations. K M Manuel was the most productive in a single period, with four articles in 2010–2011 and three in 2010 alone, and his concern was the Google Library Project, which raises legal problems of digitisation, indexing and the display of snippets that it claims to be fair use.

Table 2. Author impact (first ten). Source: the authors' compilation.

Author	h-index	g-index	m-index	Total citations	Publications	Impact start
Fernández-Molina JC	2	2	0.1	17	2	2003
Gasaway LN	2	3	0.077	13	3	1997
Kapidakis S	2	3	0.111	17	3	2005
Koulouris A	2	2	0.111	14	2	2005
Thomas WJ	2	2	0.2	15	2	2013
Adnan HM	1	1	0.083	1	1	2011
Adu TL	1	1	0.5	1	1	2021
Agarwala A	1	1	0.067	2	1	2008
Allison-Bunnell JL	1	1	0.036	3	1	1995
Allner I	1	2	0.056	7	2	2005

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3.4 Institutions, countries and collaboration

By number of publications and total citations, the United States contributed most between 1975 and 2022, with 139 papers and 275 citations, which is logical given that it adopted a comprehensive fair use policy in 1976 (Table 3). The most productive institution, however, is not American: Xiamen University in China leads with 6 documents and 234 citations, followed by the Ionian University in Greece (5 documents, 35 citations), Southern New Hampshire University (4 documents) and the University of North Carolina (4 documents, 7 citations).

Table 3. Most productive institutions and countries (PA: published articles; TC: total citations). Source: the authors' compilation.

Institution	PA	TC	Country	PA	TC
Xiamen University	6	234	USA	139	275
Ionian University	5	35	China	16	24
Southern New Hampshire University	4	8	India	7	17
University of North Carolina	4	7	Greece	6	17
University of Twente	4	6	Canada	4	8
Rutgers University	3	10	Netherlands	4	8
University of Ilorin	3	4	Spain	4	6
Borough of Manhattan Community College	2	22	Bulgaria	3	5
Duke University	2	20	Kenya	3	5
East Carolina University	2	18	Nigeria	3	3

Of the 211 authors, the collaboration analysis kept those with at least one collaborative publication. On that threshold the literature has 10 authors in 4 clusters with 13 links. The first cluster, Gould, Buchanan and Lipinski, all from the United States, studied copyright policy in academic libraries on reserves and electronic reserves, and gave a legal framework with recommendations for compliance by research libraries.[9] The second, Burtle and Burright, examined the Georgia State University and HathiTrust cases, and found that the Georgia State instructors made proper determinations with a reasonable and helpful fair use checklist.[10]

In the third cluster two Greek authors, Koulouris and Kapidakis, made a policy model for university digital libraries on the licensing of electronic copyright material and the application of fair use.[11] The fourth, Cox, Blixrud and Beckett, held that the Internet and electronic resources are changing the way libraries operate and general attitudes and quality standards, and looked at the new difficulties of digital distribution, the shift to consortium models and their effect on publishing, calling for new financial models, new cataloguing practice and new roles for libraries; some advocated new copyright rules or a digital fair use law.[12] The last cluster, Yu, Liu and Guo from China, discussed Google Book Search and the Google Library, including the Google Book Settlement and China's copyright law, and looked for a better balance of the rights and benefits of users and copyright holders.[13]

[9]Gould THP, Lipinski TA and Buchanan EA, 'Copyright Policies and the Deciphering of Fair Use in the Creation of Reserves at University Libraries' (2005) 31(3) Journal of Academic Librarianship 182.

[10]Burtle L and Burright M, 'Academic Libraries as Unlikely Defendants: A Comparative Fair Use Analysis of the Georgia State University E-Reserves and HathiTrust Cases' (2018) 67(2) Library Trends 376.

[11]Koulouris A and Kapidakis S, 'Policy Model for University Digital Collections' (2005) 3652 Lecture Notes in Computer Science 356.

[12]Prime E and others, 'Catching the Wave: Views of the Serials Future' (2001) 40(1–2) Serials Librarian 61.

[13]Guo Y, Liu Y and Yu Z, '"Google Library": Some Copyright Infringement Concerns in China' in Y Guo (ed), *Research on Selected China's Legal Issues of E-Business* (Springer 2015) 211.

3.5 Citation analysis

Table 4 presents the ten most cited papers. Mavodza's paper on the impact of cloud computing on academic library practice has the most citations, 39, an average of 3.90 a year. The Journal of Academic Librarianship is a major source, with two papers in the list. Charbonneau and Priehs, on copyright awareness, partnerships and training in academic libraries, is a recent paper with the highest average citations per year in the list (4.00).

Table 4. Most cited papers (TC: total citations). Source: the authors' compilation.

Author (year)	Title	Source	TC	TC per year
Mavodza (2013)	The impact of cloud computing on the future of academic library practices and services	New Library World	39	3.90
Charbonneau and Priehs (2014)	Copyright awareness, partnerships, and training issues in academic libraries	The Journal of Academic Librarianship	36	4.00
Wu and others (2010)	College students' misunderstandings about copyright laws for digital library resources	The Electronic Library	27	2.08
Rimmer (2006)	Robbery under arms: Copyright law and the Australia–United States Free Trade Agreement	First Monday	16	0.94
Gould and others (2005)	Copyright policies and the deciphering of fair use in the creation of reserves at university libraries	The Journal of Academic Librarianship	16	0.89
Schlosser (2009)	Unless otherwise indicated: a survey of copyright statements on digital library collections	College & Research Libraries	15	1.07
Koehn and Hawamdeh (2010)	The acquisition and management of electronic resources: can use justify cost?	The Library Quarterly	14	1.08
Eng and Hernandez (2006)	Managing streaming video: a new role for technical services	Library Collections, Acquisitions, and Technical Services	14	0.82
Courant (2006)	Scholarship and academic libraries (and their kin) in the world of Google	First Monday	14	0.82

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Author (year)	Title	Source	TC	TC per year
Fernández-Molina (2003)	Laws against the circumvention of copyright technological protection	Journal of Documentation	14	0.70

The 163 articles are spread over 104 sources. That indicates that no journal or scientific conference is dedicated to the topic worldwide.

3.6 Keywords and thematic map

Author keywords are an effective instrument for exploring trending issues quickly.[14] "Copyright" and "fair use" rank first and second among the 211 authors' keywords, with 41 occurrences each, followed by "copyright law", "academic libraries" and "intellectual property" (Table 5). By author keywords, time period and frequency, both "fair use" and "copyright" persisted as topics for ten years, 2007–2017.

Table 5. The ten most frequent author keywords. Source: the authors' compilation.

Author keyword	Occurrences	Author keyword	Occurrences
copyright	41	libraries	8
fair use	41	fair dealing	6
copyright law	11	digital rights management	5
academic libraries	9	electronic reserves	5
intellectual property	8	copyright infringement	4

In the co-occurrence network, 237 keywords were filtered at a minimum of five appearances, and 46 met the requirement. The node "fair use" (41) is connected to "copyright" (41), "academic libraries" (9), "intellectual property" (8) and "libraries" (8). The network divides into five clusters. "Fair use" and "copyright" belong to the first; "copyright infringement", "digitization", "copyright law" and "open access" stand for clusters 2 to 5. Research on fair use is thus tied to copyright law and to the digitisation of open access resources, and the development of technology for open access resources is vulnerable to infringement.

The thematic map, a two-dimensional plot of topics by density and centrality, divides the themes into four quadrants.[15] The "copyright" cluster also holds "digital libraries" and "fair use", which shows that these subjects are fundamental and important to other lines of study. The cluster of "publishing", "article" and "library" is immature but developing, and sits in the upper left quadrant, which indicates that research on it is a distinct component of copyright.

[14]Song Y and others, 'Exploring Two Decades of Research on Classroom Dialogue by Using Bibliometric Analysis' (2019) 137 Computers & Education 12.

[15]Abbas AF and others, 'Bibliometrix Analysis of Information Sharing in Social Media' (2022) 9(1) Cogent Business & Management 1; Agbo FJ and others, 'Scientific Production and Thematic Breakthroughs in Smart Learning Environments: A Bibliometric Analysis' (2021) 8(1) Smart Learning Environments 1.

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3.7 Social structure

Social network analysis shows how countries work together.[16] Ghana, Uganda, Kenya and South Africa actively collaborate with one another, but only within Africa, while the United States, Bulgaria and Canada show intercontinental collaboration. The small number of collaborations may be due to the different fair use rules in each country, which opens the way to future comparative research. The institution network shows the Georgia Institute of Technology collaborating with a corporate library, and the Africa Nazarene University Grace Roles Library with the Accra Technical Training Centre.

4. Conclusion

Many researchers in the United States became concerned with fair use in libraries from 1995. The keywords "fair use", "library" and "copyright" form clusters of developing issues such as publishing and articles, which is understandable given the number of journals worldwide that are also involved in copyright infringement. "Copyright", "digital libraries" and "fair use" are relevant topics today, but there is little literature on them and little international collaboration. Future research on fair use in libraries should therefore be developed through international collaboration, in the form of comparative reviews and other suitable forms.

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[16]Nobanee H and others, 'Big Data Applications in the Banking Sector: A Bibliometric Analysis Approach' (2021) 11(4) SAGE Open 1.

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