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Knowledge Organization in editorial policies for titles, abstracts and keywords in JCR-indexed journals: an exploratory study in the areas of Information and Communication Sciences

Abstract

In the formal writing of articles, the title, abstract and keywords have been the essential elements of knowledge representation. However, authors themselves are nowadays responsible for electronically making available the document representation elements (title, abstract and keywords) of their papers. For that reason, the editorial policies established by the journals, especially guidelines for authors regarding standardization, style, structure, extension and format for writing and submission of their articles are particularly relevant. The purpose of this exploratory study was to observe and analyze guidelines provided for authors on writing their papers' title, abstract and keywords in a representative sample of Library & Information Science (LIS) and Communication Science (CS) journals indexed in Journal Citation Reports (JCR) taking into account the first 8 titles of each one of the four quartiles. The sample consisted of 32 CS journals, out of a total of 82 (39%), and 32 LIS journals, out of a total of 85 (37.6%). A spreadsheet designed for data collection and processing was used containing 36 items grouped into four categories: identification data, guidelines for the title, abstract, and keywords of the scientific article. The categories established for each knowledge area were then analyzed by comparison in order to verify the use of specific aspects of knowledge organization and representation in editorial policies. The results reveal a scarcity of scientific literature, a tendency to standardize general indications and criteria, divergent behavior and little instruction in LIS and CS about titles, abstracts and keywords. The conclusion is that these aspects are more related to protocols of editorial management proceedings than to the intrinsic quality of documentary products associated with scientific organization and representation.

1. Introduction

Representation practices in knowledge organization are important for information access and retrieval, contributing to the intellectual and social organization of knowledge (Hjørland 2003). The production of academic scientific knowledge that needs to be formally or informally recorded has always been linked to the publishing world, which establishes the forms of publication and distribution of knowledge.

Knowledge visibility came to be measured from the effects of scientific production and publications on citation indexes by calculating the impact factor of scientific journals, their main communication vehicle. With the advances of the Internet in information and communication technologies, the means of production and dissemination have changed irreversibly, thus enabling the academic world to dominate publishing and distribution, which has given rise to a movement known as open access.

However, due to the impact factor and publishers' control over knowledge, open access to important scientific journals is not allowed and requires subscriptions. Nonetheless, open access and subscription-based journals are now also available on

Google and Google Scholar, whose meta search engines provide a fast and broad search for scientific literature through titles, abstracts and keywords.

In the formal writing of articles, the title, abstract and keywords have been the essential elements of knowledge representation since the appearance of the first scientific journals. Intellectual access is provided by organizing document representations in catalogs, bibliographies, indexes and databases (Hjørland 2003). Therefore, these representations are determinants of the visibility and measurement of the intellectual and social impact factor.

Scientific journals are, at the same time, an indispensable channel of expression and reception for the creators and consumers of information (Delgado López-Cózar, Ruiz Pérez and Jiménez-Contreras 2007). Until the emergence of the Internet, access to articles was controlled by online information retrieval systems that had very specific rules for the normalization of titles, abstracts and keywords. In the current digital environment, a growing number of scientific journals, especially those published by academic institutions, are available via open access to online repositories. This means that the conventional publishing world and its professionals have minimal presence and little control over the elements of documentary representation - titles, abstracts and keywords – having once contributed significantly to their elaboration by using specialized techniques and tools. Search engines, such as Google Scholar, specialize in delivering academic and scientific content by means of retrieval strategies based on full texts and natural language. However, nowadays authors themselves are responsible for providing the document representation elements (title, abstract and keywords) of their papers, and metadata of scientific journals are available electronically. In this context, the editorial policies established by journals, especially guidelines for authors as to standardization, style, structure, extension and format for writing and submitting their articles are particularly important.

International standardization bodies (ISO, UNESCO), stylebooks or style guides of publishing companies (Oxford University Press, SAGE), universities, scientific societies and professional associations (American Psychological Association) perform the standardization of scientific publications. Thus, they contribute to the process of systematizing and evaluating knowledge communication and dissemination.

2. Objectives and methodology

Considering the importance of these issues, the purpose of this exploratory study was to observe and analyze some editorial policies and guidelines provided for authors on writing their papers' title, abstract and keywords. Journals indexed in the Journal Citation Reports (JCR) of Librarianship and Information Science (LIS - Library & Information Science) and Communication Sciences (CS-Communication Science) were used as representative samples.

LIS was selected because of its research interest and its production of knowledge

with regard to journals in scientific communication and, essentially concerning indexing themes and summaries for elaborating titles, abstracts and for determining keywords in scientific articles. The analysis of guidelines for elaborating titles and abstracts and for determining keywords provided by journals in Information Science could, in principle, be considered as a parameter for other areas. CS was selected as an area of comparison because it belongs to the broad field of human science and because it contains a similar number of journals. A quantitative approach addressed a representative sample selected from the JCR taking into account the first 8 titles of each one of the four quartiles. The sample consisted of 32 scientific journals from the LIS area out of a total of 85 correspondents (37.6%) and 32 from the CS area out of a total of 82 (39%). The representative samples show, in descending order, an impact factor interval of between 4.180 and 0.154 in CS and between 7.268 and 0.022 in LIS. The total of 64 selected journals were found by means of Internet searches which allowed for identification of website addresses and access to information necessary for the research.

In the exploratory study performed, the editorial policies about the elaboration of titles and abstracts and the determination of keywords of each of these journals were observed and analyzed by means of guidelines items for the authors. To this end, a combination of qualitative and quantitative techniques was used.

In order to perform the quantitative and qualitative analyses, a spreadsheet was designed for data collection and processing containing 36 items grouped into four categories: journal identification data, guidelines for the title, abstract and keywords of the scientific article and, at the end, a field for notes and observations.

Both common and specific data are present in this model: a) identification of the scientific journal (title, web address, ISSN, ranking position, impact factor, type of access and standardization manual and style adopted); b) guidelines for the title of the scientific article (writing, translation, language of translation, section of the journal, indications as to the number and types of words, type of information content, subtitle, abbreviations, acronyms, symbols and formulas and style); c) guidelines for abstracts (writing, translation, language of translation, section of the journal, indications as to the number of words, type of information content, abbreviations, acronyms, symbols and formulas, style and inclusion of bibliographical references); and d) guidelines for keywords (writing, translation, language of translation, section, indication of the number of words and separation punctuation, vocabulary control and type).

Subsequently, the categories established for each knowledge area (Librarianship and Information Science and Communication Science) were analyzed by comparison in order to verify the use of specific aspects of knowledge organization and representation in editorial policies.

3. Comparative results of LIS and CS journals

3.1. Direction on guidelines and style guide

It appears that only 22.6% (n.7) of journals in the LIS sample present guideline or style guide. Specifically, in the 1st quartile there is one journal, in the 2nd quartile there are 5 journals, and in the 3rd quartile there is one journal. In terms of publishers, Taylor & Francis includes two journals while the remainder are from different publishers (Wiley, Elsevier, Emerald, Sage and Medical Library Association). When guideline and style guide are identified, there is no uniformity in denominations, but most of them refer to “Author guidelines”, “Guide for authors. Author information pack”, “Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals”.

The style guide prevails in 84.3% of the CS sample (n.27). In six of these journals, the style guide is identified as “Author Guidelines/Instructions for author/Submission guidelines” besides referring to APA 6th. In this group, there are two journals published by Sage, three by Wiley and one by Taylor & Francis, illustrating the widespread acceptance of APA rules. In addition, there are eight Sage journals that turn to SAGE Manuscript submission guidelines, evidencing a tendency to standardization in journals of the same publisher.

3.2. Guidelines for writing title

In LIS, 56.7% (n.17) of the sample present indications for writing titles, with five journals in each one of the first three quartiles and two journals in the 4th quartile. These indications are included in the generic sections entitled “Guide for authors”, in a special section designated “Title”, in “Format guidelines”, in “Manuscript submission” or “Manuscript requirements”. In this group of 17 journals, there are 10 that include guidelines about the number of words. These recommendations refer to titles of quite a short length, with two journals accepting titles of up to 50 words, while the remaining journals point to more reduced titles of 45 characters, including spaces, to 40 characters, or titles ranging from 6-12 words to 16 words. In terms of the type of words included in the text, there is only one journal with a specific guideline advising against the use of expressions like "Investigation of ..."; "Study of ..."; "More about ..."; "... revisited". Two journals only address the subtitle, indicating that the reference “research project” can be placed in this section or that it can be used to specify the content of the paper. There are also seven journals which advise that the title must not contain abbreviations, formulas or references, in order to make it shorter but also focused on essential information. Taylor & Francis recommend authors to think about words which are relevant for their field of study. To increase visibility in information retrieval systems, it is suggested that authors use a key sentence, emphasizing the need for a concise, precise and informative title.

In CS, 71.9% (n. 23) of journals include guidelines for titles in the Author guidelines, Submission guidelines or Instructions for authors sections. In five cases, the section is entitled “Help readers to find your article”, emphasizing that there is concern in creating titles that work as elements that enhance the visibility of articles. However, there are few concrete guidelines for writing titles, with only two journals in which a limit of characters for titles is mentioned, in some cases indicating a short title of 50 characters and in other cases of 40 characters. There are also four journals that suggest authors should think about the research terms that readers can use to look for information. In this regard, specific guidelines are provided as with the use of key sentences which are easy to read, considering that users search for expressions or phrases and not only isolated words. It is also suggested that the title should be understandable for a reader outside the field in question and that, whenever possible, abbreviations, formulas and numbers should be avoided. In addition, authors are advised to avoid expressions such as "Investigation of ..."; "Study of ..."; "More about ..."; "... revisited".

3.3. Guideline for writing abstracts

In LIS, 76.7% (n.23) of the sample present guidelines for writing abstracts in the same guideline sections as those for titles. In this group, there are 18 journals that specify the number of words to be taken into account in the abstract which varies from 50 to 250 words. There is no concern in adapting the type of abstract to the article because only one journal points out that there are significant differences between original research documents and review articles. For original documents, the description of the method and proceedings for reviews provide a different approach: first, there must be an indication of the primary aim of the review, the reasoning behind the choice, the main outcomes and the outcomes from the review as well as the conclusions, including implications for new research, applications or practice. Furthermore, there is no evidence that structured abstracts are common in LIS journals because only four indicate the need to create such an abstract: one of the journals requires the indication of objectives, outcomes and conclusions; two journals consider the possibility of 4 to 7 sections, some mandatory and some optional: Purpose (mandatory); Design/methodology/approach (mandatory); Findings (mandatory); Research limitations/implications (if applicable); Practical implications (if applicable); Social implications (if applicable); Originality/value (mandatory); while, the other journals require "Background", "Objective", "Methods", "Outcome", "Discussion" and "Conclusion". With respect to the use of abbreviations, acronyms, symbols and formulas, seven journals advise against and six journals do not permit the use of bibliographic reference. In terms of style for writing the abstract, 13 journals note that this section must describe the paper and indicate its importance; the abstract is highlighted as a general overview of the paper, enabling its dissemination; it is especially important to choose appropriate keywords to make the text visible. The

guideline does not refer to technical principles to guarantee the formality of the abstract, but to aspects that promote the retrieval of articles in search engines. Thus, authors who submit texts in Wiley journals, for instance, are directed to a topic from the section Author Guidelines for explanations related to Search Engine Optimization (SEO) for their article, which includes an indication of essential aspects and keywords in the first two sentences of the abstract since only these sentences appear in the search engine results. Authors are advised to repeat these keywords three to six times. For an optimal choice of keywords, Google Trends and Google Adwords are suggested. It certainly represents an innovation for authors/researchers who are asked to act as marketing agents of their own work. As for the abstract, it is also important to highlight the innovation provided by Elsevier Publications, which recommends that authors of articles published in its journals should elaborate a graphical abstract, a single, concise, pictorial and visual summary of the main findings of the article. The graphical abstract will be displayed in online search result lists, the online contents list and the online article. Graphical abstracts allow readers to quickly understand the main message of the article. It is also intended to promote interdisciplinarity and help readers quickly identify articles relevant to their research interests.

In CS, 96.9% (n.31) of the sample journals provide guideline for writing abstracts. In this group, there are 27 journals that determine the number of words, ranging from 100 to 250 words with different guidelines: 2 indicate from 100 to 150 words, 11 indicate a maximum of 150 words, 3 do not permit more than 200 words, one points to a limit of 250 words, five consider 200 words necessary and three journals require 250 words, while another journal requires 150 words and the last one allows from 150 to 250 words. With respect to the structure of the abstract, four journals present considerable differences between original research documents and review articles. For original documents, it is necessary to describe the method and proceedings. For reviews, there is a different approach: first the primary objective of the review, the reasoning for the choice, the main outcomes and the review outcomes and conclusions must be indicated, including the implications for new research, applications or practice. One journal requires a structured abstract covering the main factual points of the article, as well as a statement of the research objective or problem, method, results and conclusions while another requires a structured abstract with the following sections: "Background", "Objective", "Method", "Outcome", "Discussion" and "Conclusion". Concerning the style of the article, seven journals include relevant advice: one indicates not to start with "In this article...", but rather to provide a statement regarding the article's key points of interest; six Sage journals highlight the importance of the abstract because it has free access and it is where search engines seek information, allowing its retrieval by means of a user's search. For this reason, its guideline recommends repeating three or four descriptive key sentences, but without becoming abusive because Google can detect such language; five journals highlight the need for not using

abbreviations, footnotes or references, considering that the abstract can be used independently of the text which it describes. Two journals consider the possibility of creating and providing a video abstract, opening new ways for this component of scientific articles.

3.4. Guideline for determining keywords

Indications regarding keywords are given in 70% (n. 21) of the LIS sample journals presented in the author guidelines section. There are thus 20 journals with rules about the number of keywords. This number can vary between a minimum of three and a maximum of 12 keywords. There are five journals indicating 5 to 10 keywords and two journals indicating up to 6. The other indications are different. There are two journals that consider using five keywords or short sentences. One journal is more specific recommending that keywords be used in the abstract as well as giving an indication of relevant keywords and synonyms. It is highlighted that keywords are not only important for SEO, but they are also used by abstracting and indexing services as a mechanism to tag research content. Only 23% (n. 7) of journals include guidelines about a controlled vocabulary for selecting keywords. In one case, the possibility of using a thesaurus is admitted, but without specifying any, and in another case the use of MeSH terms is mentioned. Two journals present a list of recommended keywords. Only one journal indicates the use of a controlled vocabulary provided by the submission system. In addition, authors are advised to avoid abbreviations, as only abbreviations firmly established in the field may be eligible.

In CS, indications about keywords are found in 87.5% (n. 28) of the sample journals. Accordingly, there are 27 journals that require a specific number of keywords, ranging from a minimum of three to a maximum of ten. Within this range, there is a great diversity of keywords among journals. Thus, only three journals have similarities requiring 10 keywords, two journals require 6 keywords, four journals require 3 to 4 keywords, four journals demand 3 to 5 keywords, two journals require up to 10 keywords and another two require from 5 to 6 keywords. As for the type of keywords, only one journal indicates that the plural and the use of multiple concepts should be avoided, and that the use of "and", "of" as well as abbreviations must be restricted.

4. Discussion and conclusions

Due to the importance of titles, abstracts and keywords for the organization of knowledge in journal articles, this study analyzed the editorial policies under the rules and recommendations provided to authors of texts in a sample of journals indexed in the Journal Citation Report in Library and Information Science (LIS) and Communication Science (CS) in 2016.

The study evidenced the scarcity of scientific literature on the subject and, empirically, found a tendency for the standardization of journals belonging to the same

editorial group, sharing general indications and criteria, in such a way that these indications do not depend so much on the thematic area, or the position in the ranking, as on the editorial group.

On the other hand, the study reveals that the journals have a different behavior in LIS and CS in regard to their editorial policies on titles, abstracts and keywords. While 84.3% of CS journals present a standard or style guide, only 22.6% of the LIS journals do likewise.

The precise and expressive writing of titles of articles can contribute to improving visibility and retrieval from information systems. Indications about the elaboration of titles appear in 71.9% of CS journals and in 56.7% of LIS journals, included in specific sections inside the “Guide for authors”, “Format guidelines”, “Manuscript submission” or “Manuscript requirements”. These are concise indications about the maximum number of words and, to a lesser extent, about more appropriate terms, or terms that should be avoided.

Abstracts of articles are a powerful tool to facilitate access to original texts, and they are the most important aspect in the standards and recommendations studied. 96.9% of CS journals and 76% of LIS journals provide specific guidelines for writing abstracts in their articles. These guidelines differ somewhat between research articles and review articles. They deal with the number of words and, to a lesser extent, with structure and style. The most innovative aspects are a reference made by the publisher Elsevier to a graphical abstract on its platform, projected so as to allow readers to gain a quick understanding of the main message of an article, while two journals in the CS sample refer to a video abstract, opening new ways for accessing articles.

Keywords are the object of guidelines in 87.5% of CS journals and 70% of LIS journals. These indications deal with the maximum number of words and, to a lesser extent, with issues concerning appropriate terms and controlled vocabulary.

The study reveals that guidelines on writing abstracts, titles and keywords have little presence in the editorial policies of CS and LIS journals. These issues are more related to protocols of editorial management procedures than to the intrinsic quality of documentary products associated with scientific organization and representation.

The study shows that, in a digital context, it is necessary to increase the focus on rules and recommendations provided to authors of articles to improve the representation and retrieval of articles. This exploratory study concludes that it is necessary to probe more deeply and expand this analysis into more theoretical and applied research on the essential processes of knowledge organization and representation in editorial policies. It is also important to elaborate proposals for standardization and style manuals with instructions for authors of scientific papers.

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