Rate of Waste in Authority Names for the Web of Science Journals among Saudi Universities

Abdullah Al Otaibi

Dean of Scientific Research
Professor of Accounting – Faculty of Business Administration- Northern Border University – Saudi Arabia

Yaser Mohammad Al Sawy

Associate professor of library and Information Science – Faculty of Education and Arts – Northern Border University– Saudi Arabia

Abstract

The current study aimed at measuring the rate of loss in search results of the actual number of publications in journals indexed by Web of Science when not using the accurate official authority name as indicated by the Ministry of Education. Conducting a search using the authority name does not always yield complete results of all existing publications. Researchers in Saudi universities tend to use up to 10 different random names of universities when searching. This interesting fact has prompted the authors of this paper to conduct a study on the search results of 30 Saudi universities using the authority name as indicated by the Ministry of Education. The statistical analyses revealed that there is a high tendency for the wrong use of authority names. Results show that 8 universities were not found in the search results. Furthermore, other universities are losing between 10 and 30% of search results that reflect the actual number of publications. Consequently, the rank of each university, as well as the general rank of Saudi universities in the Web of Science, will be affected.

Keywords: Web of Science Ranking; Saudi Universities Authority Names; Web of Science advanced search; Boolean Research; Authority Control.

Introduction

The authority control is an essential element in the process of preserving the consistency of the authority access points in the bibliographic file depending on the authority file (Abdoulaye, 2002), and establishing logical links between the authority files and the bibliographic files, that is, between individual authority records and all the bibliographic records that use the same authority access point (Light, 2007).

Also, the list of standardized forms of authority used in the recording file is maintained by maintaining the authority headers to ensure that they are consistent, and new authority forms are added, and the file includes all referrals from and to the used headers.

Scientific publishing within the Web of Science is also a true mirror of the extent of the excellence of each university at the world level in the global research advancement within the approved classification, and the Web of Science provides access to the intellectual output of researchers through many of its research indexes (Moulaison, 2013), and the authority name is For each university, it is the main test through which to search to obtain direct results from the database, which can be defined as the approved name that the researcher affiliated with the university writes down when putting his personal data upon the final publication of the research (Weber, 2019), so it was necessary for the researcher to scrutinize the Using this name before placing it in the publishing container with extreme accuracy, as the search indexes in the Web of Science display the results according to the name available to it in the database, and when researchers use multiple forms of university names, this leads to the dispersal of the search results when all intellectual products are retrieved under The names used.

Therefore, the researcher noticed the multiplicity of using different forms of the university's name when publishing in global databases, including the Web of Science, which is a waste in obtaining the real and comprehensive output of each university separately, as well as the comprehensive output of Saudi universities.

The Study Problem

Through the researcher's work with the work team at the Deanship of Scientific Research at Northern Border University, it has been observed that researchers in Saudi universities use multiple forms for their universities when publishing scientific within the Web of Science and other global databases such as Elsevier, Scopus, where it did not include the use of a codified file for authority control. Despite the importance of this in achieving uniformity and stability in the authoritative availability points when searching and the extent of its impact on the accuracy of retrieval, a problem that has not previously been addressed or paid attention to when collecting the results of scientific publication for any of the Saudi universities.

Therefore, there is an urgent need to create a unified authority record (i.e. a single and approved authority name) to reduce the recurrence of different forms of the same forms of authority heads for Saudi universities and the

consequent accuracy in retrieval when searching. Hence, the main objective of the research study appears, which is to urge researchers in Saudi universities towards Building a unified authority file for the name of the university when publishing in international databases and journals, especially under the Web of Science system.

The Importance of Studying

The importance of the study is highlighted in the important role provided by the unified and approved authority file for the names of Saudi universities when publishing in international databases in terms of:
 - Providing a working tool for the researcher to use in Saudi universities as a system to codify and standardize the form of authority availability points upon retrieval.
   Reducing the repetitions of different forms of the same authority availability points for the names of Saudi universities.
   Accurate retrieval of research, articles, theses, and conference proceedings, the required information with high accuracy.
- Displaying all research results for the published intellectual production and available in global databases of all kinds and specializations under the unified authority name for each university, which leads to stopping the waste and dispersion in the final results of the real intellectual production of Saudi universities.

Objectives of the Study

1- Evaluating the system of retrieval of the authority names of Saudi universities, and comparing it with the multiple forms of names that researchers use as a signifier of the university name to know the strengths and weaknesses of the system of using the forms of authority names for Saudi universities.
2- Knowing the extent to which researchers are accredited by using the official names of Saudi universities that are used officially through the official website of the Ministry of Education in the Kingdom of Saudi Arabia.
3- The study aims to reach a proposal for a conceptualization criterion for controlling the authority names of Saudi universities, in which the study did not reach specific results for scientific publication within the Web of Science for its official authority name.
4- Urging Saudi universities, through the deanships of scientific research, in each of them, to standardize the authority name of the university upon publication, and to obligate its researchers to do so.
5- A call to publish the results of the study to researchers in Saudi universities so that the university's authority name is unified as a basic form when publishing in databases, journals, and conferences in a uniform manner.
6- Working to stop the waste in obtaining incomplete results for the real intellectual production of Saudi universities and what this affects the degree of classification of each

university as well as the general classification of Saudi universities.

Study questions

The study seeks to answer the following questions:
1- How efficient is the advanced search system (Boolean search) within the Web of Science in obtaining the real and complete results of the intellectual production of Saudi universities?
2- What are the forms of authority names for Saudi universities used within the Web of Science?
3- What is the effect of using the multiple forms of the authority name for Saudi universities on the real results of university classification?
4- What is the proposed vision for setting a unified standard for the authority name and what it requires from other forms used within the web of science advanced search system.

The limits of the study

1- Objective limits: The study deals with the subject of the unified authority control of the name of Saudi universities by searching the intellectual production published in the Web of Science database, and comparing it with the multiple names of the name of the university that do not appear in the search results when the authority name is used singly.
2- Qualitative limits: The study addresses all forms of university names used in the scholarly publication in the Web of Science database.
3- Linguistic boundaries: The study deals with the establishment of authority records in the English language.
4- Time limits: The study covers the period from 2016 to August 2019.

Study Methodology

The analytical experimental method was used for its suitability to the subject of the study, where the researcher with the study team took the following steps:
1- Observation: where the researcher and the work team noticed the absence of a standardized and unified authority file for the name of Saudi universities upon final publication in the Web of Science database, and the consequent repetitions of the different forms of the same authority availability points, and the resulting difficulty in accessing information vessels The required accuracy, which leads to a waste in the actual results of the classification of Saudi universities, either individually or completely for Saudi universities.
2- Conducting the experiment: where the researcher and the work team used the codified authority form from the Ministry of Education in the Kingdom of Saudi Arabia as a reliable authority name, with the use of other forms of university names when no results were obtained, taking

care to use the Boolean search tools through the advanced search of Web of Science for precise results.

Terminology of study

Web of Science
The Web of Science performs a broad subscription-based scientific index service previously operated by Thomson Reuters, and its group of journals has been called ISI Journals, i.e. journals operated by the Institute for Scientific Information. Beginning January 2017, Clarivate Analytics took over all the work of managing the Web of Science system, providing comprehensive services in the field of citation and citation searches (Bergman, 2012). It also provides access to many of the databases under it, which refer to research sources for specialized scientific research, this allows users to dig deep into specialized subfields of scientific and academic research.
Authority File
It is a record of the correct forms of the names used in the search to maintain the unification of the main entries. It is as close as possible to the list that lists the names of individuals and organizations. It is also defined as a list of the legal forms of the authority headings used for one of the names, and therefore it is a record with a single entry in the authority file that includes: Different forms of entry and cross-references (Zhou, 2013).
Boolean Search
It means the use of search using Boolean operators, whether it is "or", "and" or "nor". These operators are used to either narrow or expand the scope of the search. For example, if "nor" is used, we mean narrowing the search scope (Simkins, 2005); If the "and" operator is used, we mean the expansion of the search, but if "or" is used, it means the full search for all results of the term (Tomaszewski, 2016), then the full search for the results of the other term and obtaining aggregated and comprehensive results for all search terms. The research was (George, 2008).
Web of Science Advanced Search
 This index provides the ability to search specialized and advanced, for important elements such as (form, title, author, group of authors, editor, publisher name, DOI, year of publication, conference, address, contributor, main entity, auxiliary entity, street, city, country, postal address, text of support, place of research) (Pawade, 2019).
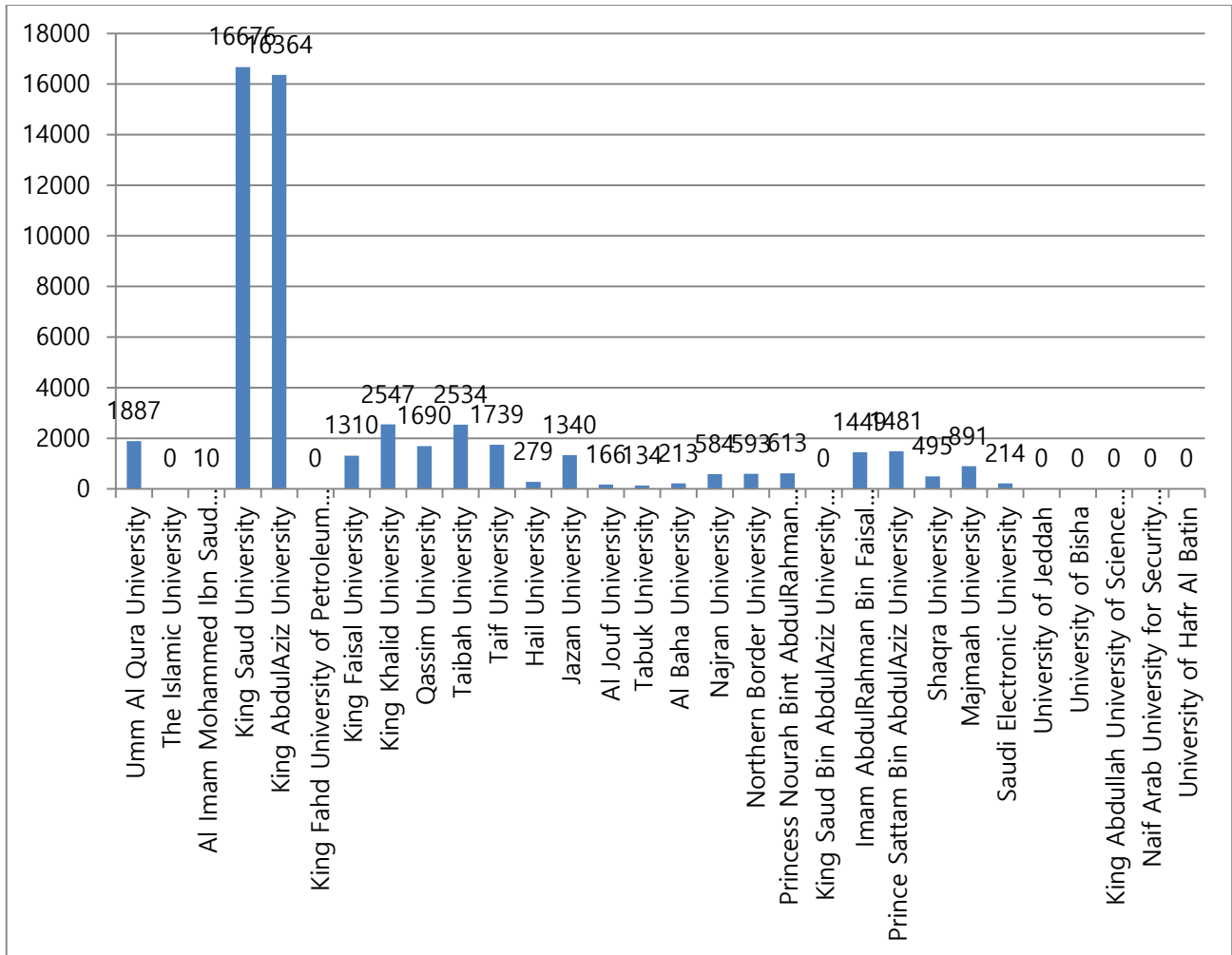
Study community

The study population is represented in the names of Saudi universities accredited by the Ministry of Education in the Kingdom of Saudi Arabia through the official website of the Ministry in English. The study included 30 Saudi universities:
https://www.moe.gov.sa/en/HigherEducation/governmenth ighereducation/StateUniversities/Pages/default.aspx

1- **Umm Al Qura University**
2- **The Islamic University**
3- **Al Imam Mohammed Ibn Saud Islamic University**
4- **King Saud University**
5- **King AbdulAziz University**
6- **King Fahd University of Petroleum And Minerals**
7- **King Faisal University**
8- **King Khalid University**
9- **Qassim University**
10- **Taibah University**
11- **Taif University**
12- **Hail University**
13- **Jazan University**
14- **Al Jouf University**
15- **Tabuk University**
16- **Al Baha University**
17- **Najran University**
18- **Northern Border University**
19- **Princess Nourah Bint AbdulRahman University**
20- **King Saud Bin AbdulAziz University for Health Sciences**
21- **Imam AbdulRahman Bin Faisal University**
22- **Prince Sattam Bin AbdulAziz University**
23- **Shaqra University**
24- **Majmaah University**
25- **Saudi Electronic University**
26- **University of Jeddah**
27- **University of Bisha**
28- **King Abdullah University of Science and Technology**
29- **Naif Arab University for Security Sciences**
30- **University of Hafr Al Batin**

Discussion and analysis of results

The authoritative name approved on the website of the Ministry of Education in the Kingdom of Saudi Arabia was used, and the advanced search index was used in the Web of Science database, and the following results were obtained for each university separately, with the researcher keen with the work team to include the following results, starting from 2016 through 2019:

(Figure no. 1)

Results

The study showed the following results:

1- The study proved that there is a clear gap between the use of the authority name approved for each university (the official name from the Ministry of Education) and the other names used in scientific publication in the Web of Science database by researchers in Saudi universities.

2- The study proved the existence of waste in the results for all Saudi universities when using the official authority name only when searching within the Web of Science database. The waste reached its extent at 100% in 8 Saudi universities, where no results were found with the official authority name approved on the website. The Ministry of Education through the Advanced search index within the Web of Science, and these universities are:
   - The Islamic University
   - King Fahd University of Petroleum And Minerals

   - King Saud Bin AbdulAziz University for Health Sciences
   - University of Jeddah
   - University of Bisha
   - King Abdullah University of Science and Technology
   - Naif Arab University for Security Sciences
   - University of Hafr Al Batin

When using a different authority name for the university name, different results appear for all previous universities, especially King Fahd University of Petroleum and Minerals. Through the use of the different authority name King Fahd University, the results showed a large number of research published within the Web of Science according to the following:

King Fahd University	2016	2017	2018	August 2019	Total
Total	1145	1181	1178	709	`4213

(Table no. 1)

The results also show a large number of research when using different authority names for the other seven universities.

4- The results and statistics of the research published for this study within the Saudi Universities Web of Science are not accurate and definitive, as the researcher with the research team of the study concludes when using different authoritative names for all 30 universities of the study, it is expected according to this conclusion to increase the results by between 10% And 30% of the general total for each university, as the presented results remain related to the coefficient of using the authority name approved by the Ministry of Education in the Kingdom of Saudi Arabia. For example, the use of all the authority names of the Northern Border University by researchers for the period from 2016 until the date of the study, followed by the result The intellectual thought of the university since its establishment in 2008 until the date of conducting the study, where the researcher with the research team reached the following:

(Figure no. 2)

OO=(northern border university or northern borders university or north border university or north region university or northern region university or northern border university arar or no border university or nbu or no borders university or nbu university)

(Figure no. 3)

5- There is a clear discrepancy among researchers in Saudi universities in the use of the authority name for the university, as they have no stability in that, it has been noticed that a large segment of them strive to create a name for the university based on their desire without relying on the standardized and standardized name of the university, which works on the existence of Waste in the research results of the intellectual output of the university.

6- Researchers in Saudi universities do not have the necessary instructions and directions to use the authority name of the university through scientific research or publications on this framework.

7- The deanships of scientific research in Saudi universities bear the responsibility for unifying the authority name of the university when contracting in supported research projects, as it remains the authority entrusted with managing all research operations until the final, correct publication of the name of the university.

8- The Ministry of Education bears the responsibility represented in its management of the research process at the level of the Kingdom in the necessity of controlling the use of the unified authority name for universities for all scientific research, and the need to adhere to it when applying to international journals, as well as during academic promotion processes.

Study Recommendations

Through conducting the study and its results, the researcher reached the following recommendations:

- Unifying the researchers' use of the authority name for each university by obligating the deanships of scientific research in Saudi universities to do so.

- It is necessary to prepare a list of all forms of multiple authority names for Saudi universities and provide them to the Customer Services Department of Web of Science to include these various forms

- The study on the Web of Science suggests the necessity of providing each university name with a unified fixed code that is indicative of it, and that the research in the journals under it is not accepted until after the university's fixed code is fulfilled, as the symbol includes (state-university), to ensure that research results are not wasted.

- The study suggests on the Web of Science that there be a separate scout to search for intellectual output under the symbol of the university.

- The study suggests holding introductory workshops under the auspices of the Ministry of Education and scientific research agencies in Saudi universities to introduce the importance of using authority names for Saudi universities.

References

[1] Abdoulaye, K. (2002). *Perceptions of Cataloguers and End-Users towards Bilingual Authority Files*. Electronic Library, 20(3),202.

[2] Bergman, E. (2012). *Finding Citations to Social Work Literature: The Relative Benefits of Using "Web of Science," "Scopus," or "Google Scholar"*. Journal of Academic Librarianship, 38(6),370-379.

[3] George, M. (2008). *The Elements of Library Research: What Every Student Needs to Know*. Princeton University Press. ISBN-978-0-6911-3857-2

[4] Light, M. (2007). *Moving beyond the Name: Defining Corporate Entities to Support Provenance-Based Access*. Journal of Archival Organization, 5(1-2),49-74.

[5] Moulaison, H.; Stanley, S. (2013). *Beyond Failure: Potentially Mitigating Failed Author Searches in the Online Library Catalog through the Use of Linked Data*. Journal of Web Librarianship, 7(1),37-57.

[6] Pawade, D. (2019). *The Case Study on the Effectiveness of Online Learning Management System to Impart the Knowledge of Advance Course*. Journal of Educational Technology, 15(4),40-47.

[7] Simkins, M. (2005). *Web Research: Ten Tips for the Techno-Challenged*. Technology & Learning, 25(11),38.

[8] Smith-Yoshimura, K. [et. Al] (2104). *Registering Researchers in Authority Files*. OCLC Online Computer Library Center. **ISBN:** 978-1-55653-487-4.

[9] Tomaszewski, R. (2016). *The Concept of the "Imploded Boolean Search": A Case Study with Undergraduate Chemistry Students*. Journal of Chemical Education, 93(3), p527-533.

[10] Weber, H., Becker, D., Hillmert, S. (2019). *Information-Seeking Behavior and Academic Success in Higher Education: Which Search Strategies Matter for Grade Differences among University Students and How Does This Relevance Differ by Field of Study?, Higher Education.* The International Journal of Higher Education Research, 77(4),657-678.

[11] Zhou, M. (2013). *A Systematic Understanding of Successful Web Searches in Information-Based Tasks.* Educational Technology & Society, 16(1),321-331.