Reliability of Hijacked Journal Detection Based on Scientometrics, Altmetric Tools and Web Informatics: A Case Report Using Google Scholar, Web of Science and Scopus

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Abstract This paper presents a case report on detecting hijacked journals. Towards identification of a fake journal website and preventing a hijacked paper, we use different tools including Google Scholar - as an altmetric tool, Web of Science (WoS) and Scopus, both as scientometric databases, to distinguish fake website from a legal (printed) journal. Our evaluation shows that analysis of a doubtful website should be done not just using Google Scholar. In fact, use of scientometric tools for tracking prior publications of the journal is compulsory. Main result of this case study is that in some uncommon cases, fake websites may convince scientometric databases in order to be fully/partially indexed along with an abstracting of their hijacked papers. Therefore as a results, we should check both WoS and Scopus for verifying a fake website.

1. INTRODUCTION
Predatory journals and publishers have been a major threat to academic research community for many years [1]-[3]. The major challenge for researchers always has been in identifying and eliminating these predatory journals. Since last few years, a new version of predatory publishers, the hijacked journals have attacked the research community in a big way. Hijacked journals are legitimate academic journals for which duplicate/fake websites are created by malicious third party or criminals. Probably, a different type of Phishing attack, these fake websites copy all the contents available in the website of the legitimate journal like Impact Factor (IF), ISSN number, Editorial Board information, indexing and archiving information. They then send attractive call for papers to researchers all over the world inviting them to publish with these fake journals for a very high fee. These attackers particulary target the researchers in desperate need for publications. With the concept of Publish or Persih existing in many countries, many academicians fall to this trap. Authors receiving these emails are attracted by the indexing information like Scopus, Web of Science or the Impact Factor value of the journal. They then click the link of the journal given in the email and proceed to submission, payment of author fee and publication. Thus money and valuable research paper would be lost to these fake websites [4]-[6].

Currently, the academic community is in a dilemma, unable to efficiently tackle this problem. Editors of many legitimate journals have started displaying the list of fake journals in their websites to help potential authors. The objective of this research article is to show the research community, how duplicate/fake journals...
can be identified using Google Scholar, Web of Science and Scopus using an example case study. We believe that this research paper would become a valuable reference for all the researchers involved in publishing research results in journals [7]-[10].

2. CASE STUDY

In this study, we aim to evaluate a well-indexed journal entitled *Journal of Engineering Technology* (JET). This journal has some features which make it suitable for hijacking, see Table 1 for more details. According to Scopus/ScimagoJR: “JET is a refereed journal published semi-annually, in spring and fall, by the Engineering Technology Division (ETD) of the American Society for Engineering Education (ASEE), and is indexed by the Engineering Index (EI) Compendex and the Science Citation Index (SCI). The journal was first published in 1984 and has since become one of the major publication venues of refereed scholarly works for engineering technology educators. The purpose of the Journal of Engineering Technology® is spelled out in the JET Editorial Policy document”. In Figures 1 and 2, some papers published in a fake website of this journal are observable.

Table 1. A hijacked journal for case study

<table>
<thead>
<tr>
<th>Journal Name</th>
<th>Indexing</th>
<th>ISSN</th>
<th>Original Website</th>
<th>Fake Website</th>
</tr>
</thead>
</table>

* This journal mainly publishes extended versions of some conference papers presented at conferences of American Society for Engineering Education (ASEE).

** We couldn’t find it, however it seems that the website does not exist. Just some of titles published by real journal can be found as conference versions on ASEE website; for example see the case ordered as 7th in Figure 7 (by Sriraman et al., 2017) via this link ([https://www.asee.org/public/conferences/78/papers/17663/view#](https://www.asee.org/public/conferences/78/papers/17663/view#)).

*** Based on Scopus record through ScimagoJR, the main website of this journal is ([https://www.engtech.org/jet](https://www.engtech.org/jet)), however we can not approve it.

Figure 1. Fake website for the Journal of Engineering Technology ([www.joetsite.com](http://www.joetsite.com)); this figure shows two evaluated articles in Volume 6, Issue March (Special Issue), 2018.
3. GOOGLE SCHOLAR RESULT

In this section, result of searching the fake website of JET through Google Scholar search engine is discussed. As seen Figure 3, Google Scholar as an altmetric tool for promoting scientific works is not a reliable way to verify originality of a journal website.

Figure 3. Google Scholar supports the fake website of JET

4. SCOPUS RESULT

Here, we want to detail how to use Scopus database in identifying fake websites? Checking articles claimed as published documents of doubtful websites in Scopus and Web of Science (WoS) is a very reliable way to take a decision about authenticity of a journal website. If there are many recent papers (do not select online first/ahead of print/early-cite papers, and also papers from the last published issue, because indexing may be time-consuming) which have not been abstracted in claimed indexing databases, the website is then fake. For example, we could find the doubtful website claiming the Journal of Engineering Technology with ISSN: 0747-9964 (as per Table 1, this ISSN is for a journal indexed by both WoS and Scopus), then we are going to verify it using Scopus.

Figure 1 shows some papers published in this website (www.joetsite.com). Two papers were selected which are observable in two color boxes (orange and blue boxes). In this step, we do analysis on the paper of Figure 2. As seen in Figure 5, its title has been searched through Scopus search engine and the search result is according to Figure 6. The result is “No documents were found”. If we find many such cases in this website, therefore we can confidently say that this website is fake and there is a fraud. In this specific case, it is fake because there many unavailable papers on Scopus.
Figure 4. JET details provided by ScimagoJR (Scopus)

Figure 5. Searching article determined by orange color box in Figure 1 using Scopus search engine

Figure 6. Result of search engine for the case searched in Figure 5
In addition to above case, some published papers of the original journal may be published in a fake website, so in the cases that some papers of a doubtful website are searchable in Scopus or WoS and some are not, you should carefully check its publishing information and resolve its Digital Object Identifier (DOI), if applicable (having a valid DOI related to a doubtful website is not important, so the main point is to resolve mentioned DOI in Scopus or WoS towards that doubtful website). In a very infrequent case in 2017, we observed that the fake website could convince Scopus in order to do indexing of paper as the original on which Scopus did abstracting for papers published in this website. A wonderful point in this experience was to see some papers of both original journal and hijacked version concurrently whereas they have different publishing information (volume, issue, etc.) but under a unique ISSN. As follows, we will detail the observation. Thus as a result, we think that authors should check both WoS and Scopus, not just one of them (if applicable). In our case study on the journal described in Table 1, although Scopus has removed most of papers received from the fake website (in Nov. 2018, we couldn’t find 2017 papers again on Scopus), but we can still find a paper of this website published in 2018 among many papers from the original journal. Figure 7 indicates three papers for the journal with ISSN: 0747-9964 whereas one of them is for that fake website and has completely different publishing information. This paper is indeed observable in blue box of Figure 1.

Figure 7. Three articles found for “ISSN: 0747-9964” on Scopus (data acquired in Nov 2018)

5. WEB OF SCIENCE RESULT

In this section, verification is performed by WoS. Fortunately, WoS in this specific case is clear and does not cover any document of the fake website (this last sentence doesn’t mean that we believe WoS is better than Scopus!). Its sample results are shown in Fig 8 without coverage of the fake website. In addition, statistics provided by WoS would clearly demonstrate a fact against the fake website, see Figures 9 and 10.

Figure 8. WoS Search on JET does not include papers of hijacked version (data acquired in Nov 2018)
Figure 9. Citation rate (times per year) of main journal in WoS (Source: data acquired in Feb 2019 through WoS)

Figure 10. Number of publications per year for main journal according to WoS (Source: data acquired in Feb 2019 through WoS; JET has had a continuous coverage by WoS since 1998)

6. CONCLUSION

Initially, we discussed the importance of eliminating predatory publishers and journals and then highlighted the new version of predatory journals, the hijacked journals. Currently, the major challenge faced by the research community is in accurate identification of these fake websites. Our research aimed at displaying to the research community, how duplicate/fake journals can be identified using Google Scholar, Web of Science and Scopus using a case study. We used the example of the legitimate and well established journal, Journal of Engineering Technology and displayed how fake journals exist with similar name and content. We displayed the results with Google Scholar, Scopus and Web of Science and showed that many fake journals and duplicate articles exist. This technique can be easily replicated by other researchers and can be used to identify potential fake journals. Thus, researchers can avoid fake journals and can publish their research papers in legitimate journals with confidence [11]-[14]. Furthermore, we aim to come up with a comprehensive list of hijacked journals and a simple tool that can be used by researchers to detect these fake journals [13].
REFERENCES


