A Review of the Research on the Quality Evaluation of Academic Papers

Yishuang Liu [1, b], Ren Mu [1, a], We Cui [2, c]

[1]School of management, Inner Mongolia University of Technology, Nei menggu 010000, China

[2]School of science, Inner Mongolia University of Technology, Nei menggu 010000, China

[a]568387304@qq.com, [b]903911385@qq.com, [c]568387304@qq.com

Abstract

As one of the main achievements of scientific research of academic papers, How to effectively evaluate the academic level and influence of academic papers has always been the focus of research in the field of bibliometrics. On the basis of analyzing the external factors and influencing factors influencing the evaluation of academic papers, This paper reviews the main evaluation methods of academic papers at home and abroad, Finally, the paper points out the future development trend of the academic papers.

Keywords

Academic Papers; Influencing Factors; Evaluation Methods; Development Trend.

1. Introduction

Academic papers as the main form of scientific research activities, The academic level and influence evaluation method has been widely concerned by the academic circles. Through the evaluation of the academic level and influence of academic papers, we can foresee the scientific events which have a great influence on the future scientific circles, Thus,enabling the relevant scientific research institutions to develop appropriate policies, And thus effectively promote the development of academic papers.

At present, there are two main categories of evaluation methods for academic papers. The quantitative evaluation method based on citation analysis and the qualitative evaluation method with peer review as the main content. Citation analysis method through the establishment of scientific metrological index system to achieve the evaluation of academic papers, has been at home and abroad are very important [1]. In 1955, Garfield first proposed the citation number of academic papers as the measurement index to evaluate their academic level and influence, which laid the foundation of the citation analysis in recent decades as the evaluation of academic papers. Peer review, also known as expert review, is the same research field of experts to evaluate the results of the method, but also a common domestic and foreign academic evaluation methods. For the exploration and controversy of the evaluation methods of academic papers, the academic circles have not stopped, whether it is qualitative evaluation methods or quantitative evaluation methods, have their corresponding advantages and disadvantages, so this article summarizes the evaluation methods of academic papers.

2. Analysis of Influencing Factors of Academic Papers Evaluation

The academic level and influence of academic papers will be affected by many factors, which can be divided into two categories: external factors and internal factors.

2.1 External factors

The external influencing factors refer to the fact that scholars in the evaluation of academic papers will be subject to the objective factors other than the content of the interference, these factors are certain attributes of academic papers rather than on knowledge contribution. External influence factors do not directly determine the academic level and influence of academic papers, but they can provide an indirect basis for evaluation, (1) Journal of prestige factors[2]. There is a direct relationship

between the prestige of the journal and the academic level of the academic paper, Influencing factors as a quantitative indicator, can be more just to evaluate the reputation and level of journals. The greater the impact of the journal, the higher its reputation, In the same academic research in a leading position, theoretically speculated that the published academic papers have a higher academic level and influence, which is more likely to lead the relevant scholars attention and reference, many scholars confirmed this relationship through empirical research. (2) the author reputation factor. The relationship between the author and academic prestige also the academic level and influence, It is generally accepted that the academic level of academic papers published in the specific subject area with higher visibility or from the authoritative institutions will be higher and more influential, and the academic papers written by the prestigious authors will be selected first and foremost, The so-called "halo effect". (3) Citation factors. Citation is an overall reference for an academic paper. The weight of the citation can reflect the academic level of the academic paper. In general, when an academic paper cited a high quality and quantity of documents, it shows that the author has the latest academic developments, the research content is more novel and the academic level of the thesis is higher. (4) co-author factors.Scientific research cooperation is to achieve their scientific research objectives or to achieve the common purpose of producing new scientific knowledge, scientific research personnel to carry out scientific mutual aid activities.

2.2 Internal factors

The internal factors of the evaluation of academic papers refer to the quality of academic papers, The academic quality of the published academic papers is the most important factor. However, it is very difficult to quantitatively analyze the content of academic papers, The scholars focus on the relationship between the level of research results of hypothetical experimental papers and the citations of papers[3].

Based on the above analysis of the external factors and internal factors, Prestigious authors published in the higher prestigious journals, and academic papers cited a large number of co-operatives and scholars, the published academic papers will have a higher academic level and influence; At the same time, the analysis of the content of academic papers is also the focus of academic research.

3.   Analysis of the main evaluation methods of academic papers

Identifying scientific papers that have a high academic level and influence to predict scientific events that have a significant impact on the future scientific community, and promote the development of scientific research. Therefore, the evaluation of academic papers has been much concerned by the scientific community at home and abroad[4]. At present, the evaluation methods of academic papers are divided into quantitative evaluation methods based on citation analysis and qualitative evaluation methods based on peer review, Specifically includes the following five:

3.1 Reference analysis and evaluation method

The method based on external citation analysis is the most commonly used quantitative method to evaluate the influence of scientific papers. It is mainly based on the citation relationship, Objective and quantitative identification of highly influential academic papers, The citation of academic papers is the recognition and utilization of the achievements of predecessors, It can reflect the relative importance of the results and the relationship between the development of knowledge inheritance, From the point of view of the utilization of scientific research achievements, the influence and position in the field of science and technology are explained. Such as the absolute number of papers based on academic papers, the impact factors and cited half lives of academic journals, Based on the author's H index and G index and the selection system of the core journals.

3.2 Peer review method

Peer review method is a kind of subjective qualitative evaluation method, In all levels of scientific research and evaluation activities are widely used, Theoretically speaking, peer review should be the most scientific method to evaluate the influence of scientific papers. Because the reviewers are often

senior experts in the subject area, They have the right to speak on the academic ideas presented in the paper[5]. But in fact, peer review itself has obvious personal subjectivity, Making peer evaluation difficult to evaluate its role and ensure the absolute fairness of evaluation. In addition, there is still a high cost and take a long time and other factors.

3.3 Network metering evaluation method

Since the paper can be published online, Academic paper users can not only read papers from paper journals but also from the network to obtain the contents of the paper, Internet has become the main way to obtain information and resources for scientific research workers . With the support and assistance of the relevant technology, the user's click on activities on the Internet interface can be completely recorded by the background system, These data can accumulate a large amount of data in a short time compared with traditional citation data, With real-time absolute advantage, these click browse and download behavior is a necessary link in the academic papers to be spread, The paper media era, the use of large amounts of data statistics and use is almost impossible[6]. The arrival of the network information age, so that the use of each network of scientific and technological literature data have become visible.

3.4 "Altmetrics" evaluation method

"Altmetrics" in 2010 by J. Priem first put this concept on Twitter, Then scholars at home and abroad began to enrich its theoretical content . "Altmetrics" provides the possibility for the evaluation based on the scientific communication process, Academic papers, especially after the publication on the network, the author and research colleagues and the public through the network tools for direct, real-time and efficient scientific exchange, This evaluation is more transparent and open with the help of reader behavior, Secondly, "Altmetrics" broadens the scope of the influence of academic papers, "Altmetrics" attached importance to the impact of other scientific exchange activities, Therefore, the "Altmetrics" provides a possibility for the full description of the influence of the paper.

3.5 Based on the content evaluation method

The evaluation method based on the content of the thesis refers to the evaluation of academic level and influence from the perspective of academic content. The external reference index analysis method, the alternative metrology method and the network analysis method ignore the understanding of a large number of real text data, which can not fully reflect the academic level of academic papers, Although these highly cited core academic papers have a greater impact on the change in knowledge structure, it is not the key to potential scientific change[7]. With the development of information technology, especially natural language processing, full text retrieval, text mining and other technology development, so the evaluation of academic papers by using the content of academic papers must be the mainstream of future evaluation.

4. Summary

Many scholars believe that the quantitative evaluation methods and qualitative evaluation methods are not only different in the evaluation of the subject, purpose and standards, but also have their own advantages and disadvantages, To ensure that the evaluation results of the objectivity and impartiality, can not only rely on a certain method. The comprehensive evaluation method refers to the combination of quantitative evaluation and qualitative evaluation. At present, many scholars have put forward their own comprehensive evaluation methods, the citation analysis method combined with peer review of academic papers. Peer review can give full play to the advantages and expertise of experts, citation analysis method to the expert review of the subjective judgments to provide objective data and reference.

Reference

[1] Wilson J. The white cube in the black box: assessing artistic research quality in multidisciplinary academic panels [J]. Assessment & Evaluation in Higher Education, 2015, 41:1-14.

[2] Rodríguez R, Rubio G. Teaching Quality and Academic Research [J]. International Review of Economics Education, 2016, 23:10-27.

[3] Zhang L Y, Lan C Y, Qi F, et al. Development pattern, classification and evaluation of the tourism academic comunity in China in the last ten years: from the perspective of big data of articles of tourism academic journals.[J]. Tourism Tribune, 2017, 58(4):235-244.

[4] Bell M. A Case Study of an Online Role Play for Academic Staff. [J]. Case Studies, 2001:11.

[5] Stowell M, Falahee M, Woolf H. Academic standards and regulatory frameworks: necessary compromises? [J]. Assessment & Evaluation in Higher Education, 2015, 41:1-17.

[6] Hoessler C, Godden L, Hoessler B. Widening our evaluative lenses of formal, facilitated, and spontaneous academic development [J]. International Journal for Academic Development, 2015, 20(3):1-14.

[7]Petersohn S. Professional Competencies and Jurisdictional Claims in Evaluative Bibliometrics: The Educational Mandate of Academic Librarians. [J]. Education for Information, 2016, 32(2):4.