

Publications: A Viable Vehicle for Dissimulation of Knowledge or a Vital Statistic for Generation of Publishers' Income?



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Abstract

The quality and number of publications have long been considered as a vital foundation component to support the tenure and/or promotion of an academic and his career. It is also an important process to disseminate research results for the benefits of academia, industry, government and the public. The process is particularly important and of public interest if the research published is supported by public funds. Throughout the past few decades, the number of publications produced by an academic institution has become an indication of the research strength of the institution and a vital statistic in the academic ranking of the institution worldwide. However, all the statistical data and ranking criteria are primarily under the control of publishers. As a result, publication of research papers and the statistical tools for the analysis of relative importance of these published works have become income generators of the publishers, resulting in the exponential increase in the number of research papers but significant deterioration of their quality. Such malpractice also has tremendous impact on the academic ecology.

Introduction

Higher education is being transformed continuously by public policies and societal forces for the good and the bad [1]. The number of academic institutions is increasing exponentially worldwide. Many traditional values of higher education are diminishing in face of rapid technological developments and mounting economic pressure. Fees and research funds are the two major regular income sources of most academic institutions. Academic institutions are thus spending much more effort on recruitment of students, in particular foreign students or out-of-state students in the U.S., for the generation of income from fees to support the operating expenses of the institution. Faculty members are also under tremendous pressure to secure research funding. The situation can be acute for private institutions, and public institutions are not in a much better position due to diminishing public support for higher education [1]. Improvement of the global ranking of the institution may be an easy path to succeed in both approaches for increasing the institution's income. The easiest way to manipulate the ranking system is by ways of publications and citations, resulting in the exponential increase in the number of research papers but significant deterioration of their quality. Moreover, the academic ecology has also been significantly deteriorated in the process.

The publication game

Academic publications are supposed to disseminate research results for the benefits of academia, industry, government and the public. The contents of publications are supposed to be accurate, of interest to the readers and worthy publishing. In the 1980s, an assistant professor with 15-20 quality journal papers could probably be awarded tenure and promotion in many reputable universities in the U.S. However, in the 2010s, a doctoral student in Asia may have published more than 20 journal papers before filing his dissertation. An obvious question is: How can the research of a doctoral student be of the quality and quantity to publish so many papers of interest to the readers and worthy publishing? A more fundamental question is: Has the process of publication become a game? My answer to the question is affirmative. More importantly, the game is fueled by university administrators and publishers, and the situation is worsening in many parts of the world, in particular Asia.

Researchers prepare manuscripts on their research results and submit them to publishers for possible publication without any monetary benefits. Reviewers review the submitted manuscripts on a voluntary basis. Most editors and members of the editorial boards handling the technical aspects of

manuscripts are volunteers. Therefore, the costs of manuscript preparation and review prior to publication are minimal to the publisher. After acceptance of the manuscripts, publishers bear the costs of copyediting, printing and distribution of the resulting publications but they reap all the monetary benefits of the publications. The subscription cost paid by libraries for these academic publications are considerably higher than their printing and distribution costs, resulting in a significant profit margin to the publishers. More publications would thus translate to more income. It is a trend in the publication industry that many publishers are holding annual meetings in expensive hotels serving exquisite lunches with researchers in different Asian cities to promote the publication industry.

Digestive tools are required to analyze, understand and disseminate such a vast volume of publication data. As a result, the publishers develop websites, statistical tools, databases, indices etc. to analyze and quantify the publication data already in their control. More importantly, academic institutions have to subscribe to these websites, statistical tools, databases etc., creating new income sources for the publishers.

It should be recognized that it is extremely difficult, if not impossible, to measure the quality of publications accurately and objectively. Nonetheless, the number of publications and the number of cited references of these publications become the two most objective statistical indicators of the quality of publications. The number of Nobel Laureates of an academic institution is obviously not correlated to the number of publications or the number of cited references of the institution. It is quite obvious that the number of publications or the number of cited references generated by an academic institution is no measure of her real research strength. However, these statistics become the driving force for publications and cited references. It is evident that the annual number of publications has grown exponentially in recent years as shown in Figure 1 [2]. Moreover, the annual number of cited references has grown at an even faster rate as shown in Figure 2 [2].

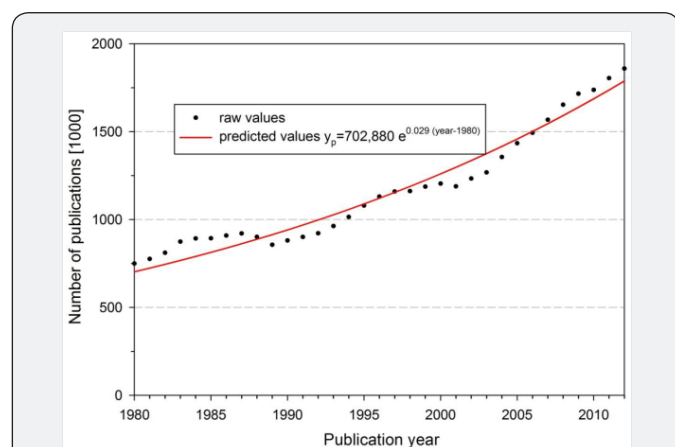


Figure 1: Exponential growth of scientific output from 1980 to 2012 [1].

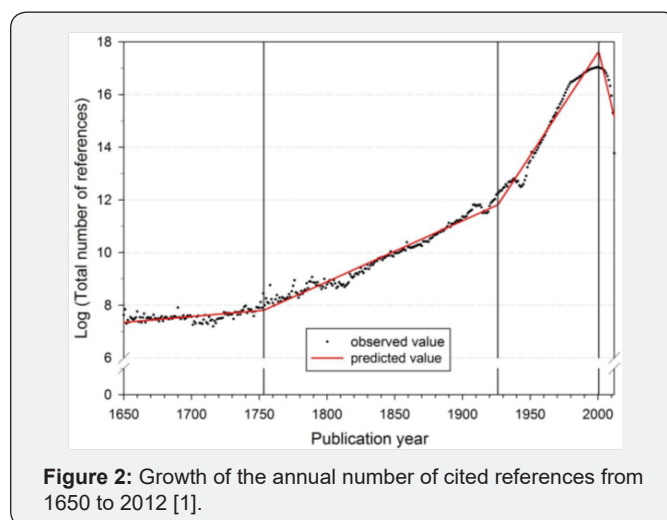


Figure 2: Growth of the annual number of cited references from 1650 to 2012 [1].

Impact

University administrators always praise researchers of high productivity in terms of quantity but not quality, and high citation index. The practicality and reasonableness of such high publication productivity has never been questioned. It is quite obvious that the publication productivities of these researchers are higher those of fiction writers, indicating it is practically impossible to conduct any quality research. Senior faculty members are including their names onto research papers of junior faculty members without participating in the research. Hiring post-doctoral researchers to generate research papers from their doctoral research becomes a routine but unethical practice. Minimal effort is spent on the nurturing of doctoral students to enhance publication productivity. Multiple publications and plagiarism committed by senior and even reputable faculty members are not uncommon [3]. However, university administrators always overlook these unethical acts and tradition values of academia, so as to maintain the ranking of the institution.

Junior researchers are forced to opt for quantity but not quality of publication. Immature ideas without proper scrutiny or verification are published using flimsy research results. The cited references in their publications may not be relevant. Their research results are partially stolen by senior faculty members through ghost co-authorship. They have to spend most of their efforts in publication but not in teaching, resulting in deterioration of quality of teaching [4].

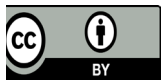
Conclusion

Publication has become a game to enhance the ranking of institutions of higher education. The number of publications and the number of cited references have grown exponentially in recent years. However, the phenomena are not a reflection of the quality of research or publication. University administrators are supporting the development of the unhealthy phenomena to enhance the income of the institutions. Publishers are

fueling the phenomena to increase their income. Publications are in general no longer a viable vehicle for dissimulation of knowledge, but a vital statistic for generation of publishers' income through the sales of publications and associated websites, databases, indices for quantification of the vast amount of publication data.

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