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Prizing De Solla Price's Circumvent

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ABSTRACT

This paper presents a study on the works of Derek J. De Solla Price who is reputed to be the founding father of the field of scientometric. A brief overview of the scientific exploits of de Solla Price was made with a focus on his advanced study on bibliometric and information science. The error introduced by the trivial modification of the contagion success model was identified and discussed with elucidatory expositions. The implication of resulting prizing system which is a derivative of De Solla Price's works are also identified and discussed. This study provides the rationale for gathering knowledge to learn and improve future designs and implementation in citation analytics.

Introduction

De Solla Price was a notable scientist with widespread influence. His scientific exploits spanned the natural sciences, particularly the physical and the mathematical sciences. While the scientific career began as a laboratory assistant in a physics laboratory, however, his scientific endeavours culminated in information science where he was/is regarded as a specialist scientist for the advanced study in bibliometric. His work on the history of science which began in the Cambridge University during his doctoral studies has gained widespread attention which lasts till date. While his works have been much prized and considered very valuable by many scholars world over, however, at the same time, some significant flaws have been identified with the fundamental principle which anchors his works. Specifically, Clauset, (2013; 2011); Adedayo (2014a,b) and Adedayo (2015a,b,c); have identified serious deficiencies with the principle used in the De Solla Price's bibliometric model. The opinion that the probability that an author would be cited being proportional to the number of existing citation to the author has been queried.

In: "Pricing De Solla Price's Circumvent", Adedayo (2015a) identified the errors made in the foundations laid by Derek J. De Solla Price. In this study – "Prizing De Solla Price's Cirumvent", attempt is made to make clarifications on the possible consequences of continued prizing of circumvent made by de Solla Price. The significance of this study coincide with the goals/objectives of evaluations in general which allow for development of a better understanding of the process of change, and finding out what works, what doesn't, and why. This also provides the rationale for gathering knowledge to learn and improve future designs and implementation.

De Solla Price's Circumvent

In: A general theory of bibliometric and other cumulative advantage processes (Price, 1976), De solla Price laid the foundation of the system where citation is regarded as a means to distribute credits in scientific communication. De Solla Price opined that it is common in bibliometric matters and in many diverse social phenomena, that success seems to breed success. "A paper which has been cited many times is more likely to be cited again than one which has been little cited. An author of many papers is more likely to publish again than one who has been less prolific. A journal which has been frequently consulted for some purposes is more likely to be turned to again than one of previous infrequent use" (Price, 1976). A trivial modification of the contagion success model was made to be single-edged so that success becomes more probable with previous successes. A modification of failure was also made to have no subsequent effect in changing probabilities, because failure does not constitute an event as does success. Thus lack of publication is regarded as a non-event, and only publication becomes a remarkable event.

In US and UK, promotion and grants receptions are now based on how many times an author/article/journal/institution has been cited in publications (Saha et al. 2003; Seglen, 1997; Lowy, 1997). In the attempt to develop the model for the credit system in scientific communication, De Solla Price introduced some modifications; as a result, some of the purposes of citation were circumvented. This led to the erroneous belief that the sole purpose of citation is to attribute credits. While a secondary purpose of citation may include attribution of credits, however, the primary purpose is to indicate the source of the opinion being expressed in the scientific communication. Other secondary purposes may include: to avoid plagiarism, to authority and credibility to a claim. Also, often times citations are made to indicate that the expressed opinion did not emanate from the citing author. The citing author uses citation to express doubts, or to identify the source of errors directly. This way, the citing author technically dissociates from the expressed opinion. Ordinarily, not all stated information in a scientific communication is cited. It is only information that is not well known that are required for citation. Mostly, obscured information goes with elements of uncertainty and doubts.Often times, citations are made to establish justification for the research being communicated in a scientific report. Justifications for research are borne out of established facts of limitations of status quo knowledge. Limitations of status quo knowledge are expressed in terms of insufficiency, laxity and/or flaws in the present knowledge. Insufficiency is indicated in the level of

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comprehensiveness and granularity of the research data. The scope of the research affects the comprehensiveness of the data generated by the research. A research with wider scope gives more comprehensive data, and should be adjudged to be more quality than a narrow scope. Laxity is expressed in the level of precision of the data, while flaws indicate the accuracy of the data. Citations made to justify a research can be expressions of insufficient, lax and/or flawed knowledge.

Further still, in scientific communications where a review of literature is presented, knowledge and ideas that have been published relevant to the subject of interest is conveyed. Identification of the gaps, opposing views, strengths and weaknesses of the published knowledge is made. Insight and awareness to differing ideas, arguments, theories and approaches is provided by citation to the relevant articles. Essentially, the literature review sections are disparate, and contain citations to articles of conflicting standpoints.

Table 1. Previous Derek De Solla Prize Awardees

S/N	Name	Year of Award
1.	E. Garfield	1984
2.	H.J. Moravcsik	1985
3.	T. Braun	1986
4.	H. Small, V. V. Nalimov	1987
5.	F. Narin	1988
6.	J. Vlachy, B.C. Brookes	1989
7.	A. Schubert	1993
8.	R. K. Merton, A. F. J. van Raan	1995
9.	B.C. Griffith, J. Irvine & B. R. Martin	1997
10.	W. Glänzel, H. F. Moed	1999
11.	L. Egghe, R. Rousseau	2001
12.	Loet Leydesdorff	2003
13.	P. Ingwersen, H. D. White	2005
14.	Katherine W. McCain	2007
15.	P. Vinkler, M. Zit	2009
16.	Olle Persson	2011
17.	Blaise Cronin	2013
18.	Mike Thelwall	2015

Consequences of Prizing de Solla Price's Circumvent

In the trivial modification of the contagion success model, De Solla Price erroneously introduced a concept which led to the belief that citations are meant only to attribute credit. This way, a prizing system in scientific communication which implicitly awards prize to counter productive efforts was introduced. The work of De Solla Price did not only win the 1976 Journal of American Society for Information Science (JASIS) paper award, but also introduced the present day prize system in scientific communication, and an award was instituted in the name of Derek John De Solla Price by the International Society for Scientometric and Informetric (ISSI). This made De Solla Price a prized entity. The first Price's medal was awarded to Eugene Garfield in 1984.

The primary purpose of prize systems is to reward deserving individuals who have excelled in one way or the other. The aim is to encourage other to emulate the awardees. Generally, prize awards are given to boost morale. Therefore, one consequence of continued prizing of de Solla Price's circumvent is lost of morale by scientific communicator, because compromises on standards will ensue, therefore, eventually and inevitably, quality reduces due to the implicitly awards of prize to counter productive efforts. There is the need to optimize citation analytics through provision of better methodologies to cull and curate appropriate citation count in the computation of publications.

Conclusion

The de Solla Price reward system in scientific communication has been probed, and it was identified that the concept of trivial modification of the contagion success model introduced by De Solla Price is erroneous. The error in this model produced a prizing system in scientific communication which implicitly awards prize to counter productive efforts. There is a need to cull appropriate citation counts so that citation analytics can be optimized.

References

Adedayo, A.V. (2014a) Proper Psychology for Performance of Publications, Research Journal in Organizational Psychology and Educational Studies, Vol. 3, No 4, pp. 327-329

Adedayo, V (2014b) Analogies between Football and Impact Factor in Academic Publishing, Available at: http://www.thesatirist.com/essays/Impact_

Adedayo, A V (2015a) Pricing de Solla Price's Circumvent, Advances in Research, Vol. 3; No. 5, pp. 488-492; DOI : 10.9734/AIR/2015/14630

Adedayo, A.V (2015b) Scientometrick of Scientometric, Elixir International Journal of Library Science, Vol. 79, pp. 30223-30224

Adedayo, A.V (2015c) Normalized Impact Factor, Elixir International Journal of Library Science, Vol. 80, pp. 30860-30862

Clauset, A. (2013) Network Analysis and Modeling, CSCI 5352, Lecture 13

Clauset, A. (2011) Inference, Models and Simulation for Complex Systems, CSCI7000-001, Lecture 14

Lowy, C (1997) Impact Factor Limits Funding, Lancet. Vol. 350, No. 9083, pp 1035-1042,

Price, D.S (1976) "A general theory of bibliometric and other cumulative advantage processes". Journal of the American Society for Information Science Vol. 27, No 5; pp. 292–306. doi:10.1002/asi.4630270505.(Winner of 1976 JASIS paper award.)

Saha, S.; Saint, S.; Christakis, D. A., (2003) Impact factor: a valid measure of journal quality?, Journal of Medical Library Association; Vol. 91, No. 1, pp. 42–46,

Seglen, P.O., (1997) Why the Impact Factor of Journals Should not be Used for Evaluating Research. BMJ. Vol. 314, No. 7079, pp. 498–502.