Publication Pattern of scientists of Physical Research Laboratory (PRL), Ahmedabad, India

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1. Introduction

The knowledge and processing of research results regarding any scientific area are a basic input to the evaluation of the research activities. Derek de Sola Price (1963) was the first one to discern a pattern in publications and elaborated it in his most influential work 'Little Science Big Science'. This book describes the exponential growth of the scholarly literature and scientific manpower. It covers various aspects of the productivity of scientists like authorship pattern, collaboration pattern, preference of a journal for publishing their results, etc.

Seventies and eighties saw the rise in quantitative methods being devised and used to supplement the standard approach of peer review to evaluate research. One such method is bibliometrics. Roots of bibliometrics can be traced back to 1917 wherein Cole & Eales analyzed publications in comparative anatomy published between 1543 and 1860 by simply counting number of titles, both books and journal articles and grouping them by country. In 1923 Hulme published an analysis of the international catalogue of scientific literature for the year 1901 through 1913. Bibliometrics took a quantum jump through the works of Eugene Garfield (1955) and Price (1963). However, it was not until 1969 that the term bibliometrics first appeared in print (Pritchard, 1969). He defined bibliometrics as “the application of mathematics and statistical method to books and other media of communication”. Bibliometrics is thus a measuring technique by which inter-connected aspects of written communication can be quantified. In the same year Robert A Fairthorne published a classic article “Empirical hyperbolic distributions (Bradford-Zipf-Mandelbrot) for bibliometric description and prediction” in which he used the term 'bibliometric' and also acknowledged that Pritchard was the donor of this term.

2. Review of Literature

Chu Keong Lee (2003) carried out a bibliometric study of Institute of Molecular and Cellular Biology (IMCB) as lot of funds had gone into building up this institute. It was set up in 1987 at the National University of Singapore (NUS). In its first 10 years, the IMCB produced 395 research papers, 33 book chapters, 24 conference papers and 4 monographs. The research papers were published in journals of increasing impact factor, resulting in increased visibility for the IMCB. The articles received 25 to 35 citations per article. Four of its articles received more than 200 citations. IMCB contributed 46 PhDs and 14 MScs to the research force in Singapore.

Many such bibliometric and scientometric studies have been carried out in India too. These studies have helped in identifying India’s publications growth rate which has been