

A Study of Indian Contributions to International Conferences on Scientometrics, Bibliometrics and Informetrics

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ABSTRACT

This study analyses the Indian author's contribution to International conference on Scientometrics/ Bibliometrics & Informetrics from 5th conference 1995 to 12th conference 2009. The above mentioned conferences have been organized by The International Society for Scientometrics and Informetrics (ISSI). The study investigates the development of Scientometrics / Bibliometrics research in India. Scientometrics / Bibliometrics research performance are measured and compared with previous conferences and measured the growth rate in the area of Scientometrics / Bibliometrics research. Out of eight conferences held, the Indian authors' contribution is more in the 8th conference.

Keyword: Bibliometrics, International Conference, ISSI.

INTRODUCTION

Bibliometrics is a branch of information theory that attempts to analyse quantitatively the properties and behaviour of recorded knowledge. Bibliometric methods may be used to study the impact of a field, the impact of certain trends and researchers within that field, and of course the impact of particular research. The International Conferences on Scientometrics and Informetrics have gained increasing interest to produce the research papers in the field of Bibliometrics, Scientometrics, Informetrics and Webometrics.

The term Scientometrics often used with the same meaning as the Bibliometrics originated

in Russia. The application of quantitative methods to the history of science, Scientometrics is the science of measuring science, the measurement involves counting artifacts to the production and use of information, and arriving conclusions from the counts. These conclusions are based on the regularities that are revealed about the data.

CONCEPT OF BIBLIOMETRICS/ SCIENTOMETRICS / INFORMETRICS

Bibliometrics is an academic discipline and much research is being carried out for a quantitative study of the various aspects of literature of a given subject. It is a branch of Information Science which analyses quantitatively the published information based on bibliographic data elements. Pritchard (1969)¹ coined the term 'bibliometrics' and defined it as "The application of mathematical and statistical methods to books and other media of communication". Luukkonen (1990)² states Bibliometrics is the quantitative evaluation of

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literature. Leydesdorff and Gautheir (1996)³ defined Bibliometrics analysis is used in science and technology policy arena to determine the knowledge outputs of national systems of innovation.

Sengupta (1990)⁴ viewed Bibliometrics as the "Organisation, classification and quantitative evaluation of publication patterns of all macro and micro communications along with their authorship by mathematical and statistical calculus. Quantitative studies of publication patterns are known as bibliometrics, Scientometrics and informetrics etc. Bibliometrics is a type of research method used in Library and Information Science by Anwar and Abu Backer (1997)⁵.

Bibliometrics / Scientometrics research includes studies pertaining to scattering of articles, author productivity, word productivity/Law of least effort, success-breeds-success phenomenon growth of literature, obsolescence of documents, productivity and impact of research, distributions of scientific publications by country, by language; circulation studies, etc. It helps to monitor the growth of literature and patterns of research.

"Informetrics: Quantitative Methods in Library, Documentation and Information Science." Informetrics covers the empirical studies of literature and documents, as well as theoretical studies of the mathematical properties of the laws and distributions that have been discovered. Tague-Sutcliffe (2009)⁶ defined "Informetrics is the study of the quantitative aspects of information in any form, not just records or bibliographies, and in any social group, not just scientists. Thus it looks at the quantitative aspects of informal or spoken communication, as well as recorded, and of information needs and uses of the disadvantaged, not just the intellectual elite. It can incorporate, utilise, and extend the many studies of the measurement of information that lie outside the boundaries of both bibliometrics and scientometrics. ... Two phenomena that have not, in the past, been seen as a part of bibliometrics or scientometrics, but fit comfortably within the scope of informetrics are: definition and measurement of information, and

types and characteristics of retrieval performance measures."

This paper studies the bibliometric analysis of the Contributions of Indian Author in International Conferences on Scientometrics, Bibliometrics and Informetrics.

THE INTERNATIONAL SOCIETY FOR SCIENTOMETRICS AND INFORMETRICS (ISSI)

The Society was founded at the International Conference on Bibliometrics, Informetrics and Scientometrics held in Berlin, 11-15 September in 1993. This conference was the fourth of a series of prominent biennial conferences that subsequently have been held under the auspices of the Society. The Society was incorporated with formal Articles of Association in 1994 in the Netherlands (Utrecht). The International Society for Informetrics and Scientometrics, ISSI, is an association of professionals active in the emerging interdisciplinary fields of informetrics, bibliometrics/scientometrics, technometrics and webometrics. Among its membership are information scientists from over 30 countries representing all five continents.

The Society aims to encourage communication and exchange of professional information in the field of Scientometrics and informetrics, to improve standards, theory and practice in all areas of the discipline, to stimulate research, education and training, and to enhance the public perception of the discipline. Members of the society perform theoretical and practical studies related, but not restricted, to research evaluation, diffusion of information, quantitative web studies and mathematical and statistical modeling of information processes. Since 1987 (Diepenbeek, Belgium) the society (and its informal precursor) has been organizing a biennial international conference, which has visited all continents (except Africa, but the 2011 conference will be held in South Africa), in this way realizing an important part of its mission. The society has a discussion forum for its members⁶.

SCOPE OF THE STUDY

The study analyses the Indian author's contribution to International conference on Scientometrics/Bibliometrics & Informetrics from 5th International conference held at Illinois, USA, 1995 to 12th Conference held at Rio de Janeiro, Brazil during 14-17 June 2009. The study investigates the development of Scientometric / Bibliometric research in India. Scientometrics/ Bibliometrics research performance is measured and compared with previous conferences and measured the growth rate in the area of Scientometrics / Bibliometrics research.

OBJECTIVES

The objectives of this study are

1. To identify the Indian contributions on Scientometrics, Bibliometrics and Informetrics during 1995 - 2009
2. To study the authorship pattern
3. To identify and analyse the authorship pattern
4. To identify the trends in research contributions on Scientometrics

METHODOLOGY

The data for the present study has been collected from the content page of the conference volumes published by the "International Conference of the International Society for Scientometrics and Informetrics" from 1995 to 2009 (i.e. 5th to 11th conference). The posters also treated as articles counted for results. The entire data set was classified into 21 groups and analysed.

BIBLIOMETRICS INDICATORS EMPLOYED

In this study, the following bibliometric indicators and statistical techniques/tools were

employed while analysing the data on contributions of Indian authors papers collected from the Pre - Conference Volumes International conferences of the International Society for Scientometrics and Informetrics volumes.

1. Extent of authorship pattern. i.e. Single Vs. Multiple authors
2. Degree of Collaboration (DC)
3. Pattern of Co-authorship Index (CAI)
4. Collaborative Coefficient (CC)

DATA ANALYSIS AND INTERPRETATION

Table 1 shows that the Indian authors' contributions to International Conferences of the International Society for Scientometrics and Informetrics, is 24.49% in the year 2001 for 8th International conference, followed by 22.58% in 1995 (5th conference), 21.74% in 1999 for 7th conference, 14.55% in 1997 (6th conference), 13.95% in 2003 (9th conference) 7.14% in 10th conference, 1.29% on 11th conference and 1.93% in 12th conference.

Further it is observed that percentage of publications trends indicates the active in scientometrics and bibliometrics research by the community of works in this area. The number of Indian contributions touches in the 8th conference a maximum level of 24.49% and least in 11th conference (1.30%).

Table 2 shows over all percentage of Indian authors' contributions conference wise. The highest percentage of contributions by Indian authors is 27.27 % in 8th conference, and least in the (2.27%).

AUTHORSHIP PATTERN

To analyse the pattern of co-authorship, the data was divided into single authored, two authored, three authored and more than 3 authors papers. There are 88 papers presented during 1995-2009 in the ISSI conferences. Table 3 shows the distribution of publications according to number of authors. With the view