

Abstract

The primary function of a library or information centre is to select record and organize the sources of information. The information resources so selected and recorded need to be properly organized to facilitate their retrieval as and when needed by the users. Collection building of libraries and should be based on some scientific principles. In the collection development process, emphasis should be given in the information use pattern of the user. Bibliometric study is the one of the scientific set of methods to quantify the information resource in written communication. Bibliometrics is most popular and important area in the field of library and information science which uses statistical and mathematical parameters to assess the scholarly contents present in library and help in collection developments process, budget planning and information retrieval. Bibliometrics studies are needed to identify the pattern of publication, authorship and citation analysis which can give an insight into the dynamics of the area under consideration. Bibliometric methods are most often used in the field of library and information science and it has wide applications in other areas also. The researchers use bibliometric methods to explore the impact of their field of study. The application of bibliometric techniques leads to the development tools and techniques for effective and efficient management of library collection economically.

The present research study entitled **“Bibliometric Analysis of Doctoral Theses in Life Sciences Submitted to Assam University During 1996 to 2012”** undertaken for quantitative analysis of the citation appended at the end of each

thesis submitted during the period 1996 to 2012 in the School of Life Sciences, Assam University, Silchar. The total 40 numbers of theses have been submitted during the said period. The present study intends to identify the characteristics of literature use by the researchers in life sciences. The results of the present study are based on the analysis of 10012 citation entries, collected from the references given by the researchers in their theses. In this research work, utmost care has been taken to fulfill the set objectives successfully. The quantitative measurement was done through the present study to apply the bibliometric techniques in the field of Life Sciences. The investigation is an attempt to identify the research trends in growth and development of the subject Life Sciences.

This work attempted to highlight the history of bibliometrics, genesis of bibliometrics and also to explain the different analogous terms of bibliometrics such as Librametrics, Scientometrics, Informetrics and Webometrics / Cybermetrics. The methodology used in the present study was bibliometric method. Firstly, bibliographic data of all 10,012 references were entered in the MS Access software and then all the data were exported to the MS Excel software for data analysis through application of quantitative methods. The investigation was done to find out highly used document form, ranking of more cited document form, authorship and collaborative pattern, period wise distribution of citations, geographical distribution of citation, half-life of citation and applicability of Bradford's Law.

The investigation reveals that journals were found to be the most used document form followed by books. It was observed from the ranking of core journals that journal entitled "Mutation Research" has got first rank followed by

“Plant Physiology”. In the same way the book “Flora of Assam” contributes highest number of citations and has got first rank followed by “Indian Medicinal Plants”.

It was identified from the study that predominance of multi author is more in Life Sciences than single author. The degree of collaboration is determined in quantitative term with author’s collaboration in research publication. The degree of collaboration was tested by formula given by K. Subramanyan and calculated as 0.82.

Period wise distribution of citation study shows that the highest percentage of citations was cited from the recent period. It was evident that researchers in Life Sciences preferred to use current sources of information.

This study clearly explains the author productivity, that few authors are very highly cited authors and more numbers of authors receive lesser citations. The ranking of core authors reveals that the author S. K. Panda was the most prolific author followed by C. R. Tarafdar.

The application of Bradford’s Law of Scattering shows the ratio of journals in each zone is 55: 321: 2142. It was found that there is more concentration of citations contributed by less numbers of journals. So, it can be said that the Bradford’s Law of Scattering could be well applied in the study.

Publisher wise distribution of most cited document form was studied. It is revealed from the study that majority of journals published by Elsevier contributing 1128 citation which is highest followed by Springer accounting for 659 numbers of citations. It is observed from the study that majority of books are

published by CSIR Publisher accounting for 34 numbers of citations followed by Academic Press and Botanical Survey of India contributing 30 numbers of citations by each publisher.

It is observed from the study that USA ranked top position accounting for 17.09 percent citations followed by Netherland with 13.99 percent and India is in the third position with 11.83 percent of citations. In the present research study, geographical distribution of books also analyzed and found that India is the leading country in publication of books accounting for 38.25 percent citations followed by USA with 25.78 percent and United Kingdom got the third position with 9.36 percent occupying second and third position respectively.

The country preferences revealed the USA as the most leading country in publication of information sources in Life Sciences and India is also found as third competitive position. The results reveal that researchers prefer to use foreign journals for their research purpose.

The cited half-life of literature was 17 years from 2012 to 1996 covering approximately 50 percent (51.88 %) of total literature i.e., 5006 citations out of total citations. The obsolescence study shows that age of publications increases (getting old) and the number of citation decreases. It is revealed that the researchers in life sciences prefer to cite current citations. The objectives set for the present study have successfully been fulfilled and these have been explained as well as presented with utmost care in the six chapters of this thesis.

Keywords:

Bibliometric Study, Citation Analysis, Life Sciences, Assam University, PhD Thesis, 1996 – 2012.