CHAPTER - I

INTRODUCTION

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1.1 Introduction

Social sciences have become increasingly intertwined with almost every aspect of modern life. These multifaceted activities have an increasing impact on the everyday quality of life of individuals as well as on nations and the world. One of the most obvious features of modern science and social science research in recent past has been the spectacular developments of scientific discoveries and knowledge. This has caused unprecedented accumulation of information. The efficacy of social science and the level of interaction with the decision making system is envisaged by the scientific policy resolution.

India has a large cadre of social scientists and a network of research institutions that would be the envy of many. Probably the largest number of social scientists, economists and social statisticians are employed by government research institutions. These institutions were created to provide government with basic quantitative and descriptive information. Among these are the bureaus of economics and statistics located in the planning departments of the state governments, the state institutes of educational training and research in the education departments, the tribal research institutes under the departments of tribal affairs, a variety of research units attached to the departments of agriculture, labour, commerce and in industry and, among the older organizations, the Anthropological survey of India and
the Registrar General of the Census, both under the central government. We do not have a complete inventory of these institutions and their work. But we do know that apart from universities, there are at present 27 publicly funded autonomous research institutes in the ICSSR family alone. Numerous NGO's engaged in development activities also carry out action oriented research. Though mainly funded by private trusts, foreign foundations and bilateral and multilateral aid agencies, they also get substantial financial support from public agencies. Private and semi private organizations doing research for governments and foreign funding agencies have mushroomed in recent years. Substantial sums of money have been allocated to the University Grants Commission (UGC) and to the Indian Council of Social Science. A number of central government ministries and state government departments give munificent grants to conduct research in universities and autonomous research institutions. They provide research grants as well as employ their own social science research staffs. It is observed that many of the studies conducted by research organizations (particularly but not exclusively by government research institutions) are not social science studies, but are intended to provide the database for policy. They do not make general formulations and systematically test hypothesis. A large number of the research studies conducted in these institutions centre on
individual development projects. It should be noted that most policy-oriented studies are still conducted by economists, but not by other social scientists².

This efficacy can be easily reflected through various indicators called Librametrics (1940’s), Bibliometrics (1960’s), Informetrics (1980’s), Scientometrics (2000’s) and now Webometrics. Research in the social sciences contribute to the country’s development, either in the broad sense of increasing understanding of the social, economic, political and cultural order within which Indians live, or in the more focused sense of providing specialized knowledge on which more intelligent choices among alternative policies and programmes can be made³. Hence, there is a need to study the growth of knowledge and its dynamics. Only a few studies have taken place on social sciences and its subdivisions. In the present study, an attempt has been made to focus research trends on six social science disciplines in India through Scientometric indicators.

1.2 Need for the Study

Social sciences have been rapidly growing. Almost all universities and research institutes have been engaged in teaching and research in social science. Social sciences play very important roles in national development. In India, till independence, social science research remained mainly an academic activity. Because of the community development programme (1952) social science research activities have taken the shape of new status.
After the establishment of ICSSR (1969), large amount of research information is being generated by social science institutions apart from Indian universities. Research in social science has resulted in enormous growth of reports, articles, papers, monographs, journals and other carriers.

The exponential growth of literature and rapid development of libraries generated several evolutionary studies about the effectiveness and efficiency of information services. These studies led to the identification and application of appropriate quantitative measuring techniques known as Scientometrics. Libraries and information scientists throughout the world began to use Scientometric studies to throw light on the pattern of growth of literature, obsolescence studies, collaborative research, ranking of journals, interrelationship among different branches of knowledge, productivity and influence of authors, pattern of collection build up, their use etc.

Research in any basic or applied social science or science depends heavily on the availability of existing information in the concerned field. Access to the precise and reliable information for the right person, at the right time is of utmost importance as these will help to minimize the wastage of resources which is likely to be caused by the reinvention, redevelopment and duplication in research work. Unless the information is directed to the target use, all the efforts for its generation become futile.
The growth that social science literature increased at an exponential rate, but the rate of growth also varied from one discipline to another and among the branches within a discipline. The literature of a particular discipline is widely scattered and recorded in a large number of journals and a variety of media. Because of rapidly growing discipline, the literature of particular discipline grows infinite in number and this has created problems to the information user, organizers and providers of information. The providers and organizers of information resources and services have to understand the users information need as well as information seeking strategies, the characteristics of literature in order to develop a need based information resources and services to meet the information demands of the users in a particular field. It is the need of the hour to understand the characteristics of literature such as growth and scatter, collaborative research trends, obsolescence pattern, highly productive journals, research productivity of institutions, utilization and consumption in planning and designing of information systems are useful in developing need based collection of resources, proper planning of library services and also useful in solving some of the problems of the library by taking prompt decision. Therefore, in the present study, a ‘Scientometric Analysis of Social Science Research in India’ has been undertaken.
1.3 Objectives of the Study

The major objectives of the study are:

1. To study and explore the applicability of selected growth models in the world and Indian publications in six sub-disciplines of social science viz., Anthropology, Economics, History, Psychology, Political Science and Sociology;

2. To determine the rate of growth of social science literature by calculating relative growth rates and doubling time for publications;

3. To fit both modified exponential curve and logistic curve for the original publications data for studying actual growth pattern;

4. To study the criteria on which models are to be selected for their possible application in the six sub-disciplines of social sciences;

5. To apply some mathematical measures to determine the extent and size of co-authorship research in social sciences in India;

6. To observe the nature of collaborative research in social sciences in India;

7. To determine the proportion of single authored and multi authored publications in social sciences in India;

8. To apply some statistical models and distribution to explore their goodness-of-fit;
9. To apply Bradford’s Law to the data of social science journals and compute relevant statistics using Leimkuhler’s equation to test the applicability of Bradford’s Law of Scattering;

10. To trace the characteristics of social science literature over a period of 70 years;

11. To apply certain mathematical formula to determine some of the obsolescence factor.

12. To find out research productivity of Indian social science institutions

1.4 Hypotheses

Hypothesis is a base for research study. According to Ross⁷, “the hypotheses is a map, a chart and compass, a set of blueprints”. In view of the objectives of the study the following hypotheses have been formulated:

1. Mean relative growth rate of social science literature has a declining trend;

2. There is a high positive degree of relationship between Economics and Anthropology, Political Science and History;

3. There is an increasing trend of single authorship with time in Anthropology, Political Science and Psychology;

4. The proportion of collaborative publication has a consistent growth with time;
5. The value of Collaboration Index (CI) and Degree of Collaboration (DC) is reflecting growing collaboration and increasing professionalisation of social science;

6. Bradford’s Law of Scattering goes well with social science journals;

7. The citation frequency distribution in social science journal and books follow a negative exponential pattern;

8. The average half-life of the literature is lowest in the case of journal articles and highest in the case of books;

9. The Annual Ageing Factor, Half-Life, Mean Life, Utility Factor and Corrected Obsolescence Factor for the journals and books varies from one another;

1.5 Scope and Limitations of the Study

The present study is confined to six sub-disciplines of social science literature viz., Anthropology, Economics, History, Psychology, Political Science and Sociology based on the literature reported in the CD-ROM Version of the Wilson Social Science Abstracts of H. W Wilson Co., Brox, US; the literature cited in two representative primary Indian social science journals and literature reported in web page of Indian social science institutions.
1.6 Methodology

Bibliometric method is an application of mathematical and statistical methods to books and other media of communication to know the process of written communication, nature and course of development of discipline by means of counting and analyzing its various facets. It is gaining ground both in research and practice. It suggests possible methods by which significant features of a discipline may describe, and also shows how it can be applied to any discipline and most of the problems concerned with the written communication. Hence, the bibliometric method is used in the present study.

1.7 Chapterisation

The research study has been divided into five chapters. Chapter-I introduces the Need for the Study, states the Objectives, Hypotheses, Scope and Limitations and Methodology. Chapter-II provides the concept of Scientometrics, which gives an overview of Librametrics Bibliometrics, Informetrics, Scientometrics, Cybermetrics and Webometrics. The Review of Related Literature has been dealt with in Chapter-III. Chapter-IV provides Analysis and Interpretation of the Data. Chapter-V gives a brief Summary of the Findings, Areas of Further Research and Conclusions.
References:


