PREFACE

Over the centuries, India’s scientific and technological position among developed and developing countries has shifted. The meanings of the terms science and technology have changed significantly from one generation to another. More similarities than differences, however, can be found between the terms. Both science and technology imply a thinking process; both are concerned with causal relationships in the material world, and both employ an experimental methodology that results in empirical demonstrations that can be verified by repetition. Science, at least in theory, is less concerned with the practicality of its results and more concerned with the development of general laws, but in practice science and technology are inextricably involved with each other. The varying interplay of the two can be observed in the historical development of such practitioners as chemists, engineers, physicists, astronomers, carpenters, potters, and many other specialists. Differing educational requirements, social status, vocabulary, methodology, and types of rewards, as well as institutional objectives and professional goals, contribute to such distinctions as can be made between the activities of scientists and technologists; but throughout history the practitioners of “pure” science have made many practical as well as theoretical contributions.

In recent years a sharp value distinction has grown up between science and technology. Advances in science have frequently had their bitter opponents, but today many people have come to fear technology much more than science. For these people, science may be perceived as a serene, objective source for understanding the eternal laws of nature, whereas the practical manifestations of technology in the modern world now seem to them to be out of control.

The contribution of science and technology in national development is of great importance. It is a known fact that no nation can develop without science and technology. Science is the study of knowledge which can be made into a system and which depends on seeing and testing facts while technology is the practical application of scientific knowledge. Developed nations of the world like the United States of America, Germany,
France etc. boast of several scientific inventions which make them to be rated as the world powers. Science and technology is the pivot of any nation’s development.

One of the major scientific and technological developments in the history of mankind is the invention of computer. Today, computer based communication technologies are influencing all the activities of human life. It is changing the way how people now access and utilize information. Information has become more digital and networked.

Realizing the growing significance of e-journals in research, CSIR libraries in CSIR Institutions have also expanded their e-journals. The e-journals in CSIR Institutions are available online via the internet and their usage is gradually going up. But what is still not clear as to how subject and disciplinary differences across CSIR Institutions are influencing e-journals usage. It must be recognized that CSIR Institutions undertake research studies and programs in several different disciplines such as physical sciences, biological sciences, chemical sciences, engineering sciences and information sciences.

Secondly, there has been very little evidence until recently about the patterns of use of e-journals within the CSIR system by subject and discipline and about their impact on research outcomes. The issue is to understand whether e-journals make any difference to CSIR research pursuits. Thirdly, it is still not clear how this revolution in access has influenced information seeking behaviour of researchers. A deeper level insight into issues relating to changes in information seeking behaviour of researchers - how do they access and make use of online journals discipline wise, and how the benefits flow from that use - should be useful in developing a more informed perspective on how e-journals should be subscribed and made available to the users in the coming years in the context of cost-effective approach to e-journals management in CSIR libraries.

Therefore, the present study is an attempt to study the use of e-journals in different CSIR laboratories and the current status of CSIR libraries with regard to their preparedness to manage electronic information services. Several studies evaluating the use of e-resources have been reported in literature. However, CSIR (India) and its laboratories have never been the focus of their study. Therefore to fill the gap this study has been undertaken.
The study is titled “Use of E-Journals by Researchers in Science & Technology: A Study of CSIR Libraries”. The context for this study is multidimensional as it deals with the CSIR libraries, CSIR researchers, E-journal consortium and E-journals.

This study has been compiled into following seven chapters:

**Chapter 1- Introduction** deals with the background of the study, statement of the problem, objectives, hypotheses, scope, limitations and operational definition of the term used and organization of the study.

**Chapter 2- Review of Literature** includes an extensive review of available literature and different aspects related to e-journals usage and other related areas.

**Chapter 3- Research Methodology** deals with different methods followed in the study. The study is based on survey, questionnaire and other techniques like interview and observation etc. It also selection of survey population, pilot study, and style used for bibliographical references.

**Chapter 4- Electronic Journals: An Overview** deals with the different aspects of e-journals such as historical development, need, significance and issues related to e-journals.

**Chapter 5- Profile of CSIR Institutions and its Libraries** provides brief description of the selected CSIR libraries covered in the study.

**Chapter 6- Data Analysis and Interpretation** is divided into three parts.

Part A- deals with analysis of the data collected from the librarians of CSIR Libraries.

Part B- deals with analysis of the data received from researchers.

Part C- deals with usage statistics of e-journals

**Chapter 7- Findings, Suggestions and Conclusion.** This chapter provides summary of the findings of the study based on analysis on data. Conclusions have been drawn on the basis of data analysis and findings, suggestions have been recommended and areas for further research have also been suggested.

Appendix I: Questionnaire for Librarians

Appendix II: Questionnaire for Researchers
Appendix III: List of CSIR Institutions

Appendix IV (a-e): Rank Lists of E-Journals

Bibliography