CHAPTER 1

INTRODUCTION

The publishing aspect of the scholarly communication has in many ways changed little in the decades since the first scientific journal (Philosophical Transactions of Royal Society, 1665). Research scholars write up their work into a research article, seminar paper or book and submit it to the publication outlet of choice, whereupon it is sent out to other subject experts in the field for peer review. If the research work is deemed original and valid, it is published, and thereafter available for the remainder of the scholarly community to read. The electronic era has allowed for a myriad of new possibilities. Scholarly publication used to be synonymous with scholarly communication, but this is not the longer case. Over the past 400 years, the publishing function of journals has shifted from a method of communication to a career too. The emphasis has moved from Awareness and Certification, to Registration and Reward; the fundamental purpose of the journal has changed evidently.

In recent years, there has been an explosion of interest in Open access publishing. The aim is to make research literature, especially peer-reviewed academic articles, free for anyone in the world to access, dissatisfaction with the traditional publishing models, which have remained the same for a long time, has encouraged experimentation with different models. Some important issues have come together to enable this, namely increasing subscription costs of journals, objection to subscriptions restricting access to publicly funded research, technology of the Internet, which allows information to be disseminated widely and cheaply.

In academic libraries, librarians have traditionally served as intermediaries between faculty and the library, with responsibilities traditionally ranging across collection development, user instruction, reference, and current awareness. However, academic librarians have always adapted to the evolving needs of faculty and students while navigating the changes in technology and the information landscape at large. This trend has continued as library professionals, who were originally "focused on reference services, and collection development," are taking on responsibilities for Institutional Repositories (IRs) development. They have become influential in software implementation, and their skills and knowledge are effective in IR project management and planning overall. Advocacy and promotion are also essential IR development activities for librarians.

As suggested by Gibbons (2005), more customized instruction and assistance for faculty on contributing to and using IRs may prove important for extending the legitimacy, credibility, and trust that the library has traditionally enjoyed in their relationship with faculty. While Open access principles are frequently at the heart of the professional library discourse on IRs, faculties are not uniformly accepting of Open access ideals. They are also not always easily convinced of the personal benefits of contributing to an IR. With limited incentives in place to encourage faculty and research scholars to contribute their scholarly output, deposit mandates from funding agencies, universities, or departments are considered by some to be an attractive strategy for fostering growth of IRs. One recent report ties the success of Repository building to meeting the needs of various stakeholder groups (Jones, 2006) which consist of the users, providers, and mediators of scholarly information. In the cases examined in this study, faculty stakeholders were the primary focus of attention for IR developers, but the interests of the university, academic publishers, and, of course, librarians were also influential in the overall process of IR development. The literature asserts that libraries are actively moving beyond a custodial role with scholarly publications to the

management of various kinds of digital content and fuller participation in the evolution of the scholarly communication process.

In research universities, Institutional Repositories are predicated on contributions by their stakeholders who include both academic and non-academic staff; those involved in teaching and research. Each of these groups contains potential authors and readers of the materials in IR, and the contributions of authors, are critical to the success of an IR. As such whether or not IRs becomes a part of the intellectual infrastructure depends on the extent of the university's community contribution.

Shearer (2006) argues that the success of an IR should be determined by its use, and one of the measures of usefulness is contribution of content. Faculties are typically best at making a major contribution to an IR, by creating, not preserving, new knowledge, because they are becoming so involved in producing scholarly works and participating in the evolving scholarly communication process. As IRs are flourishing to preserve scholarly output and to make it openly accessible, more and more faculty members are in favor to provide Open access to the universities' research output, maintained either institutionally or on a subject basis. Faculty contribution is considered one of the success factors for an IR even though several studies have found low rates of faculty submission. These studies found that the challenges for an IR are not in the technical implementation but in affecting the culture changes necessary for it to become an integral part of activities of the research institution. Cultural rather than technological factors limit the use and development of IRs.

This research is concerned with the activities and attitudes of an IR stakeholder the academicians with respect to Open access publishing in IRs. There are some research studies which are close to this goal. In order to understand the requirements to provide an IR that will preserve and disseminate research materials

created by or associated with a research intensive university, the present study began with an extensive search for information concerning faculty's attitudes towards Open access publishing and Institutional Repositories. It was apparent from this review that there has been research which focused on the needs and potential contribution of faculty in this area.

1.1 BACKGROUND

An Institutional Repository is digital archive where a university community's intellectual work is freely available and preserved for posterity. Institutional Repositories have become a hot topic in academic libraries in recent years, discussed mainly as a possible solution to some large and thorny problems of scholarly communications. In the face of rising cost, financial crunch, and restricted access to information, as well as rapid changes in technology, scholarly practice, and patron expectations, academic libraries have been challenged to maintain their depth of collections and high level of service.

Beyond the problem of motivating research scholars to deposit in IR, there are broader issues encompassing their creators and potential users. The fundamental role of a university library is to provide the intellectual resources to support the research and teaching needs of its faculty and staff. All university libraries are challenged to meet their patrons changing expectations. For a university library to remain a vital and well-funded member of the academic community, it must provide resources in ways that its patrons would like to find them. In the context of the Internet's vast and easily reachable content, the campus library is no longer the only source of information and knowledge.

Much of the development for Institutional Repositories remains in the planning stages, and have yet to be fully realized due to the infancy and ongoing evolution of this type of Institutional Repositories. Perhaps the greatest barrier to

realizing the envisioned future and success of IRs is related to a lack of participation by faculty and research scholars. Some of the studies show that participation in and awareness about IRs in faculty and research scholars is extremely low. Naturally, the utility of an IR is dependent on its collection size and the contributions made by faculty and research scholars, and various countries are learning to adapt through several strategies targeted at addressing this burning issue. These strategies may include policies regarding mandate policies, national initiatives and other activities which are created to promote IRs, and will be discussed in further chapters.

A few research universities in Karnataka have established, and some are in the process of establishing IR services with the aim to enhance the visibility and the impact of the research generated within that university. The development of the IR services is related to the Open access movement in India, which seeks to make valued research outputs openly available by encouraging academic scholars to place their publications into Repositories, enhancing their availability and visibility to the global academic community and increase the chances for use and exchange of ideas among scholars within similar disciplines. At the same time, university research increasingly involves the use, generation, manipulation, sharing and analysis of digital resources.

1.2 STATEMENT OF THE PROBLEM

Many researches these days indicate that Institutional Repositories (IRs) are becoming the tool for promoting academic research work by providing Open access to the academic community. According to Jones (2009) an Institutional Repository is now regarded by many universities as an advanced and innovative method in communicating research results. Majority of the researchers are not willing to publish their research work in the Institutional Repositories as long as they gain a

reputation by disseminating their work in prestigious journals and through well known publication mediums. Despite this controversy, however, currently many institutions have built their Institutional Repositories and started to give Open access to those who are interested on the IR resources. In the IFLA 2006 conference held at Seoul, a paper presented by Oliver and Swain (2006) pointed out that "The challenge remains in a numbers of areas related to the emergence of this new publishing model. One challenge is to monitor and support its progress and to identify and address important issues related to its development"

The present research problem is conceived under the title “ACADEMIC SCHOLARS’ ATTITUDE TOWARDS DEPOSIT IN INSTITUTIONAL REPOSITORIES OF UNIVERSITIES IN KARNATAKA: A STUDY”

1.3 DEFINITION OF CONCEPTS

1.3.1 Academic Scholar

There is little that brings greater honor to a college or university faculty member than reputation as a scholar. For most people in higher education, the concepts of scholar and scholarship are nearly synonymous with the role of college or university teacher. A lexical definition of a scholar is given as "a learned person, especially in language, literature, etc.; an academic" (Thomson, 1996, p. 910). Similarly, scholarship refers to "the methods and standards characteristic of a good scholar" (p. 911). Certainly, there are scholars who do not teach, but "scholarship" is recognized as the fundamental qualification for most academic positions.

1.3.2 Attitude

An attitude can be defined as a positive or negative evaluation of people, objects, event, activities, ideas, or just about anything in your environment, but there is debate about precise definitions. Eagly and Chaiken defines an attitude "a

psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor.

1.3.3 Institutional Repositories (IRs)

Repositories are important for educational institutions in helping to manage and capture intellectual assets as a part of their information strategy. An Institutional Repository can hold a wide range of materials for a variety of purposes and users. It can support research, learning, and administrative processes. However, Repository solutions are most viable and sustainable when they are built on Open standards. Digital Repositories play a vital role in the duration of digital materials and offer a convenient way to store, manage, reuse and curate a variety of digital materials. The term 'digital Repository' can be applied to a number of different digital storage initiatives, which are often also be referred to as 'Institutional Repositories', 'digital archives', or 'digital libraries' - although in practice these each have slightly different functionality and underlying philosophies. A growing number of Repository models and systems are available and used by a variety of communities. They can take many forms and carry out many different functions.

> “A university-based Institutional Repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the university and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organization and access or distribution. While operational responsibility for these services may reasonably be situated in different organizational units at different universities, an effective Institutional Repository of necessity represents a collaboration among librarians, information technologists, archives and records

managers, faculty, and university administrators and policymakers" (Lynch 2003).

1.3.4 University

According Collins English Dictionary University is "An institution of learning of the highest level, having a college of liberal arts and a program of graduate studies together with several professional schools, as of theology, law, medicine, and engineering, and authorized to confer both undergraduate and graduate degrees".

1.4 NEED FOR THE STUDY.

Studies in the field of Open access publishing reveal that attempts have been made from the early 20th century to improve and standardize the policy to develop and maintain Institutional Repositories. The environment of the libraries has changed now. As the resources and technologies available and the needs and characteristics of the academic scholars they serve have also changes, most of the university libraries today developed and maintained their own repositories, which enables access to intellectual items created within the institution. The need for the study can be summarized in the following:

The UGC Notification (Minimum Standards & Procedure for award of M.Phil. / Ph.D Degree, Regulation, 2009) provides mandate for submission of soft copy of theses and dissertations by the researchers in universities with an aim to facilitate open access to Indian theses and dissertation to the academic community worldwide. Online access of electronic theses through digital repositories will not only ensure easy access and archiving of Indian doctoral theses but will also helps

in improving the standard and quality of research. This would overcome serious problem of duplication of research and poor quality.

In view of these considerations, the investigator took this study to review the academic scholars' awareness to use and deposit to Institutional Repositories of universities in Karnataka.

1.5 OBJECTIVES OF THE STUDY

The primary objective of the investigation is to examine various types of software based Institutional Repositories available in university libraries in the state of Karnataka and the extent of their use by the academic scholars- namely teaching faculty, research scholars and students in respective universities.

The specific objectives of the study are:

- To study the academic scholars awareness about Open access publication.
- To examine the academic scholars' perceptions on Open access publishing
- To study the academic scholars awareness on Institutional Repositories.
- To know whether all academic scholars are aware of the existence of Institutional Repositories (IRs) in their universities.
- To study the factors which influence the academic scholars to deposit in Institutional Repositories?
- To identify the barriers for the academic scholars to deposit in the Institutional Repositories.
- To know if all academic scholars have possessed the adequate knowledge of depositing their research materials in Institutional Repositories.
- To know the type of research material and file formats preferred by academic scholars to deposit in Institutional Repositories (IRs).

1.6 HYPOTHESES

In order to fulfill the objectives stated above, following hypotheses have been framed.

- There is significant association between education, sex and status of the respondents and their mode of learning the Open access publishing.
- There is significant association between academic scholars' status and awareness of OA terms.
- All academic scholars are aware of the existence of Institutional Repositories in their respective university libraries.
- All users have possessed the adequate knowledge about the use of Institutional Repositories and deposit their research work in Institutional Repositories.
- Junior academic scholars are more familiar with Institutional Repositories than senior academic scholars and senior faculty.
- The relationship between academic scholars and awareness on Open access Institutional Repositories in Karnataka is significant.
- There is no significant interdisciplinary variation with respect to respondents' perceptions on characteristics of Institutional Repositories.
- There is no significant inter disciplinary variation with respect to respondents' problems, barriers and challenges in depositing of research materials in the university Institutional Repositories.

1.7 SCOPE AND LIMITIATIONS OF THE STUDY

The present study is confined to the issues related to the attitude towards Institutional Repositories on the following three categories of scholars belonging to six selected state universities of Karnataka. It excludes the post-graduate centre libraries because they have not maintained the Institutional Repositories for their research output.

1. Faculty
2. Research Scholars
3. Post-graduate students.

There are total thirty five universities viz, state, central, women's, Open, deemed, veterinary, agricultural, horticulture, medical, engineering, law and fine arts in Karnataka. (UGC, 2011)They are:

- **Mysore University , Mysore**
- **Bangalore University , Bangalore**
- **Mangalore University , Mangalore**
- **Karnataka University, Dharwad**
- **Gulbarga University, Gulbarga**
- **Kuvempu university, Shimoga**
- Davanagere University, Davanagere
- Tumkur University, Tumkur
- Kannada University, Hampi
- Karnataka State women University, Bijapur
- Karnataka State Open University, Mysore
- University of Agricultural Sciences, Bangalore
- University of Agricultural Sciences, Dharwad
- Visveswaraiah Technological University, Belgaum
- National Law School of India University, Bangalore
- Karnataka Veterinary, Animal & Fisheries University, Bidar
- Karnataka state Law University, Hubli
- Rajiv Gandhi University of Health Sciences, Bangalore
- Horticulture University, Bagalkot.

Deemed University

- Indian Institute of Science, Bangalore
- International Institute of Information Technology, Bangalore
- Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore
- National Institute of Mental Health and Neuro Sciences, Bangalore
- Manipal Academy of Higher Education, Udupi, Manipal.
- B.L.D.E University, Bijapur
- J.S.S. University, Mysore.
- K.L.E Academy of Higher Education and Research, Belagaum.
- NITTE University, Mangalore.
- Sri Devaraj Urs Academy of Higher Education and Research, Kolar.
- Sri Siddhartha Academy of Higher Education, Tumkur.
- Swami Vivekananda Yoga Anusandhana Samshana, Bangalore
- Yenepoya University, Mangalore.
- Christ University, Bangalore
- Jain University, Bangalore.

Central University

- Central University, Gulbarga.

No study can cover all aspects completely and inherently all studies have certain limitations:

The present study is an attempt towards academic scholars' attitude towards deposit in Institutional Repositories of University Libraries in Karnataka by adopting some of the modern techniques of evaluation. It covers the Universities which are more than fifteen years old or established before 1993 will be considered for the study keeping the fact that it may take at least fifteen years for a university to create necessary infrastructure to establish Institutional repository for their research output. It excludes the universities of special character, deemed to be universities and Open University in the state. The main emphasis of the study is concentrated on the main Institutional Repositories of the following six state university Repositories

- University of Mysore, Mysore
- Bangalore University, Bangalore
- Mangalore University, Mangalore
- Kuvempu University, Shimoga
- Karnataka University, Dharwad
- Gulbarga University, Gulbarga.

The study covered only those libraries, which permitted and provided essential and sufficient data to the investigator. Some university libraries did not provide proper information required for the study. Hence those libraries had to be excluded.

1.8 METHODOLOGY

The methodology of research involves a detailed primary information collection and subsequent analysis carried out in stages.

The study began with a detailed literature search. The LISA, UGC-Infonet, emerald database was used as basic source for literature search. In addition, regional, national and international level journals and bibliographies in the field were also

scanned. Research articles related to the study were also collected from different sources. Questionnaire, interview techniques were employed for collection of primary data. The primary data was collected by survey method. Two types of questionnaires were constructed in the process of data collection. While one type of questionnaire (Appendix 1) was administered to librarians/Repository administer of the university libraries, the other type of questionnaire (Appendix 2) was distributed to different categories of users in respective universities. At many times, the investigator has personally visited the libraries and the academic scholar group to have speedy data collection and sometimes to seek clarifications from the respondents.

A structural questionnaire was administered to elucidate the opinion and data from academic scholars belonging to the three categories. The questionnaires were distributed to post graduate students, research scholars and faculty population. Simultaneously, a schedule was used to collect relevant data pertaining to Institutional Repositories, awareness about Open access movement, and self-archiving, academic scholars' attitudes towards deposit in Institutional Repositories of universities in Karnataka. The data obtained at this stage was tested with the application of 'Chi square' to determine the value of the variables. The study was carried out in two phases:

1.8.1 Pilot Study

The pilot study was conducted with 200 academic scholars from different disciplines with help of stratified random sample taken from the total population of the state universities. A questionnaire was designed and used to collect the data from postgraduates, research scholars and faculty members. The data was analyzed on the basis of results of the pilot survey. On the basis of pilot study the questionnaire was further improved and standardized.

1.8.2 Full Study

Two questionnaires were designed to collect the data (annexure 1 & 2) for the present study, one for the Repository administrators or Librarians and second questionnaire for the academic scholars, i.e., Faculty, Research scholars and postgraduate students.

There were in total 2000 questionnaires distributed among the users of Institutional Repositories of different university libraries. Out of 2000 questionnaire distributed, 1736 questionnaires representing 86.80% of the total distributed were received back. These include 336 faculties, 640 research scholars and 760 post-graduate students. Though administrators and supporting staff would also use of Institutional Repository, such a Repository use by the administrator and other supporting staff is considered negligible. The investigator has used stratified sampling method in choosing the population for study so as to obtain responses from different category of users in university libraries in Karnataka. The study is restricted to faculty, research scholars and post-graduate students primarily because they are considered the main users as well as depositors of the Institutional Repository of the library.

The data and information thus collected were subjected to systematic tabulation for analyses and derivation of appropriate conclusions. Valid findings were depicted by providing tables, bar diagrams and pie charts including the application of statistical techniques. The contingency tables were tested with application of 'Chi square' method. Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 17. Content analysis was used to analyze data emerging from Open-ended as well as closed-end questions.

1.8.3 Application of Statistical Tools.

The following statistical tools are being applied to test the hypothesis; in order to test the objectives and the formulated hypotheses the researcher used some

relevant tools such as Percentage analysis and Chi- Square test, cross tables, Student t test and two way ANOVA were used in the study with help of SPSS (Statistical Package for Social Sciences) 17.0.

Chi -Square Test is statistical measure used in the context of sampling analysis for comparing a variance to a notional variance. It can be used to determine if categorical data shows dependency or the two classifications are independent.

It can also be used to make comparisons between theoretical populations and actual data when categories are used (Kothari 2004).

Steps involved in Chi-Square tests are as follows:

- Observed frequencies (O) are tabulated.
- Expected frequencies (E) are tabulated.
- The difference between O and E are obtained and square of these difference are tabulated $(O-E)^2$.
- The values of $(O-E)^2$ in previous step are divided by respective expected frequency and the total $(O-E)^2/E$ is calculated.
- The calculated value of χ^2 is compared with the table value of χ^2 for given degree of freedom at certain level of significance.
- If the calculated value of χ^2 is equal or exceeds the table value, the difference between the observed and expected frequencies is taken as significant.

ANOVA is to test for differences among the means of the populations by examining the amount of variation within each of these samples, relative to the amount of variation between samples. In short, we have to make two estimates of population variance viz., one based on between samples variance and the other based on within samples variance. Then they said two estimates of population variance are compared with F-test. This value of F is to be compared to F-limit for

given degree of freedom. If the calculated F Value is equal or exceeds the F limit value, we may say that there are significant differences between the sample means. Two way ANOVA is used when the data are classified on the basis of two factors (Kothari 2004).

t-test is considered as appropriate test for judging the significance of difference between the means of two samples in case of small sample when population variance is not known (Kothari 2004).

1.9 CONSPECTUS

This thesis is conveniently divided into VI chapters:

- Chapter I introduce the topic of research and establish the need and importance of the study. It states the research problem, its objectives, scope and limitations of the study. Further, it indicates in brief the methods of data collection and interpretation.
- Chapter II forms the review of the literature. It enlists similar and related works highlighting the important findings and suggestions.
- Chapter III presents the growth and development of Institutional Repositories: Global and Indian Scenario
- Chapter IV state of the art of University Libraries, Karnataka.
- Chapter V depicts the impact analysis from data obtained from the users of the Institutional Repositories and academic scholars. It also presents the analysis and interpretation of this data in the light of the objectives set in the first chapter.
- Chapter VI is the concluding chapter that includes summary of findings of the study. It projects certain constructive suggestions for updating digital Repositories and services, and the infrastructure required for developing and maintaining digital Repositories in university libraries.