3.1 Introduction

The present study is an effort to know the status of electronic information sources and services in select university libraries of Karnataka State on the one hand, and to study the extent to which the academic staff of these universities are aware and use the electronic information sources and services on the other. To carry-out such a study, six universities in Karnataka have been selected. The survey method has been used for the present study. The researcher visited the universities under the study and collected the required data and analysed the data by making use of the appropriate statistical techniques.

The following sections of the Chapter deals with the research design which includes the site of the study, population of the study, survey instruments, data collection and data analysis.

3.2 Study Area

The scope of the present study is limited to the State of Karnataka. Only those universities which are included in Karnataka State Universities Act, 2000, are taken into consideration for the present study. The names of the universities which are included for the study are:
i) Bangalore University with the headquarters at Bangalore;
ii) Gulbarga University with the headquarters at Gulbarga;
iii) Karnataka University with the headquarters at Dharwad;
iv) Kuvempu University with the headquarters at Shankaraghatta;
v) Mangalore University with the headquarters at Konaje; and
vi) Mysore University with the headquarters at Mysore.

A historical overview of these 6 universities has been given in Chapter-4.

There are two more universities in Karnataka State which have been established under the same Act recently. These universities are: (i) Karnataka State Women’s University, Bijapur with the headquarters at Bijapur, established in 2003; and (ii) Tumkur University with the headquarters at Tumkur established in 2004/2005. These two universities have not been included for the present study, because the former university was just established and the latter was not at all established in 2003 (when the present study had been started).

### 3.3 Population of the Study

The population of the present study includes the university librarians and the academic staff working in the universities. The phrase ‘academic staff’ includes Lecturers, Readers and Professors working in the post-graduate departments of the universities under the present study.
3.3.1 Characteristics of the Study Population

The characteristics of the study population include: gender, age, designation, subject background, teaching experience and educational qualification. On the basis of these characteristics, the respondents have been categorized as follows:

- **Gender**
  - i) Male
  - ii) Female

- **Age**
  - i) Up to 30 years
  - ii) 31 to 40 Years
  - iii) 41 to 50 years
  - iv) 51 years and above

- **Designation**
  - i) Lecturer
  - ii) Reader
  - iii) Professor

- **Subject Background**
  - i) Social Science
  - ii) Science
  - iii) Humanities

- **Teaching Experience**
  - i) Up to 10 years
  - ii) 11 to 20 years
  - iii) 21 to 30 years
  - iv) 31 years and above

- **Educational Qualification**
  - i) Ph.D
  - ii) Non-Ph.D

3.3.2 Sampling

A list of academic staff was availed from each of the universities under the study. Then the stratified random sampling technique was used to divide the resultant universe of population into three strata on the basis of designation as Lecturers, Readers and Professors for the selection of the representative sample. Fifty percent of each of the stratum so formed was drawn as a representative sample on the basis of the subject background of the academic staff. In total 931 academic staff were selected as
representative sample and questionnaires were distributed personally. The respondents were given sufficient time to fill the questionnaires. Finally 578 filled in questionnaires were received back that amounts to 62.08% of the actual questionnaires distributed. These 578 respondents were classified on the basis of the characteristics of the universe of population described earlier for the further analysis of the study and the details of which is presented in Chapter 5 of the study.

3.4 Instruments

The survey method was used for the present study. Two questionnaires were designed: one for university librarians and the other for the faculty members for the collection of data and wherever necessary the questionnaires were used as interview schedules.

3.4.1 Survey Instrument for University Librarians

In order to collect the data about the electronic information sources, electronic resource-based services and user education programmes in the university libraries under the present study, a questionnaire was designed and the same was used as interview schedule. The major contents of the questionnaire were as follows:

i) **General Information:** This part of the questionnaire intended to explore the details about the library building, working hours, staff and users.
ii) **ICT infrastructure**: As the ICT infrastructure is the base for providing electronic information services, questions were raised to know the hardware and software infrastructure available in the university libraries under the study. Apart from this, the details were also sought about the network facilities such as campus LAN and Internet facilities made available to the academic staff both within the library premises and throughout the campus.

iii) **Library Automation**: The questions included under this facet sought the details of automation of the house-keeping operations such as acquisition, serials control, technical processing, circulation, etc., creation of OPAC and efforts made to digitize the important library collection.

iv) **Library Collection**: As one of the core objectives of the study was to know the nature of library collection, the questions under this part were designed meticulously which aimed at the details of collection development policy, library collection in print version, non-book materials, CD-ROM/DVD-ROM databases, electronic information sources subscribed by university libraries individually, electronic information sources accessible through consortia efforts, digital archive of open access information sources and institution repository. Also, questions were raised to know the factors influenced them to
develop collection in electronic version and problems faced by them in the process of collection of electronic resources.

v) **Electronic Information Services**: This facet of the questionnaire was intended to explore the particulars regarding the provisions made to provide electronic resource-based services by the university libraries to the users in general and academic staff in particular. The particulars were sought regarding the provision of synchronous and asynchronous electronic reference services, alerting services aimed at a group of users as well as individual users, metadata services such as indexing and abstracting, electronic document delivery service, referral service and translation service.

vi) **User Education**: This was another important facet of the questionnaire. The questions were raised to the university librarians to know the efforts made by them to create awareness among the academic staff about the information sources and services. Specific details were sought about the methods followed for user education and the modules covered in such training programmes.

vii) **Future Plans**: At the end, the university librarians were requested to record the future plans regarding the collection of electronic information sources and services, and user education programmes to create awareness about such sources and services and obviously these two questions were open-ended ones.
The researcher visited different sections in the university libraries to observe the automated activities and the organization of electronic information resources. The researcher also visited the University Computer Centres to know the resources and services rendered by them in collaboration with the university libraries for the benefit of academic community. The informal discussions were held with the personnel in-charge of the University Computer Centres.

3.4.2 Survey Instrument for Academic Staff

A questionnaire was designed for the collection of required data about the awareness and use of electronic information sources and electronic resource-based services from the academic staff working in the post-graduate departments of the universities under the study. The major contents of the questionnaire were as follows:

i) **Personal Information**: First facet of the questionnaire was designed to explore the information regarding respondents’ gender, age, teaching experience, subject background, designation, educational qualification, academic activities, availability and accessibility of computer and Internet at home as well as department chamber, working knowledge of computer, nature of computer training undergone, etc.

ii) **Awareness and Use of Electronic Information Sources and Services**: This facet was designed to elicit details about the awareness and use of the electronic infrastructure including
campus LAN and Internet facility, UGC-Infonet E-Journals Consortium, CD-ROM databases, OPAC, and electronic resource-based services offered by the university libraries. The respondents who do not use the e-resources though aware of their availability were asked to indicate the reasons for the non-use. The respondents who are aware and also use the e-resources were asked to indicate the frequency of use, purpose of use, expertise to use and the problems faced in the use of e-resources.

iii) **User Education**: This part of the questionnaire included the questions on the awareness and usefulness of the user education programmes conducted by the university libraries.

iv) **Suggestions**: This facet was designed to know the respondents suggestions, if any, for the improvement of collection in electronic version, electronic resource-based services and user education programmes.

### 3.5 Data Collection

For the collection of the data required for the study from the university librarians, the researcher personally visited the universities under the study. The researcher handed over the questionnaire to each of the university librarians and allowed sufficient time to fill-up the questionnaires. Interview was held with each of the university librarians to confirm the accuracy of the data filled-up in the questionnaire as well as to seek the
exhaustive information regarding the problem at hand. The researcher visited each and every section of all the university libraries under the study to know more about the electronic information sources and services. The researcher held discussions with the personnel in-charge of the University Computer Centres which have been established in Gulbarga, Karnatak, Mangalore and Mysore University.

In order to collect the data from the academic staff, the researcher handed-over the questionnaires to the respondents personally and allowed sufficient time to fill-up the questionnaires and then collected personally. The researcher used the same questionnaire as interview schedule for collection of data from the senior professors.

3.6 Data Analysis

For the convenience and data analysis work, the data collected through questionnaires have been coded using a coding structure. In the coding structure the statements of the questionnaire are referred with coded variable as Q (representing question) followed by main question number and serial number of an aspect/source/service. For example, the first aspect i.e., Beginner given in Question No. 16 is coded as Q.16.1

The data collected were tabulated and analysed statistically using appropriate descriptive and inferential techniques included in the Statistical Package for Social Sciences (SPSS). The descriptive statistics including frequency distribution, percentage,
were used to provide a general picture of the awareness and use of electronic information sources and services by the academic staff in universities. Simple table analysis method has been followed for analyzing the data collected from the university librarians. The data received from the academic staff was analysed by four independent variables namely, gender, subject background, designation and computer training background in relation to the awareness and use of the electronic information sources and services. The inferential statistical techniques, viz., cross tabulation and Chi-Square test were used to point out the association between the variables.

To facilitate data analysis, necessary measurement scales were used.