FINDINGS, SUGGESTIONS AND CONCLUDING OBSERVATIONS

The present study was undertaken with the following major objectives:

a) To assess the ICT infrastructure available in university libraries of Karnataka.

b) To know the status of library automation in university libraries of Karnataka.

c) To find out the collection of electronic information sources in university libraries of Karnataka.

d) To find out the provision of electronic information services made by the university libraries of Karnataka.

e) To find out the awareness and use of the electronic information sources by the academic staff working in universities of Karnataka.

f) To find out the awareness and use of the electronic information services by the academic staff working in the universities of Karnataka.

g) To find out the academic staff’s awareness and participation in user education programmes conducted by the university libraries of Karnataka.

6.1 Major Findings

The major findings of the study have been summerised below.

6.1a. ICT Infrastructure

A closer look at the hardware facilities available in the university libraries suggests us that they greatly vary from one to another. If the GUL has 140 desk-top
computers MaUL has only 12 desk-top computers. The GUL has 5 laptop computers whereas KaUL, MaUL and MUL do not have laptop computers at all. The GUL has 12 printers whereas BUL and MaUL have only 3 printers each. In four of the six university libraries there are no scanners for digitization.

Except the Kuvempu University none of the universities under the study has established an extensively spread-out campus LAN. The campus LAN of Kuvempu University reaches Library Computer Centre, Academic Departments, Administrative Sections, Hostels, Guest House and Residences of the officers of the University.

Except GUL, none of the university libraries under the study have software for CD-Net management. Only half of the university libraries, viz., BUL, GUL and MUL, have software for research data analysis.

As far as Internet facilities are concerned, the university libraries under the study are poorly equipped. The MaUL has the least number of (only 12) Internet nodes. The Internet bandwidth made available in universities is very low. The Karnataka University, Dharwad has the least bandwidth (only 512 kbps).

The MaUL does not have Internet browsing section at all. The MaUL and KaUL have not provided Internet facility to the department chambers of all the academic staff.
6.1b. Library Automation

None of the university libraries under the study has fully automated all of their house-keeping operations. The BUL and KUL have partially automated their acquisition functions. The BUL and MaUL have partially automated their circulation functions. Except MaUL none of the other university libraries has automated its stock verification and inter-library-loan functions. None of the university libraries under the study has automated the theft detection functions.

The MUL has not created the OPAC at all. Only four university libraries have created the OPAC of serials. Only BUL, KUL and MaUL have created the OPAC of Kannada Books. The BUL, KaUL and MaUL have made it possible to provide accessibility to OPAC over the campus LAN whereas none of the university libraries has provided accessibility to OPAC over the Internet. This kind of situation is a stumbling block in providing information about the resources available in the university libraries for the end-users from far off places.

Except BUL, none of the university libraries under the study have digitized any of their collection. The BUL has digitized only 280 books. This kind of situation hinders the university libraries from providing access to valuable sources which are in print version to the end-users who are in remote places.
6.1c. Collection of Electronic Information Sources

The efforts made by the university libraries under the study for the collection of electronic information sources are very meager. None of the university libraries has formulated a systematic collection development policy for procurement and subscription of electronic information sources. These libraries are spending a negligible amount, or not at all spending any amount on procurement of e-resources on their own (see Table 4.4). The particulars of collection of e-resources in the form of CD-ROMs, online sources subscribed by the university libraries, online sources made accessible under the UGC-Infonet E-Journals Consortium, and the initiative taken to develop the digital archives have been summarized below.

6.1c1. CD-ROM Collection

The MUL has maximum of 900 CD-ROMs whereas KUL has only 575 CD-ROMs. The majority of these CD-ROMs are either received along with the books that the libraries procure in print form or received from the publishers/suppliers as complimentary copies. The university libraries have procured a negligible number of CD-ROM databases. The CD-ROM databases once procured have not been updated with the latest issues in case of abstracting and indexing journals. Neither university libraries have sufficient number of computers to use CD-ROMs nor they issue them, nor they have CD-Net facility for providing access to the academic staff at their department chambers. This is the clear indication of the fact that the libraries have not paid due attention to procure CD-ROM databases for providing an access to the end-users.
6.1c2. Online Sources subscribed by the University Libraries

Except BUL and MaUL, none of the university libraries under the study is subscribing any online sources. The online sources subscribed by BUL and MaUL are very negligible. The BUL is subscribing online reference sources, namely Exrefer and EBSCO Academic Primer. The MaUL is subscribing one abstracting and indexing resource, namely Inside Web. This is the clear indication of the fact that the university libraries under the study have failed in procurement of online resources for the benefit of their academic community.

6.1c3. Electronic Information Sources accessible through UGC-Infonet E-Journal Consortium

All the university libraries under the study are participating in the UGC-Infonet E-Journals Consortium and this is the only strength of these university libraries as far as e-resources are concerned. Under this programme these libraries have access to nearly 5000 full-text online-journals, bibliographic databases and a gate-way portal on different disciplines such as Science and Technology, Social Sciences and Humanities. These valuable resources are expected to be utilized by the academic community to the maximum extent by providing accessibility not only in the university library buildings but also in the academic departments as well as at the residences of the staff within the campus and off the campus. As already has been discussed the campus LAN of the universities is not extensive enough to provide accessibility to e-resources at the residences of the staff. Moreover, not all the academic staff have accessibility to e-
resources through campus LAN at their department chambers. This kind of affair is another major stumbling block in providing accessibility to e-resources to the expected level.

6.1c4. Digital Archives

Except BUL and KUL, none of the university libraries under the study has initiated the creation of digital archives. These two university libraries have made a humble beginning in the creation of institutional repositories by making use of an open source software, namely e-prints. Except KUL, none of the university libraries under the study has made any effort to develop digital archive of open access information sources.

None of the university libraries under the study has initiated to create the digital archive of theses and dissertations, preprints of research papers books/monographs and project reports of their own staff which is a great public loss since the academic community is denied of having access to these resources which have enormous academic importance.

6.1d. Electronic Information Services provided by University Libraries

The provision of electronic information services is another area where the university libraries under the study have utterly failed.
6.1d1. Virtual Reference Services

The KUL and MUL are not at all providing virtual reference service to their end-users. Among the four university libraries which have indicated that they are providing virtual reference service, none of them is attending the queries through instant messaging. There is a chance of delayed response for the user’s question in case of e-mail reference service. Only GUL and KaUL are providing referral service through electronic mode.

6.1d2. Alerting Services

The status of alerting services in the university libraries is very poor. Only BUL and MaUL are circulating the new addition lists, and only BUL is circulating content pages of journals. The BUL and KUL are passing the information about the forthcoming conferences and seminars through electronic mode. Except KUL, none of the university libraries under the study is providing newspaper clipping service electronically.

None of the university libraries under the study is providing information about research in progress. Except KaUL, none of the university libraries is providing SDI service to their academic community. This kind of situation will certainly come in the way of free-flow of information which is instrumental in carrying out the academic and research activities at a university level.

6.1d3. Document Delivery Service

Except BUL and MaUL, none of the university libraries under the study are providing electronic document delivery service. This situation will not help in saving the
time of the users. The MaUL and MUL are not providing reprographic service through computer printout for users.

Staff Support

Except MUL, none of the university libraries has adequate qualified staff. Also, half of the university libraries do not have efficient staff for handling the electronic information sources and services (see Table 4.2). This state of affairs certainly affects the quality of services.

6.1e. Provision of User Education Programmes

Except GUL and KUL, none of the university libraries has conducted training programmes for imparting computer skills to the academic staff. Similarly, searching the Internet, CD-ROM databases, online information sources, digital archives and institutional repositories demand for thorough training since the end-users are exposed to the new technology very recently. The initiatives taken by the university libraries in providing user education in these aspects are apparently grim. Only half of the libraries, viz., GUL, KaUL and KUL, have conducted training on the use of CD-ROM databases. None of the university libraries under the study has conducted training programmes on searching the digital archives.

It is expected from the university libraries that the user education, unlike other services, is a regular activity. Hence, the libraries should have a separate hall adequately
furnished for conducting user education. The actual condition is altogether different. There is no separate hall for conducting user education in KaUL and MUL.

6.1f. Awareness and Use of Electronic Information Sources by the Academic Staff

Mere collection of electronic information sources in the libraries and making provision of electronic resource-based services is not an end in itself. Rather these resources and services should reach the target users effectively and efficiently. For this, the creation of awareness and enhancing the use of these resources and services is the motto of the university libraries. In this study an attempt was made to know the awareness and use of electronic information sources in the university libraries and that brought some very interesting findings as presented below.

6.1f1. Awareness and Use of Internet Facility

Though all the academic staff covered under the study are aware of and use Internet facility available in their respective universities, frequency of its use differs. The study found that one-third of the academic staff do not use Internet before a week. Among those who use the Internet daily, males are ahead (49.09%) of the females (31.43%); those belonging to the faculty of Science are much ahead (75.70%) of those belonging to Social Science (20.41%) and Humanities (4.08%); and Professors (51.58%) as well as Readers (49.44%) are ahead of Lecturers (34.62%).

Full-text journals are used by 38.24% of the academic staff followed by abstracting and indexing journals with only 37.02% in their favour. The resources such
as books, reports, theses and dissertations, newspapers, advertisements, dictionaries, encyclopedias, biographies, maps and atlases, etc., have not attracted the teachers to the extent expected.

Slightly more than half of the academic staff are making use of Internet resources for writing research papers (57.44%), for keeping abreast with the latest developments (54.50%), and for their own research (50.52%). Negligible number of respondents are making use of Internet for knowing about forthcoming conferences and seminars (37.89%), for teaching preparation (32.53%), for guiding research students (23.88%), for knowing about funding agencies (14.19%), and for writing books (9.52%). Though the use of Internet for e-mail purpose has become ubiquitous, nearly 11.00% of the academic staff do not make use of it. This is the clear indication of the fact that the majority of academic staff have not realized the importance of the Internet-based resources and failed to integrate them into their academic activities. This will certainly affect the quality and productivity of the academic staff.

The academic staff are facing severe problems in making use of Internet such as the problem of slow Internet bandwidth (59.86%), lack of sufficient Internet nodes in their university libraries (56.23%), technical problems (44.29%), frequent power cut (41.70%) and lack of Internet connectivity at their department chambers (22.49%). These problems demand for immediate solutions otherwise the efforts made to provide Internet facility to the academic staff will go waste.
Every faculty member is expected to possess the ability to use Internet. But the actual situation is far from expectations. Only 25.00% of the respondents are confident enough in making use of Internet.

6.1f2. Awareness and Use of UGC-Infonet E-Journal Consortium

- Astonishingly only 39.79% of the academic staff are aware of the UGC-Infonet e-resource and use them.
- There is a relation, between the respondents’ subject background and computer training background and the use of UGC-Infonet e-resources.
- Among the users of UGC-Infonet E-Journals Consortium 66.55% respondents belong to the faculty of Science whereas 19.39% belong to Social Science and only 3.06% Humanities faculty.
- The Readers (49.44%) are ahead of Lecturers (36.54%) and Professors (34.21%).
- The academic staff who have undergone formal computer training are much ahead (74.64%) of those who have not undergone such training (28.86%).
- Among the meager number of users of UGC-Infonet E-Journals Consortium, only 38.26% of the academic staff use these e-resources daily.
- Among those who use the resources daily, males are ahead (40.12%) of their female counterparts (32.76%). Faculty of Science are much ahead (46.03%) of Social Science faculty (2.63%), and none of the Humanities faculty use these resource daily. Professors are ahead (64.62%) of Readers (43.82%) and Lecturers (9.21%).
• 68.88% of the Social Science faculty do not use UGC-Infonet e-resources though they are aware of them.

• 73.47% of the Humanities faculty are not at all aware of UGC-Infonet e-resources.

• Academic staff - those who use e-resources under the UGC-Infonet do not integrate the benefits that they gain fully into their academic activities. 74.35% of the academic staff use the information for writing research articles followed by 71.74% for their own research, 53.91% for teaching preparation, 41.74% for keeping abreast with the latest developments, 31.30% for guiding research students, and only 13.91% for the purpose of writing books.

• Slow Internet bandwidth, lack of sufficient Internet nodes, technical problems, lack of relevant information sources, and lack of knowledge to use are the major stumbling blocks in making use of the UGC-Infonet e-resources. More than two-third of the academic staff are not fully confident of making use of e-resources.

• The respondents who are not using the UGC-Infonet e-resources though they are aware of them have expressed their concern for lack of relevant information sources, lack of accessibility to the resources at their chambers, lack of time and lack of knowledge to use e-resources.

6.1f3. Awareness and Use of CD-ROMs

• Only 15.95% of the academic staff are aware of and making use of CD-ROMs available in their university libraries. As many as 60.90% % of the academic staff,
though aware of CD-ROMs, do not make use of them. 23.18% of the academic staff are not at all aware of CD-ROMs.

- Among the academic staff who use CD-ROMs, 82.61% of them use it occasionally.
- The resources available in the form of CD-ROMs are not used by academic staff to the fullest extent.
- Among the academic staff who use CD-ROMs, 61.96% of them use abstracting and indexing journals followed by 41.30% with books, 36.96% with reports, 25.00% with full-text journals, 23.91% with dictionaries, 16.30% with maps and atlases, 6.52% with directories, and only 11.96% with theses and dissertations are used by negligible number of academic staff.
- The academic staff are hardly integrating the information that they gain through CD-ROMs into their academic activities.
- Among the academic staff who use CD-ROMs, 63.04% use them for their own research, followed by 50.00% for writing research articles, and only 4.35% for writing books.
- Lack of accessibility to CD-ROMs over campus LAN, lack of relevant resources, lack of sufficient number of computers to use CD-ROMs, frequent power cut, lack of time, lack of borrowing facility and lack of knowledge to use the CD-ROMs are the major hurdles in the use of CD-ROMs.
• Only 15.22% of the academicians have assessed their ability to use the CD-ROMs as above average and only 8.70% as experts. This clearly shows that one-fourth of the academicians need extensive training in making use of the CD-ROMs.

• 60.90% of the academic staff are not using CD-ROMs though they are aware of them.

• Lack of accessibility to CD-ROMs over campus LAN, lack of time, lack of sufficient number of computers to use CD-ROMs, lack of knowledge to use CD-ROMs, lack of borrowing facility are the reasons for the non-use of CD-ROMs.

6.1f4. Awareness and Use of OPAC

• Only 26.17% of the academic staff are aware of and use OPACs. Among them only 1.71% use OPAC daily.

• Technical problems, incomplete OPAC, frequent power cut, lack of sufficient number of computers for consulting OPAC, and lack of knowledge to use are the major stumbling blocks in making use of OPAC by the academic staff.

• 13.68% of the academic staff have assessed their ability to use OPACs as above average and only 6.84% as experts.

• As many as 59.73% of the academic staff are not using OPACs though they are aware of them. They do not use OPAC because of incomplete OPAC, lack of its availability over the campus LAN, lack of knowledge to use, lack of time, lack of sufficient number of computers to use OPAC, and lack of assistance by the academic staff.
6.1g. Awareness and Use of Electronic Information Services

- Only 21.45% of the academic staff are aware of and use electronic information services. Among them 33.45% belong to the faculty of Science, 12.76% Social Science and 4.08% belong to Humanities.

- 51.45% of the academic staff who have undergone formal computer training are aware and use electronic information services against only 12.05% of those who have not undergone formal computer training.

- Only 0.81% of the academic staff under the study use electronic information services daily and 66.13% occasionally.

- Only 14.52% of the academic staff have considered electronic information services provided by their university libraries as adequate.

- The academic staff, who are using electronic information services, are facing the problem of lack of knowledge to use, technical problems, frequent power cut, lack of time and lack of assistance by the library staff.

- 8.27% of the academic staff have assessed their ability to use electronic information services as above average, and only 4.84% as experts. This is the clear indication of the fact that more than 85.00% of the academic staff need extensive training in making use of electronic information services.

- 34.95% of the academic staff are not using electronic information services though they are aware of them. Lack of knowledge to use, technical problems, frequent
power cut, lack of time and lack of assistance by the library staff are the reasons for non-use.

6.1h. Awareness and Participation in User Education Programmes

- Only 37.37% of the academic staff are aware of the user education programmes conducted by their university libraries and have participated in them. Among them 84.26% have participated in only one user education programme.
- 91.67% of the academic staff have found the user education programmes conducted by their university libraries as inadequate.
- The academic staff have expressed their concern for lecture-oriented user education programmes, too short period of user education programmes, too many participants in the user education programmes, and participants from different subject background. This situation has implications for planning the user education in such a way that the user education programmes are not lecture oriented but practical-oriented demonstrations, long duration ones, and limited number of participants belonging to a single discipline in a session.

6.1i. Hypotheses Tested

The following hypotheses are tested for the study:

- The first hypothesis “There is an association between the support extended by the UGC under its INFLIBNET and UGC-Infonet Programmes and the development of e-culture in the university libraries of Karnataka” has been accepted.
• The second hypothesis “There is an association between the gender of the academic staff and awareness and use of e-resources” has been rejected.

• The third hypothesis “There is an association between the designation of the academic staff and awareness and use of e-resources” has been rejected.

• The fourth hypothesis “There is an association between the subject background of the academic staff and awareness and use of e-resources” has been accepted.

• The fifth hypothesis “There is an association between the computer training background of the academic staff and awareness and use of e-resources” has been accepted.

• The sixth hypothesis “The academic staff who have Internet facility at their department chambers and at homes use the Internet more frequently than those who use it at commercial centres” has been accepted.

6.2 Suggestions

The following suggestions have been put-forth for the development of e-resources and services in university libraries under the study and their best use by the academic staff.

• In order to provide advanced level services to the end-users, the universities under the study need to come out with plans for establishing robust and reliable ICT infrastructure. The universities should establish extensive campus LAN that not
only reaches university library, university computer centre, academic departments, administrative sections, but also residences of the academic staff.

- The Internet facility should be extended to the department chambers and residences of all of the academic staff. The academic staff should be facilitated to have access to the library resources and services from their department chambers as well as from their residences. The Internet bandwidth should be increased to have speedy access to the resources.

- There is an urgent need to develop ICT infrastructure in the university libraries in terms of hardware and software facilities. Every university library should have separate Internet browsing section with sufficient number of Internet nodes exclusively meant for academic staff.

- There is a dire need on the part of the university libraries to fully automate their house-keeping operations for facilitating the end-users in general and academic staff in particular so that they take active part in the acquisition activities, borrow the resources or request for reservation of the resources.

- The university libraries should take necessary steps to keep update their OPACs by including all the resources available in their respective libraries. All the libraries should see that the OPACs are made accessible not only over the campus LAN but also over the Internet which will reflect the strength of information resources for facilitating end-users who are spread-out all over the world. It is not far from the truth that the modern universities will have students and teachers from all over the world.
• The university libraries should take necessary measures to develop need-based collection of CD-ROM databases. The university libraries should procure CD-ROM databases such as full-text journals, abstracting and indexing journals, books and reference sources such as dictionaries, encyclopedias, geographical sources, yearbooks, demographic sources, etc. CD-Net facility should be provided to have access by the end-users in general and academic staff in particular at their door-steps of departments and residences.

• The university libraries under the study should plan for subscription of online-resources. For this, these libraries need sufficient funds exclusively allocated for online resources as well as a well-designed collection development policy which includes particulars about identification, licensing, maintenance, archiving, and providing accessibility to the e-resources to the end-users at their desktops.

• As the e-resources accessible through the UGC-Infonet E-Journals Consortium are the only worthy resources, the university libraries under the study should come-out with plans for making the best use of these resources. The users should be made known of these valuable resources and provide accessibility not only at all the places within the university campuses but also off the campus residences of the end-users.

• In order to make the best use of valuable scholarly resources which are accessible freely on the Web and the scholarly literature produced by the academic community of their own, the university libraries under the study should plan for development of digital archives. The software required for development of digital
archives are available free of cost on the Web. The technical support extended by
the institutes such as NCSI (I.I.Sc.), Bangalore can be explored in this venture. In
this positive situation, the university libraries should not fall back in development
of digital archives of open access information sources, institutional repositories of
theses and dissertations, reprints and preprints of research papers, books and
project reports that are produced by their own academic community. Also, the
libraries should see that these digital archives are made accessible not only over
the campus LAN but also over the Internet to their end-users.

- The poor status of the electronic information services in the university libraries
  under the study calls for thorough planning to bring complete change. The
  university libraries should take steps to provide virtual reference service through
e-mail as well as instant messaging.

- As no university library is self-sufficient in catering to the information needs of
  their users, they need to direct their users to the right places where the needed
  information is available. Hence, the university libraries should plan for providing
  referral service through electronic mode.

- The university libraries, keeping in mind the importance of the nascent
  information generated in the fields of interest of their users, should plan for
  providing alerting services. The university libraries should circulate the new
  addition/accession list of resources, content pages of journals, information about
  research in progress, notifications of forthcoming conferences and seminars, and
  newspaper clipping online to the academic staff’s desk tops. The university
libraries should go a step ahead to know the information needs of the academic staff and provide SDI service by making use of ICTs and e-resources.

- Electronic document delivery service is another service on which the university libraries should act upon. The libraries should create awareness about the electronic resources available through the UGC-Infonet E-Journals Consortium, namely under the JCCC Gateway portal.

- The university libraries are expected to provide reprographic services through computer print-out of the resources which are downloaded from the Internet, online resources subscribed by the university libraries, online resources accessible through the consortia activities and extracted from CD-ROM databases. Even, individual teachers should be provided with printing facility at their department chambers to make the best use of the electronic information sources and services to the optimum level.

- As it is very important to deliver the electronic information services effectively, the universities under the study should come forward to recruit adequate number of well-qualified staff.

- In this technological era, the university libraries should play an active role in imparting the information literacy among the end-users. In order to respond positively to the challenge, the university libraries should conduct the user education programmes regularly by organising lecturers by the experts, audio-visual presentations and demonstrations in making use of electronic information sources and services. The libraries should publish handbooks, manuals and
brochures as self-instructional materials for imparting user education. The libraries should organize training programmes on computer fundamentals, searching Internet, online resources, digital archives, and CD-ROM databases. For this, the libraries need to have a separate hall with sufficient furniture and equipments required for conducting user education programmes.

- The university libraries under the study should come out with the robust and thorough planning to enhance the use of Internet skills, and eradicate the problems in making use of Internet by the academic staff. They should be educated of the availability of e-resources accessible on the Internet and their educational and research value. The university libraries should provide an extensive training to the academic staff for enhancing their ability to use the Internet effectively and efficiently. Also, there is an urgent need on the part of the university libraries that they should increase the Internet bandwidth, increase the number of Internet nodes in the libraries as well as in department chambers of the academic staff, and solve the problem of frequent power cut with alternative arrangements such as establishing UPS systems.

- The university libraries should take measures to create awareness about the e-resources accessible under the UGC-Infonet E-Journal Consortium, online information sources subscribed by the university libraries, CD-ROM databases, digital archives, and OPACs.

- Every university library should have its own Web page and it should serve as a gateway for all the resources and services of the library.
6.3 Concluding Observations

But for the support extended by the UGC under its INFLIBNET and UGC-Infonet programmes none of the university libraries under the study have made sincere efforts to develop their collection in electronic form and to provide electronic resource-based services to their end-users. The Karnataka State university libraries under the study have made a good beginning in the development of ICT infrastructure with the financial assistance extended by the UGC.

The scholarly literature accessible under the UGC-Infonet E-Journals Consortium has occupied the lion share of the e-resources available in these university libraries. In spite of the profuse support extended by the UGC, the Karnataka State university libraries have failed to develop electronic information sources for the benefit of their academic community. This can be attributed to the fact that these university libraries have not received the same support from their own universities in the development of ICT infrastructure and e-resources.

There is an acute need on the part of the university libraries to take steps to establish extensive campus LAN that reaches out the end-users at their door-steps. Internet facility is far from sufficiency to cater to the needs of the end-users which is needed to be strengthened further. There is a dire need on the part of the university libraries to develop collection of CD-ROM databases and CD-Net facility. The
university libraries need to give due importance for subscribing online resources on their own to serve the academic and research community better. The university libraries are expected to develop digital archives of open access information sources and institutional repositories of scholarly literature.

The university libraries need to pay due attention for making provision for well-planned electronic resource-based services to its end-users. The virtual reference services, alerting services, and electronic document services need to be provided to the end-users.

Surprisingly, only a small portion of the academicians is aware of electronic information sources and services provided by their university libraries. The majority of academic staff are not using e-resources and services though they are aware of them. And, considerable number of academics is not at all aware of e-resources and services provided by their university libraries. There is an urgent need on the part of the university libraries to convert the potential users into actual users by creating awareness about the e-resources and services that they have for offering to the academicians and made known of the importance of these resources and services in enhancing their academic and research productivity. The user education need to take up to make the end-users in general and academic staff in particular to convert them into information literates which is a dire need in this age of technology. For providing user education the users must be categorized into groups on the basis of their subject background and computer
training background. Greater stress need be given to the academic staff belonging to the faculty of Humanities and Social Sciences, and those who have not undergone formal computer training as they have fallen back in making best use of e-resources and services.

To succeed in this effort, the university libraries need to be helped by their own universities. The Karnataka State universities should come forward to support their libraries by allocating sufficient funds required for collection of electronic information sources and provide electronic information services, and for education of their end-users. The universities need to recruit well-qualified staff to carry-out these activities smoothly.

There is an absolute need on the part of professionals that they should enlighten the information professionals, university authorities and the UGC of the real needs of the end-users with regard to the collection of each of the electronic information sources and services, and the extent to which they need user education in making effective use of such resources and services.

The educational institutions engaged in pursuit of higher education and research must learn quickly, that, academic excellence cannot be achieved without opening themselves to the changes taking place in today’s ICT driven networked digital environment. The academics too are to be awakened to acquire nascent knowledge through the judicious use of Internet and World Wide Web to push them to the forefront
of the knowledge society. Developments in ICT, no doubt has reduced the world into “vasudaiva kutumbakam” or a “global village” but the spectrum of the world of information it has created is so vast and deep that demand cent percent dedication and commitment from the teacher to keep abreast with the developments in one’s own field of specialization. Earlier the universities in India in general and Karnataka in particular realize this fact better it would be for their academics to face the challenges of the knowledge society.