CHAPTER - V
DISCUSSION

5.1 Introduction

The previous Chapter has dealt with the results of the study based on the questionnaires from a gamut of stakeholders and this Chapter makes an attempt to focus on the discussion based on the findings during the process of investigation. The findings are discussed under different captions to facilitate clarity and focus.

5.2 General Description

In general, the study reveals that all the Universities have the URL/www/Websites.

- The Study makes it evident that a majority of the State Universities have an edge over Other Universities in areas, such as, in-house development and maintenance of the Website, updation of the website on daily/weekly basis and provisioning of broadband internet connectivity in the campus.

- Further, it is evident through the Study that both the State and Other Universities have networked the Departments and were also using wi-fi for networking of the Departments. There was dial-up Internet facility in the whole of the campus. Hence it is revealed that both State and Other Universities have intranet as well as Internet connectivity.

Careful analysis of the data compiled and its study reveals that there is growing awareness and appreciation for the use of ICT among the higher education institutions. In the light of the heavy competition posed by the setting up of campuses by the foreign universities, it becomes imminent to retain the best teachers and also students. ICT and the offshoots of such use,
undoubtedly, help the Universities to accept the competition. Further more Universities have started using ICT in different aspects of day-to-day activities of the campus, keeping in mind the felicity, cost effectiveness and quickness involved in addressing all the concerns arising in the campus. The dwindling cost of both hardware and software besides the availability of the experts in these fields also might be the reason for the growing popularity among the institutions. The availability of the customized software, besides the availability of funds from various agencies like the UGC and DST may also have facilitated the use of ICT. The raising awareness among the top brass of the management, policy makers and leaders is undoubtedly responsible for the growing existence of ICT in the educational institutions.

It may be observed that the Universities in a majority of other countries use ICT in different areas to a great extent. Such a fact is further corroborated by the study of Frances Cairncross and Kaija Pöysti (2003), who studied the use of ICTs for education and building human capital in the Universities of the USA. It was observed that the students had frequent access to the computers in the campus, besides accessing internet via their laptops which provided access to the internet through the Wireless loops. Further this study also proves that even in India more than 35% of the State and Other Universities have started using Wi-Fi facility to provide Internet access to the students even in the classrooms.

5.3 Use of ICT in Admission of students in State Universities & Other Universities

In respect of use of ICT in admission of students, the findings were as follows:

- Majority of Other Universities were found to have an edge over State Universities in areas, such as, displaying admission notice, Eligibility requirement for admission on Website, besides the display of eligibility requirement for admission, conducting On-line pre-admission counseling/guidance and provisioning down-loading
facility of admission form, besides displaying the waitlisted candidates list on the University Website.

- Majority of State Universities were found to have an edge over Other Universities in redressing grievances Online.

- Majority of both the State and Other Universities were found to have displayed the address and phone number of the person in-charge of admissions on the university website. Further they also published criteria for admission, rank list of students for admission on the website to facilitate the students.

- Less percentage of both State and Other Universities were found to have retained the admission notice on website for more than two months. They also displayed ‘Frequently Asked Questions’, online admission filling form, and model question papers for admission tests on the website for more than two months.

- Further a few State and Other Universities are found to have started conducting online entrance examination and accepting online payment for admission form.

- It was found through the Study that only one State University has made provision for online payment of fee.

- Both State and Other Universities were planning to use ICT for conducting online admission for some courses, informing waitlisted candidates through e-mail, and providing quick response to students’ queries. On the other hand a few of both State and Other Universities were planning to collect fee through credit card / debit card.

Further, it is observed that in the segment of Other Universities (Deemed and Central Universities), they have already put the ICT to best use. They have implemented the use of ICT in the process of admission for various programmes. In the light of the cut-throat competition set in with the advent of foreign universities, these universities seem to have felt the heat and they were all the more eager and enthusiastic to use ICT. The benign support from the Central Government and the institutions like the UGC for various programmes might have triggered this positive development.
It goes without saying that a good number of these universities attract the best of the students from various countries facilitated by Globalization and as such ICT would go a long way to facilitate these students to seek admission in these universities only if ICT is put to use. Further it can also be inferred that the shifting of many Indian students to foreign universities may create a brain-drain situation, as ICT provides easy access to the Indian students to various foreign universities. Being very flexible, receptible and innovative these Universities have resorted to the use of ICT aided by the funding by different agencies.

Rogers (1995) suggested that innovators and early adopters, who are the first to use any innovation, behave differently from later adopters. They are driven by intrinsic interest in the innovation and are willing to take risks and invest time, money and energy working with the innovation. It is also true that Other Universities (Central and Deemed Universities) would like to implement some of the international practices in the higher education sector particularly in the admission practices.

The State Universities are dependent on State Government for grants, which usually have to cater to a large number of State Universities. The people in the highest decision body may not be open to innovation and may be less aware about capabilities of technology in comparison to the Central and Deemed to be Universities. This trend is changing slowly. The State Universities will learn from Central and Deemed to be Universities and may get confidence in using ICT for admitting students. The State Government is also encouraging the State Universities to create ICT facilities and make best use of it. This might have been the source of future planning of different Universities. The Study further reveals that in spite of the hurdles, the trend is slowly changing as more and more State Universities follow the footsteps of Central and Deemed to be Universities with regard to the use of ICT in the process of admission. There seems to be a change of attitude even with the State Governments in facilitating the use of ICT in State Universities.
5.4 Use of ICT in Staff Recruitment Process in State Universities & Other Universities

In respect of use of ICT in staff recruitment process, the findings were as follows:

- Majority of Other Universities were found to have an edge over State Universities in areas, such as, publishing the employment notification on their Websites of permanent teaching as well as non-teaching posts, providing facility for downloading application form for permanent teaching as well as non-teaching posts, and communicating the date of interview to the candidates through e-mail.

- A number of State Universities were found to have an edge over Other Universities in areas, such as, publishing the employment notification on their Websites of contractual teaching as well as non-teaching posts, planning to publish the announcement of recruitment on the University Website, and to inform the eligible candidates through e-mail.

- A few State as well as Other Universities were providing online facility for filling up the form for permanent teaching as well as non-teaching posts, contractual teaching as well as non-teaching posts, providing facility for downloading application form for contractual teaching as well as non-teaching posts, posting the date of interview on their Website using e-mail to communicate the selected candidates about their appointment, posting the information regarding the selected candidates on their Websites, having a separate e-mail Id for staff of recruitment cell, and using ICT for redressal of grievances regarding recruitment of staff.

Recruitment of staff is one of the major issues in the University system. This is important in the context of Globalization and Internationalization of Higher Education. It is true that a great number of senior and experienced teachers are retiring from service and there is a vacuum
being created in the teaching departments. This has made the recruitment of qualified and competent staff more important. Many Indians working in foreign Universities are interested in coming to India and join the best University. This can happen only if the advertisement for the teaching faculty is put on the Website of the University. Not only this, the facility to apply online must be made available. Majority of foreign Universities are giving facility to apply online. Due to this some of the Indian Universities also have started providing online filling up of form facility to applicants. It is a fact that the excellence of the University lays in the contribution of academic staff members. It may be the teaching and learning, evaluation and also the research done by them. Apart from infrastructure, the excellence of any University lies in the quality of their academic staff and also supportive staff. The use of ICT certainly helps the University to select good candidates for the posts they advertised.

5.5 **Use of ICT in Teaching and Learning Process in State Universities and Other Universities**

In respect of use of ICT in teaching and learning, the findings were as follows:

- Majority of State Universities were found to have an edge over Other Universities in areas, such as, broadband connectivity to all the departments / schools on the campus or satellite campus, having more number of terminals, having more LCD Projectors, and established learning resource centres.

- Majority of Other Universities were found to have an edge over State Universities in areas, such as, having internet connectivity in the classrooms, having fixed LCD projectors in some classrooms of the University, using power point presentation during teaching, and provided Internet, Photocopy / Xerox, and STD facility in the learning resource centres.

- Majority of both State and Other Universities teachers were using either LCD or OHP during teaching, encouraging the use of ICT in
their affiliated colleges, developing computer aided instructional materials in different subjects, preparing instructional materials in different subjects for putting them online, preparing Web based instructional materials in different subjects, using ICT for clarifying the doubts of students, created facility to get online students' feedback about institution, using ICT for developing language skills, such as, listening, speaking, reading and writing, and enhancing skills of faculty in using ICT.

The ICT is being used in teaching and learning process. This might have been due to the fact that majority of staff members working in the Universities are computer literate. A large number of softwares are available that can be used for teaching and learning. Different Universities have started putting the instructional material online so that different people can use it.

The teachers have developed Web-based instruction materials. These have created interest both in students as well teachers. Even the searching has become easy. So Universities are under pressure both from Students and staffs to provide ICT facility so that the quality of teaching and learning improves. Some Universities have provided centralized facility for IT, free Internet access to all the users, and faculty peruse students to use centralized IT facility. Students have started creating their own groups on the Websites and putting all learning materials on the Websites to make it available to other students. Some Universities have started Wi-Fi campus, and students are encouraged to use facility for sharing knowledge.

Most of the Other Universities (Central and Deemed to be Universities) were found to use ICT for teaching and learning may be because Vice-Chancellors are motivating the staff to use ICT and helping them in over come the barriers. A few State Universities due to lack of grants, manpower, intrinsic motivation might be the reason for lagging behind Other Universities in the use of ICT for teaching and learning.
The present findings are supported by Keats, Derek (2003) who found that ICT, such as, Internet can help to unite people and create powerful and synergistic partnerships at local, regional and global scales. The use of Internet has enabled the formation of various forms of virtual Universities within and between countries across the globe. The point here was that as a communication medium that cannot be limited by time and space, Internet was enabling new local and global education synergies on teaching and learning for enhanced Higher Education to unlimited audiences, beyond time and distance boundaries, easily and conveniently.

5.6 Use of ICT in Examination in State Universities & Other Universities

In respect of use of ICT in Examination, the findings were as follows:

- Majority of both State and Other Universities were maintaining database of paper setters, putting the examination schedule on their Website one month in advance and retaining it for two weeks, gave the information about “Whom to contact” details in advance to all users in case of problems related to the conduct of examinations, Uploading the University examination results on website, retaining the results on the Website for two months, and using ICT for grievance redressal.

- A few both State and Other Universities started using ICT in the appointment of paper setters, putting the Question Bank in different subjects on the University website although more Universities have developed Question Banks in different subjects, attempting to conduct examination Online, using Online facility available for sending question papers to the affiliated colleges, having the facility for randomly generating separate question papers for each candidate through the use of computer, issuing E-Hall Ticket, and having the provision for giving mark sheets electronically.

- Just a few State Universities had facility for filling and submission of the examination form Online.
• No State and Other Universities made provision to apply for the revaluation Online or sending the documents by e-mail.
• Both State and Other Universities were planning to use ICT for uploading question banks on their Websites, conduct Online examination in selected subjects, prepare database of paper setter, to declare the results within 28 days, to use e-mail for grievance redressal, and to use ICR and OCR technology in the examinations.

The State as well as Other Universities have started putting examination schedule on their website because it is cost effective and any one can see it any time. In case of any change, it is easy to modify it on the website. Majority of Universities are using computers for creating database of students for processing examination result. The authorities have seen that the result can be processed fast and accurately. The Universities have started using ICT in creating data bases of paper setters because it is easy to sort out and make changes easily. This characteristic of ICT might have motivated Universities to use it for examination purpose. It is very much necessary to have Management Information System (MIS) for handling huge data of students with respect to admission, fee collection, attendance, conducting examinations, processing results and declaring result fast. Most of the Universities lack the professionalism in the management of higher education despite the widespread prevalence of ICT. It may be feasible and suitable for the development of such softwares in the higher education sector that can facilitate University administration to use ICT in examination.

5.7 Use of ICT in Library and Information Services in State Universities & Other Universities

In respect of use of ICT in Library and Information Services, the findings were as follows:
• Majority of Other Universities were found to have an edge over State Universities in areas, such as, fully computerization of their University library and providing facility to their users to make a request to reserve books Online.

• Most of State Universities were found to have an edge over Other Universities in areas, such as, partial computerization of their libraries, providing the network with Satellite / Off campus centers, having their library website or home page, having their own server, and providing Digital Library / Institutional Repository Access to their users.

• Both State and Other Universities had computers with internet connection in their Libraries, they were using Bar Coding system for issuing the books, having INFLIBNET facility in the library, having UGC Infonet service on the campus for use by students as well as teachers, giving the information about library linkages / network with other libraries through Internet, having connected all the departments of the University for sharing of information, providing ICT enabled library services to the faculty as well as students, subscribing e-journals, e-books, and Online database, providing Electronic Document Delivery, Electronic information notification services, Group mail service facility, Online searching facility, provision for displaying information Electronically, provided Photocopy/ printing / scanning/ CD writing facilities to their users in the University library, and organized Training / demo / lecture on e-resources / access to users, Online Searching in the University Library, Online Searching of Journal, facility for Reservation of the Journal Online, providing facilities to their users for suggesting the purchase of new books and journals to the librarian through the use of Internet, and providing audio-visual resources access facilities to their users in the library.

• A few State and Other Universities have smart card system, provided linkages with libraries of affiliated colleges, libraries of other Universities, and other important libraries of Government /
Private Organizations, having Electronic Surveillance system in their Library, and providing Mechanism for Mining / Logins facilities to their users.

- Six State Universities are having Radio Frequency for Identification (RFID) system in their library.

The library in any University plays an important role in enhancing the quality of education. It is a fact that the grants are being reduced and books and journals are becoming costlier. The use of ICT can help Universities in making the material available to their students and teachers at reasonable cost. Looking to the vast potentiality of ICT, the UGC has created INFLINET resources. The UGC has provided Infonet services to many of the State and Other Universities. This may yield good results in the coming years. Many Universities are members and according to their thrust area the journals are given freely to the Universities. Since information and journals are available free on the website although there are paid journals also, the Universities in India have started using ICT in Library and Information Services. The cost of paid journals has reduced and the time of delivery has also come down. All these benefits might have motivated Universities to use ICT in Library and Information Services.

5.8 Use of ICT in Administration and Finance of Departments in State Universities & Other Universities

In respect of use of ICT in administration and finance of departments in the Universities, the findings were as follows:

- Majority of Other Universities were found to have an edge over State Universities in areas, such as, maintaining database of admitted students, having computerized the evaluation, issuing computerized transfer certificate and giving information about the convocation through the use of ICT, given training to Non-teaching staff in using ICT, doing in-house maintenance of
hardware and software, developing Database of Alumni using ICT, creating e-forum on their website which can be used by Alumni for forming discussion groups, providing Online facility for registration of their alumni, computerizing the finance section, Non-plan Grants and Grants for Researches, computerizing the reconciliation of accounts process, and using computers for issuing utilization certificate.

- Both State and Other Universities have computerized the Fee Collection, and results of students, were having Awards and Special Events as a separate section, Faculty Member and System Analyst were the nodal person for updating the University website, had networked their off campuses, were having the EDUSAT facility, ICT was used for Budget Proposals and allotment of plan grants, computerized the auditing section, and were maintaining computerized cash register.

- Majority of State Universities were found to have an edge over Other Universities in areas, such as, having Curriculum Division and Co-curricular Division, giving Annual Maintenance Contract for maintaining hardware and software which they were using, Fee collection and Salary and Budgeting were computerized.

- Only a few State and Other Universities had created facility for payment of fee through credit cards.

It is a fact that computers are being used in managing finances. The quality and efficiency has improved. The Universities have also experienced the benefit of use of ICT in other aspects of Higher Education. Thus, ICT has been used in administration and finance of departments in the Universities. This has made the utilization of available funds easy. The Universities are getting grants from different agencies. Every year utilization certificate has to be given. Normally it takes time to prepare the utilization certificate but now the time used in the preparation of utilization certificate has reduced. Due to this the time used in releasing the grant has decreased. This has improved the quality of the research and maintenance of equipments. The satisfaction
among people has also improved. The searching of record has become easy. The students have not to wait for long time. All these might have been the reason of using ICT in administration and finance of departments in the Universities.

5.9 COMPARISON OF PERCEPTION TOWARDS USE OF ICT OF STATE UNIVERSITIES & OTHER UNIVERSITIES TEACHERS

Teachers working in both the State and Other Universities were found to have positive perception about the use of ICT in Higher Education. This might be because the use of ICT in different aspects of Higher education has improved the quality of their job. The teachers can search the information easily, get their problems solved, get information about various conferences and send paper fast and get the information about the acceptance of the paper. Earlier it used to take time in sending the paper and one had to wait for the response from the organizers of the conference. Not only this, even the teacher did not know about the conferences. The availability of journals has improved. Large number of journals is available free. Even the lecture notes, assignments, power point presentation, live lecture through Edusat, etc. are available so it has made the teaching interesting and quality also has improved. Many facilities are available Online. Teachers are making best use of Online facilities. All these have helped teachers in teaching, research, publication, extension, etc. Due to this teachers were found to have positive perception about the use of ICT in Higher Education.

5.10 COMPARISON OF PERCEPTION TOWARDS USE OF ICT OF STATE UNIVERSITIES & OTHER UNIVERSITIES ADMINISTRATORS

Administrators working in both the State and Other Universities were found to have positive perception about the use of ICT in Higher Education. The administrators normally handle information related to teachers, students, finances, developmental projects, etc. The use of ICT in administration has made searching of information related to students and teachers easy. The time used in replying the letters has reduced. The quality of preparation of
document has improved. The maintenance of accounts, database of teachers and students, preparation of results, mark sheet, degree, etc. has become quite easy. The working efficiency of people has improved. Due to this Administrators were found to have positive perception about the use of ICT in Higher Education.