1.0 INTRODUCTION

Information is growing at an exponential rate and in a variety of forms, especially the digital media. The present age is called as **era of Information Technology**. Information Technology (IT) represents a significant factor in the rapidly changing relationship between the user and information as well as in a librarian’s ability to manage the digital knowledge (1). The IT generally relates to those technologies that are used for accessing, gathering, manipulating and presenting or communicating information. These technologies include hardware devices; software applications and connectivity e.g. access to the Internet and other information networks, videoconferencing, etc (2). The growth and developments of the IT is one of the most significant achievements of the present century (3) and the academic departments are no exception to these changes. The process of globalization and revolution in information and technology has been changing higher education (HE) system and development. Acquiring the necessary behaviour: attitude, skill and knowledge (ASK) for the effective utilization of information and information resources is imperative for every knowledge worker from the highest level of Governmental decision maker to the lowest decision maker individual entrepreneur. Technological progress and innovation in the most areas have significantly increased within recent decades. No area has experienced a more rapid growth than that of IT (4). With the emerging knowledge society and IT in information knowledge management, there are immense opportunities and considerable scope to diversify into high technology areas viz., databases (creation/access/management), development of e-resources, virtual libraries, e-publishing and even free lance consultancy of information products. Consequently, a working knowledge of IT and IT based services is an essential need (ASK) in the modern corporate world and Library and Information Science (LISc) departments are not exception to it.

School of documentation, librarianship and information management have inherited multiple traditions: bibliography, documentation, librarianship, information, storage and retrieval, computing, informatics, communications, archives, information systems, publishing and more and lately cyberary concept.
Consequently, we are concerned with creation, storage and dissemination/access of information to the proper user at proper time, effectively, expeditiously and exhaustively. The faculty members of various departments of LISc, educates male and female students at the bachelor, master and doctoral levels to become leaders in libraries, archives and information and knowledge centres, and also conducts research to advance the LISc and perform public services to support the information professionals and public good. Furthermore, the IT based services (viz. the Internet and world wide web), in particular, are changing, the ways the people are continuously communicate with each other: exchange idea, information, do research, business and study.

The IT has developed dramatically during the recent decades. The use of microprocessors has led to the increasing computing power for teaching, learning, decreasing cost, etc. Laser disc technology, fiber optics, packet switching for the transfer of electronic data have all become a reality. The proliferation of large databases available for access over telephone lines and the increased use of computers and communication media as tools for management of information is a fact of life in the developed countries. This technology provides better services to users by means of transmitting data or messages in the various forms of written or printed records, electronic, audio or video signals and also plays an important role in information handling, i.e. reduction in computing time, capabilities of resource sharing, economic storage capabilities of the files on digital discs, use of TV for displaying information, telecommunication and satellite communication, facilities for networking, etc (5).

The role of IT in universities and academic departments is also shifting dramatically from traditional chalkboard, classroom, i.e. chalk, walk and talk to an instructional aid i.e., Computer-Assisted Instruction (CAI) to help students and faculty teachers to learn different subjects. It has an impact on wide spread information that makes its activities change due to various situations, such as knowledge management (KM) and information explosion/revolution. However, in some countries, IT is now at the centre of education reform efforts that involve its use in coordination with changes in curriculum, teacher training, pedagogy and assessment (6). Educators are increasingly aware of the need, and concomitant
demand to have skills to access the information to enable them to continue learning through their careers (7). In order to educate students, faculty members must change the way they teach and the way students learn. In the past most learning was considered to be teacher-centered, the new shift is to a student-centered approach. It means faculty members now have to change their focus from being dispensers of knowledge to facilitator of learning. If faculty teachers want to help students to achieve a high level of competency and competitiveness, they have no choice but to add IT in their education systems as an integrated tool in the learning process. Consequently, a working knowledge of IT and IT based services is an essential need (ASK) in the modern corporate world, and LISc departments are not exception to it.

1. 1  IRAN (PERSIA)

Iran earlier Persia, officially the Islamic Republic of Iran (persian transliteration: Jomhuriye Eslami-ye Iran), is a country located in Middle East* (West Asia).

1.1.1. LOCATION AND AREA

Iran is located in eastern portion of the northern hemisphere, in South West of Asia, and is considered one of the Middle Eastern countries. Iran borders Armania, Azarbaijan and Turkmenstan to the north, Pakistan and Afghanistan to the east, and Turkey and Iraq to the west, The Persian Gulf and the Gulf of Oman to the south (Figure 1.1). It has an area of 1,648,195 Square Kilometers, 16th largest country in the world (8).

* Note: The Middle East is a loosely defined geographic region. Most of the Middle East countries are part of the Asia, with the exception of Egypt, which is part of Africa, and the northwestern part of Turkey, which is part of the European landmass.
Figure – 1.1: Location of Iran in Middle East
1.1.2 HISTORY

Historically, Iran is an ancient country, settled some 3500 to 4000 years ago by Aryan people, who migrated from the region around the Aral Sea (9). The written history of Iran begins in about 3200 years BC (10). Iran has more than 2,500 years civilization, more than 1,400 years of Islamic Culture, and a rich background in education, literature and arts. Until 1979, Iran was a constitutional monarchy headed by Shah (king). A prolonged struggled for a popular Government culminating in 1978, resulted in the down fall of the Shah and victory for the Islamic Revolution. In February 1979, the centuries old monarchy was replaced by an Islamic Government. Since February 1979 Iran is an Islamic Republic. The founder of the Islamic Republic and the Supreme leader of the Revelotion was Emam Khomeini, who passed away in June 1989. The Constitution defines the president as the highest state authority after the supreme leader, who is elected by universal suffrage for a term of four years.

1.1.3 TOPOGRAPHY AND GEOGRAPHY

About 90% of the territory of Iran lies in the western part of the Iranian plateau. Iran is thus a mountainous country. Mountains cover more than half of the country’s area (11). About 14% of Iran is arable land, 8% forest, 47% natural pastures; and the remaining 31% is infertile land, including desert (12). There are four major drainage basins in Iran, namely: The Caspian Sea, The Persian Gulf, Oman Sea and the largest lake inside the country is Orumiyeh lake basin. Because of its varied topography and altitude, Iran has a variety of climates. Winters (December to February) cold in most parts of the country, while in summer (June to August) hot. The average temperature for the whole country is 18 degrees centigrade and the maximum 50% (in southern deserts and low lands) and the minimom of -30 degree are common to the mountainous areas of the north and northwest (13).

1.1.4 POPULATION

The total population of Iran is 70,472,846: Females- 49.1% and males-50.9% (14). Iran is the 15th populous country in the world with an average density of
35.26 per sq.km (15), and 68% of the population live in cities (16). Tehran, the capital of the country by itself claimed 19% (13,000,000) of the country’s population (17). The percentage of literates over 6 years of age is 82.5% in the urban areas and 63.1% in the rural areas (18).

1.1.5 LANGUAGE AND RELIGION

The national language of Iran is Farsi (Persian) an Indo-European language spoken by about 50% of the population. However, because of the variety of ethnic groups inhabiting the country, many dialects are also spoken in different parts of the country. Turkic speaking (Azerbaijanis) are approximately 25% of the population, and Kurdish 9%, while other communicative languages, which comprise the remaining 16%, include Arabic, Balochi and Turkmeni, Armenian, etc. (19). The official religion is the Islam with about 98.8% population. Out of this 91% are Shi-as and the remaining belong to other branches of Islam such as: Hanafi, Shafe-ee, Maleki and Zeidi. There are also small minorities of Christians 0.7% (mainly Armenians), Jews 0.3% and Zoroastrians 0.1% as the recognised religions in the country (20). Iranians adopted Islam as their national religion 12 centuries ago with the fall of the Sassanid Dynasty and prior to that, Zoroastrianism was the national religion of Iran (21).

1.1.6 ADMINISTRATIVE DIVISIONS

According to the latest divisions of the country, Iran is divided into 30 provinces (Persian transliteration ostan), each with appointed Governor (Ostandar) (Figure 1.2). Tehran is the capital of the country.
Figure – 1.2: Provinces of Iran
1.2 EDUCATIONAL SYSTEM IN IRAN

Since the Islamic Revolution of 1979 in Iran, the educational system of the country has gone under qualitative and quantitative changes. Number of schools, colleges, universities and other educational institutions have increased enormously. So as to number of students at various levels and consequently, teachers have also risen, accordingly. **Educational system in Iran** is basically divided into five steps viz., **pre-school, primary, middle or (guidance), secondary and post-secondary** (22). Though languages spoken may differ by minority such as Turk, Baloch, Arab, Turkeman, etc. However the only medium of instruction from the primary to the tertiary level is Farsi language (Persian). The current education system in Iran comprises two general levels: School Education and Higher Education.

1.2.1 SCHOOL EDUCATION

The School System is under the jurisdiction of the **Ministry of Education and Training (MET)**. In addition to schools, this Ministry also has the responsibility for arranging some teacher training programmes and some technical institutes.

School education in Iran consists of twelve years of instruction, divided into three main periods: Primary School (Dabestan), Guidance Cycle (Doreh-e-rahnama-ee), Secondary School (Dabirestan). Public special education through the primary and guidance school levels is compulsory, and thereafter, in other type of schools, education is voluntary. Most of the primary, guidance and secondary schools are state schools. Primary and guidance education are free and children are generally admitted. A nominal fee is charged for the state-run secondary schools. In general, success in entrance examination is one of the pre-requisites to enter any school beyond the compulsory school levels.

Primary education is the first stage of general and compulsory education in Iran. It is a five-year course and covers children of six to ten years of age. Primary education is designed to provide the basic skills. Guidance Cycle is the second stage of the compulsory education and covers children of 11–13 years of age. It is a three year course programme. Secondary School Education, is the third stage of public education. Secondary School, sometimes called the Intermediate Cycle, is neither compulsory nor entirely free. It covers children in the age group
of 14 to 17 years. Secondary School is divided into two main streams of general academic and vocational/technical.

Formerly, in the Iranian educational system, the last four years of education were presented in high school and students were awarded Secondary Education Certificate (SEC). In the new system, operational since 1993, secondary level has been divided into two periods of three years of high school and one year of pre-university period. Having completed the high school period successfully, students are awarded the Secondary School Certificate (SSC). However, those who want to attend the university have to take the pre-university entrance test. This is a general knowledge test, which covers syllabus of subjects studied by the student during the three years of high school education. Students, who successfully pass examinations at the pre-university period are awarded the Higher Secondary Certificate (HSC). They become eligible to sit for the national university entrance test (Konkur), which enable them to enter the tertiary programs (23). There are also special schools for the blind, deaf and the other handicapped students at the above three levels in Iran.

1.2.2 HIGHER EDUCATION IN IRAN

Universities and colleges based on the western pattern have not had a long history in Iran. Iran’s experience with post secondary education started in the 1920s with the small teacher’s colleges. The first modern Iranian university was established in Tehran, the capital, in 1934. After a decade following the World War II, the major provincial universities were founded, and in the following years many other institutions for higher education were established. By 1967 the Ministry of Science and Higher Education (after 1979, called the Ministry of Culture and Higher Education and recently after 2001 called Ministry of Science, Research and Technology) coordinated and monitored most colleges and universities (24). At present, the higher education is offered by groups of institutions viz., universities, colleges, higher education Institutes, advanced schools, teacher training colleges (TTC) and post-secondary technical institutions.

Most higher education institutions are state institutions and provide education free of charge. Two Ministries i.e. Ministry of Science, Research and Technology
(MSRT) and Ministry of Health, Treatment and Medical Education (MHTME) are responsible for non-medical and medical higher education, respectively. Establishment of medical education institutions as universities started functioning effectively in 1985. These universities were established on the basis of the medical schools, which were actually part of the existing universities (25). Teacher Training Centres are under the jurisdiction of the Ministry of Education and Training (MET). In 2007 the number of Teacher Training Centers throughout the country exceeded 114 centers. In addition to these, some other ministries such as the Ministry of Telecommunications and the Ministry of Petroleum have their own universities dealing with technological courses/research in their respective professional fields.

Post-secondary technical institutions, although offering the higher diploma (also offered by universities) are considered as a higher education award in Iran. These are more closely integrated with the technical and vocational sector of the education system, because of the orientation of their courses. In Iran there are 475 universities and 77 higher education institutes, colleges and research centers, of which 67 universities deal with non-medical science and are under the jurisdiction of Minstry of Science, Research and Technology (MSRT), 37 with medical science education are affiliated to Minstry of Health, Treatment and Medical Education (MHTME), 228 Distance Education Universities (DEU)(Payam-e-Noor University) affiliated to MSRT and 124 non-govermental universities, which are known as Islamic Azad Universities (IAU). More than twenty seven universities are located in Tehran, the Capital (26).

Universities normally offer a full range courses; however all universities currently do not offer the PhD courses (including Teacher Training Colleges) and higher institutes, which offer Associates of Arts (A.A) degree (post high school diploma) and Bachelor degree, sometimes Master degree but not PhD. However, several major universities have Doctroal and Masters programmes in a considerable variety of subject fields. The post school diploma or Associate of Art (in Persian Kar-dani) is a full time two-year course, whereas the Bachelor degree (kar-shenasi) normally takes about four years to complete, Master degree (karshenasi-arshad) about two to three years and PhD a minimum of four years and
The maximum of six years of study following a Master degree. The language of instruction in higher education (as in all levels of education) is *Farsi (persian)*. In term of institutional structure, all the major universities are composed of largely autonomous faculties (daneshkadeh), each covering a major subject areas such as literature (letters or arts), humanities, technology, science and agriculture. The university educational system in Iran is similar to US semester credit system. Academic year commences in September of each year and concludes in June of the next year. Each academic year has two semesters. University students are admitted annually through the *National University Entrance Examination (Konkoor)*, which is conducted by the MSRT (27).

### 1.2.3 NON-GOVERNMENTAL HIGHER EDUCATION IN IRAN

Private universities and higher education institutions are permitted, mainly to alleviate the financial burden on the state. They are independent with regard to internal policies and administration. These universities and institutions do not receive any financial support from the Government. Private universities and institutions have to abide MSRT, MHTME and Ministry of Education guidelines regarding courses and education standards. *Islamic Azad University* is the most popular private university established in 1982. It has *124 branches* in the various cities, throughout the country (28). Number of faculty members and students in universities of Iran was given in *Tables 1.1 -1.2 & 1.3*.)
Table 1.1: University Students’ Distribution by Educational Levels in Iran

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Educational Levels</th>
<th>Governmental Universities</th>
<th>Non-Governmental Universities &amp; Institutes</th>
<th>Islamic Azad University</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Associate of Arts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>195434</td>
<td>20</td>
<td>15411</td>
<td>35.3</td>
</tr>
<tr>
<td>Bachelors</td>
<td></td>
<td>688085</td>
<td>70.5</td>
<td>25376</td>
<td>58.2</td>
</tr>
<tr>
<td>Masters</td>
<td></td>
<td>47713</td>
<td>4.9</td>
<td>2513</td>
<td>5.8</td>
</tr>
<tr>
<td>Professional Doctorate</td>
<td></td>
<td>30291</td>
<td>3.1</td>
<td>10845</td>
<td>1</td>
</tr>
<tr>
<td>PhD</td>
<td></td>
<td>13838</td>
<td>1.4</td>
<td>319</td>
<td>0.7</td>
</tr>
<tr>
<td>Total</td>
<td>Number</td>
<td>975361</td>
<td>100</td>
<td>43619</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Percent</td>
<td>46.06</td>
<td>20.06</td>
<td>51.88</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 1.1 indicates students’ distributions based on educational levels in universities of Iran. It also shows that total 2117471 students are in universities of Iran (governmental and non-governmental). This comprises of Associate of Arts students (589308), Bachelor students (1389751), Master students (80377), Professional Doctroate (41136) and PhD (16899). This table also displays that 46.06% of the students study in the governmental universities 20.06 in non-governmental higher education institutes and 51.88% in non-governmental Islamic Azad Universities. According to this table number of students in non-governmental universities are more than governmental universities (29).
Table 1.2: University Students Distributions by Field of Study and Sectors (Governmental and Non-Governmental) in Iran (2005-2006)

<table>
<thead>
<tr>
<th>Field of Study</th>
<th>Govermental</th>
<th>Non-Governmental</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Humanities</td>
<td>443935</td>
<td>45.5</td>
<td>520964</td>
</tr>
<tr>
<td>Basic Science</td>
<td>135526</td>
<td>13.9</td>
<td>95773</td>
</tr>
<tr>
<td>Medical Science</td>
<td>91272</td>
<td>9.3</td>
<td>41402</td>
</tr>
<tr>
<td>Engineering</td>
<td>210520</td>
<td>21.6</td>
<td>368006</td>
</tr>
<tr>
<td>Agriculture &amp; Veterinary</td>
<td>61418</td>
<td>6.3</td>
<td>83875</td>
</tr>
<tr>
<td>Arts</td>
<td>32690</td>
<td>3.3</td>
<td>31828</td>
</tr>
<tr>
<td>Total</td>
<td>975361</td>
<td>100</td>
<td>1142110</td>
</tr>
</tbody>
</table>

Table 1.2 represents students distribution based on field of study and sectors (governmental and non-governmental) in Iran. It shows that maximum number of students 964899 (45.5%) are from the Humanities followed by 578526 (27.32%) Engineering, 231561 (10.93%) Basic Sciences, 145293 (6.86%) Agriculture and Veterinary, 132692 (6.27%) Medical Sciences and 64518 (3.05%) Arts (30).
Table 1.3 indicates full time faculty members distribution by academic ranks and sectors (governmental and non-governmental) in Iran. It shows that maximum number of faculty members 20218 (46.9%) are Lecturers followed by 14603 (33.9%), Assistant Professors, 4607 (10.7%) Others, 2137 (5%), Associate Professors, 1066 (2.5%) Professors and 503 (1.2%) Educators. It can be concluded that number of faculty members in governmental universities are more than non-governmental (31).
Table 1.4: Students’ Distribution Province-Wise in Iran*

<table>
<thead>
<tr>
<th>Iran Provinces</th>
<th>Population</th>
<th>No. of Students</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ardebil</td>
<td>1247000</td>
<td>56470</td>
<td>2.67</td>
</tr>
<tr>
<td>Busher</td>
<td>808000</td>
<td>28057</td>
<td>1.33</td>
</tr>
<tr>
<td>Charmahal and Bakhtiyari</td>
<td>833000</td>
<td>24169</td>
<td>1.14</td>
</tr>
<tr>
<td>East Azarba-ijan</td>
<td>3483000</td>
<td>109470</td>
<td>5.17</td>
</tr>
<tr>
<td>Esfehan</td>
<td>4396000</td>
<td>163655</td>
<td>7.73</td>
</tr>
<tr>
<td>Fars</td>
<td>4324000</td>
<td>132144</td>
<td>6.24</td>
</tr>
<tr>
<td>Gilan</td>
<td>1614000</td>
<td>63555</td>
<td>3.00</td>
</tr>
<tr>
<td>Golestan</td>
<td>2389000</td>
<td>35582</td>
<td>1.86</td>
</tr>
<tr>
<td>Hamedan</td>
<td>1732000</td>
<td>49862</td>
<td>2.35</td>
</tr>
<tr>
<td>Hormozgan</td>
<td>1285000</td>
<td>18636</td>
<td>0.88</td>
</tr>
<tr>
<td>Ilam</td>
<td>539000</td>
<td>16014</td>
<td>0.76</td>
</tr>
<tr>
<td>Kerman</td>
<td>2381000</td>
<td>75666</td>
<td>3.57</td>
</tr>
<tr>
<td>Kermanshah</td>
<td>1921000</td>
<td>42347</td>
<td>2.00</td>
</tr>
<tr>
<td>Khoozestan</td>
<td>4278000</td>
<td>107258</td>
<td>5.06</td>
</tr>
<tr>
<td>Kohkiloye and Boyer Ahmad</td>
<td>674000</td>
<td>21701</td>
<td>1.02</td>
</tr>
<tr>
<td>Kordestan</td>
<td>1546000</td>
<td>27374</td>
<td>1.29</td>
</tr>
<tr>
<td>Lorestan</td>
<td>1740000</td>
<td>49882</td>
<td>2.36</td>
</tr>
<tr>
<td>Markazi</td>
<td>1345000</td>
<td>82323</td>
<td>3.89</td>
</tr>
<tr>
<td>Mazandaran</td>
<td>2796000</td>
<td>112387</td>
<td>5.31</td>
</tr>
<tr>
<td>North Khorasan</td>
<td>780000</td>
<td>21607</td>
<td>1.02</td>
</tr>
<tr>
<td>Qazvin</td>
<td>1133000</td>
<td>43251</td>
<td>2.04</td>
</tr>
<tr>
<td>Qom</td>
<td>1038000</td>
<td>20957</td>
<td>0.99</td>
</tr>
<tr>
<td>Razavi khorassan</td>
<td>5158000</td>
<td>136485</td>
<td>6.45</td>
</tr>
<tr>
<td>Semnan</td>
<td>579000</td>
<td>52428</td>
<td>2.48</td>
</tr>
<tr>
<td>Sistan and Baluchestan</td>
<td>2219000</td>
<td>50986</td>
<td>2.41</td>
</tr>
<tr>
<td>South Khorassan</td>
<td>506000</td>
<td>20447</td>
<td>0.96</td>
</tr>
<tr>
<td>Tehran</td>
<td>11932000</td>
<td>431744</td>
<td>20.39</td>
</tr>
<tr>
<td>West Azarba-ijan</td>
<td>2897000</td>
<td>56470</td>
<td>2.67</td>
</tr>
<tr>
<td>Yazd</td>
<td>941000</td>
<td>56025</td>
<td>2.65</td>
</tr>
<tr>
<td>Zanjan</td>
<td>963000</td>
<td>35620</td>
<td>1.68</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>67477000</strong></td>
<td><strong>2117471</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 1.4 represents students’ distribution province-wise in Iran. It shows that maximum Number of students 431744 (20.39%) are in Tehran Province (the capital), however minimum 21701 (1.02) are in North Khorasan Province and Kokiloye-va Boyr-Ahmad Province (32).

* In academic year 2005-2006.
1.3 LIBRARY AND INFORMATION SCIENCE EDUCATION IN IRAN

Traditional library practice has a very long history in Iran and it goes back to the pre-Islamic era even than fifteen centuries ago (33). The modern library movement in Iran started only in the early 50s. It actually took half a century for Iranian libraries to feel waves of modern library movement initiated by Charles Ammi Cutter and Melvil Dewey more than 100 years ago in the United States. Modern librarianship in Iran began with some specific short term training courses on the basics of modern library practice with emphasis on classification and cataloguing. Those courses were held occasionally and differed primarily by audience, for which they were aimed. The first course offered in 1938 lasted for four months; other early courses were given in 1952, 1954, 1956, and 1960. Formal library education in Iranian educational organizations began with two hours courses on introduction to library use and practice for first year university students in the early 1960s. It was in 1966, when the first full library education programme was introduced in the University of Tehran at Master's level. Simultaneously, the Iranian Library Association (ILA) was established. Seminars, conferences, and workshops held by ILA facilitated spread of modern library knowledge and practice all over the country, especially where a higher education institution with libraries existed. By the mid-70s almost all of the Iranian libraries were familiar with modern library practice, rules and regulations. This rapid transformation is well stated by John F. Harvey in the following:

A vigorous forward thrust in education and culture could be observed by visitors by the mid-1950s. The information service (or library) field was rapidly transformed from an unprofessional to a highly professional field with eight information service schools. These changes developed primarily through the influence of American and British ideas on knowledgeable and ambitious Iranian librarians. (34)

In the Pre-Islamic Revolution years a large number of libraries were serving the nation all around the country. A brief account of those times could be quoted again from John Harvey: "The Pre-Revolution information field was large and interesting with about 6500 (mostly small school and mosques) libraries serving a nation…” (35) The quoted words, however, refer to years that the population, which was estimated about 36 millions. It means a small library for every 5500 people, mostly living in rural areas, apart from the services that were mostly
available for urban citizens. There were a few book mobile services in Tehran (the capital city) and some other large cities. After the Islamic Revolution, with more emphasis put on mosques and with more encouragements in development of cultural affairs, more and better equipped mosque libraries were founded in Iran. Furthermore, the Construction Jihad Movement (Jihad-e Sazandegi) was initiated as a revolutionary organization in 1979, aimed primarily on the development of the rural areas. Different services, including libraries were extended to thousands of villages in the Iranian countryside. All of these small libraries, housed in the country mosques or in the Jihad's offices, are to serve farmers and their families (36). When talking about libraries one should not ignore a number of religious Islamic educational centres that are busy educating volunteers (men and women), who after finishing their different levels of studies will find themselves employed in propagation and/or teaching of the Islamic religious principles in the country. These Islamic educational centres have libraries of their own, mostly holding Islamic texts and manuscripts. Some of these libraries have archived a very good level of standard of library service and practice and are known as the best and richest sources, especially for their historic and Islamic rare books collections. Examples of these famous libraries are the Astan-e Qods-e Razavi Library in Mash-had and the Ayatollah Mar-ashi Najafi Library in Qom. The first library is attached to the holy shrine of Imam Reza, the eighth Shi-ite Imam and the second one is a part of the Islamic educational centre (Houzeh) that is directed and established by Ayatollah Najafi Mar-ashi. Both libraries are equipped with modern facilities and modern preservation facilities. Visitors to the first mentioned library can enjoy also watching calligraphy activities performed by well known Iranian calligraphers and their students, who are active in the repair and renovation of the old damaged books and documents (37).

Computerization of library services became a matter for consideration in the mid-70s. Some libraries started to make elementary preparations to facilitate the establishment of computerized systems of the date. Afterwards, in the late 1970s, the introduction of the new technologies including computers was hindered by the financial, social, and economical problems that were caused by the out break of the Islamic Revolution, followed by a ten year war between Iran and Iraq. However,
the relative relieves that sometimes occurred during the war time, allowed some of
the higher education institutions to allocate some of their budgets for purchasing
computer facilities.

UNESCO (The United Nations Educational and Scientific Cultural
Organization) programmes for development of sophisticated libraries in
developing countries and the introduction of CDS/ISIS (Computerized
Documentation System-Integrated Set for Information Systems) was another boost
for some of the Iranian university libraries in applying the modern Technology.
When the war (Iran and Iraq) finished and in the post war conditions, the number
of the libraries applying computers in their services was growing dramatically. The
Iranian Documentation Centre (IRANDOC) carried out many of the functions that
facilitated the implementation of an Iranian National Information Policy, such as
formulating proposals on the basis of the UNISIST’s recommendations for
implementation of a National Information Policy (40).

Formal academic education in LISc did not start in Iran until 1966 with the
establishment of the Department of Library Science in the School of Education,
University of Tehran (UT). The first programme was offered on a Master's level
with a two year programme leading to Mater of Library Science (MLSc) degree.
The programme had two main objectives: i) Firstly, to train qualified librarians
capable to administer large Iranian libraries, and ii) Secondly, to educate qualified
people capable to run librarianship courses in Library Science Departments in
other Iranian universities. This programme ran on the basis of an agreement
between University of Tehran and the Fulbright Commission to provide at least
one American Library Science Professor annually until 1979 (41).

In addition to University of Tehran, Shiraz University, University of Tabriz,
Jundishapour University (now Chamran University in Ahvaz), University of
Ferdowsi in Mash-had, Alzahra University (Women's University) and Iranzamin
College offered Library Science Programmes at different levels: Post graduate
(only Master's degree), Undergraduate, and Post High School Diploma (Associate
of Arts). Meanwhile, some short term courses and workshops were originated by
the National Library of Iran, Irandoc, and the (Iranian Library Association (ILA).
Irandoc used to give courses in documentation and other information science based courses, and the other two organizations offered courses in librarianship (42).

After the Islamic Revolution (1978) and the establishment of Islamic Republic of Iran in 1979, there has been a tremendous growth in the field of library and information science education in Iran. Today (academic year 2005-2006) there are 86 university departments, which offer regular training courses in library and Information science. Out of these 86 university departments, 56 are supported by the Government, while 26 university departments viz. Islamic Azad Universities are private universities. 24 departments offer post high school diploma (Associate of Arts), whereas only 5 universities have facilities for BLISc, MLISc and PhD degree, while 13 universities run both BLISc and MLISc courses and one university (Tabiat Modares University) offer MLISc course only. The important universities with credible reputation are: Tehran University, Tehran; Tarbiat Modares University, Tehran; Iran University of Medical Science (Faculty of Management and Information Science), Tehran; Shiraz University, Shiraz; Shahid Chamran University, Ahwaz; Ferdowsi University, Mashhad; Tabriz University, Tabriz and Alzahra University, Tehran.

As far as selection of students, admission requirements and procedure, duration of course, curriculum, course contents, methods of examination and evaluation are concerned a uniform pattern is followed by all the governmental supported universities. It would be noteworthy that there are four levels of education in LISc in Iranian Universities: Associate of Arts (A.A) or post high school diploma, Bachelor of LISc, Master of LISc and PhD. Tehran Islamic Azad University started PhD programme in 1991 followed by Shiraz University and Mashhad Ferdowsi University in 1999, Tehran University in 2002 and Chamran University of Ahwaz in 2004. Admission to PhD course is open to candidates, who have MLISc degree with at least 15 grade averages out of 20. These candidates have to take an entrance test conducted by the above mentioned universities. For admission to all of the other mentioned three courses in Library Science viz. A.A, BLISc and MLISc a centralized national entrance examination is conducted every year separately for each course by the Ministry of Science, Research and Technology.
All the above levels are adopted to prepare students for main objectives: i) To train qualified Librarians capable of administrating four major types of Iranian libraries: Academic, school, public and special. ii) To educate qualified people to be able to run librarianship courses in LISc departments in the universities of Iran. However, there is a need for periodical examination and analysis leading to necessary changes and improvements in curriculum, so as to give place to new and desirable areas/disciplines. The details of LISc faculty members and students have been given in Tables 1.6 & 1.7.

Table -1.5: LISc Faculty Members Rank-Wise Distribution in Iran

<table>
<thead>
<tr>
<th>Ranks Category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professors</td>
<td>4</td>
<td>2.2</td>
</tr>
<tr>
<td>Associate professors</td>
<td>14</td>
<td>7.7</td>
</tr>
<tr>
<td>Assistant professors</td>
<td>53</td>
<td>29.4</td>
</tr>
<tr>
<td>Lecturers</td>
<td>109</td>
<td>60.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>180</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 1.5 indicates LISc faculty members’ academic rank distribution in Iran. It shows that maximum number of LISc faculty members 109 (50.5%) are Lecturers followed by 53 (29.4%) Assistant Professors, 14 (7.7%) Associate Professors and 4 (2.2%) Professors. It shows that majority of LISc faculty members in Iran are lecturers.

Table -1.6: LISc Students Distribution by Educational levels in Iran*

<table>
<thead>
<tr>
<th>Educational Levels</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate of Arts (Post High School Diploma)</td>
<td>4000</td>
<td>28.8</td>
</tr>
<tr>
<td>Bachelors</td>
<td>9500</td>
<td>68.3</td>
</tr>
<tr>
<td>Masters</td>
<td>360</td>
<td>2.6</td>
</tr>
<tr>
<td>Ph.D</td>
<td>40</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>13900</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 1.6 shows LISc students’ distribution by educational levels in Iran. This table also indicates that maximum number of LISc students 9500 (68.3%) are bachelor students followed by 4000 (28.8%) Associate of Arts, 360 (2.6%) Masters and 40 (0.3%) PhD.

* In academic year 2005-2006.
1.4 UNIVERSITY LIBRARIES IN IRAN

The history of university libraries in Iran started by the establishment of the first modern university in Tehran in the year 1934. During the last decades higher education institutes have grown rapidly. The growth of universities, especially after The Islamic Revolution, necessitated a new approach towards the management of university Libraries, in order to meet the ever-changing needs of fast growing student population. This requires such libraries to be well equipped, organized and have comprehensive information records like books, journals, reports, monographs, databases readily available to the students, faculty members and other service staff of the institution.

1.4.1 UNIVERSITY LIBRARY SYSTEMS

Usually in each university there is a central library and a number of faculty libraries. Presently, there are three patterns in practice with regard to the organization of library services in the universities of Iran. They are:

i) Centralised. In this system, the central library is responsible for the management of the whole library system and provision of almost all technical services for the faculty libraries. As a sample shahid Beheshti University, Tehran, right from the beginning has chosen this type of organisation.

ii) Partially Centralised. In this system, the central library provides some of the technical services for the faculty libraries and management of the faculty libraries remains with the parent faculty or school. At universities of Tehran, Esfahan, Tabriz and Ferdowsi, all the faculties have their own libraries under the jurisdiction of their respective faculties, however the Central Library is held responsible for acquisition of library material and technical processing.

iii) Decentralization. In this system, there is still a so-called central library, which function as a major Information centre on the campus, housing different collections of books and other library materials. But, in the organisational structure, this library and the faculty libraries remain independent of each other. Shiraz University, Shiraz, has a Director of libraries, but he acts as a coordinator and each faculty has its own independent library (43).
Although the aspect of the centralisation of university libraries has now been taken into consideration, yet the trends indicates that the administration is not reacting fast to bring in the unity system.

1.4.2 COLLECTION BUILDING IN UNIVERSITY LIBRARIES

In each university, library collections are usually comprised of Farsi and non-Farsi materials. Non-Farsi collections are mainly in English, Arabic, French and German. The university libraries in Iran, as a matter of fact, are much smaller in respect of resources in comparison with their counterparts in the developed countries. According to purely quantitatives surveys among the university libraries in Iran, the total library resources in dealing with the student number of the universities are much below the standards set by Association of College and Research Libraries (ACRL), formula. The biggest academic library collection, is at the University of Tehran with more than 10,50,000 volumes in both printed and nonprinted materials in the central and faculty libraries. The central library of this university, with a collection of about 650,000 volumes, is the largest of its type in the country, (45 & 46). Based on available statistics, nearly 30% of Iranian university libraries, mostly the faculty libraries, have a collection between 2000 to 5000 books. About 26% of these libraries are subscribing to more than 150 periodicals, while 24% are subscribing to less than 50 (44).

A survey (45) of the central university libraries of Iran was conducted for a comparative assessment of the various aspects of procurement of periodicals. It revealed that the number of journals procured in these libraries vary considerably. It is also observed that there has been more emphasis on foreign journals, rather than on Iranian ones. This is due to the specialized needs of the university departments. The uneven and inadequate allocation of grants to many libraries results in the discontinuity of the periodicals and this results in creating gaps in maintaining the periodicals sequentially. It has also been observed that about 80% of central libraries have no effective acquisition policy and they are acting only subjectively. Furthermore, 75.8% of these libraries use a subjective method for discontinuing, while periodical selection should be carried out according to a plan and on a regular continuing basis.
1.4.3 TECHNICAL PROCESSING IN UNIVERSITY LIBRARIES

The technical processing i.e. accessioning, classification and cataloguing are the main components of the technical processing, despite the fact that the catalogue in its present shape is losing its importance in the wake of rapidly developing IT. There is no likelihood of such an essential tool vanishing altogether, especially in countries like Iran. As a matter of fact both cataloguing and classification had been the backbone of librariabship in this part of the world. As compared with other types of libraries the university libraries are in a much better position in information processing. A fairly satisfactory catalogue does exist in all these libraries. There are three systems of classification: Library of Congress (LC), Dewey Decimal Classification (DDC), and National Library of Medicine (NLM), in use at the university libraries of Iran. Consequently, it is almost impossible to impose a standard classification scheme on all the libraries. With the increase in indigenous literature the inadequacy of the above systems was gradually felt. Therefore, to catalogue the Farsi materials some home-made tools such as “Farsi Subject Heading”, “Farsi Medical Subject Heading”, authority list of the Government Corporate Bodies, authority list of Author Names have been formulated.

Lately, most central university libraries have installed computer-based descriptive cataloging system. Many of these systems were originally developed to print catalogue cards. Presently, Iranian National Bibliography database, is available on machine-readable device. In recent years, some attempts have been made to prepare IRAN MARC format to include cataloging data for library materials published in Farsi (46).

1.5 IT IN IRAN

The concept of IT in Iran is getting momentum, however not at the desireable level.

1.5.1 IT INFRASTRUCTURE

Infrastructure is a key factor for many activities of any organization. It is also true for LISc services including IT. Some key studies of the infrastructure of
information were published during the period 1971-79 by UNESCO and similar
international and national organisations and later on by some individuals such as
Ononogbo (47), and Peaz-Urdaneta (48). A definition per se as to what the
infrastructure of information or information technology is, has not been easy to
come by in the literature. The term has been defined by outlining elements of such
an infrastructure. Atherton (49) defined information infrastructure, “the national
capabilities for making knowledge and information accessible for the transfer of
knowledge and information and therefore for putting knowledge to work.”

Until the 1970s, it was assumed that process of economic and social
development was a simple matter of transferring advanced technology to
developing countries and that this process should be carried out quickly as
possible. However now many countries are emerging from colonial rule and most
of them wish to have the best and the latest technology. It became increasingly
obvious that this did not work. Huge debts were incurred, socio-cultural problems
developed, projects failed or did not live up to the expectations (50). Today, many
authors such as Ferreiro (51), Park (52) and Hannal (53) believe that informatics
development and diffusion depend heavily on infrastructure and policy.
Information society cannot be realized by technological possibilities alone. Besides
the technological side, some socio-political, and other factors should also be
considered. As Igwe (54) stated that the primary concern today is the provision of
the basic infrastructural facilities for meeting the requirements for entering into the
electronic age.

In Iran, major steps have been taken especially in the recent years to
maintain a steady growth in the Information and Communication Technology
sector. Nonetheless, the sector today faces major and some basic challenges
requiring a lot more to be carried out to narrow the gap between developed and
developing countries. Consequently, there is a heavy investment in the
telecommunication system. Since 2000, it shows that the number of telephone
lines, cellular phone, and radio and television stations have grown (55). On the eve
of the Islamic Revolution, there had been 850,000 fixed telephone lines in service
in Iran, however by the end of 1988, it rose to 1,879,682, and in 1993 increased to
3,597,900 lines. The growth remained unabated since. By 1999, there were
8,400,000 telephone lines in service throughout the country, while in 2005 the number of telephone lines 17.4 million and mobile phones were 4.6 million and estimate that it will reach to 35 million for fixed lines and 28 million lines for mobiles in 2009 (56). It is observed that the number of main lines in the urban systems have approximately been doubled during five years and thousands of mobile cellular subscribers are being served.

There has been a considerable increase in number of the Internet users in the recent years. According to national statistics, from early 2005 to 2009, number of Internet users will increase from 6.5 million to more than 25 million. Many villages (43000) have been brought into the net (57). In 2005 there was one computer for per 12 people. Regarding such growth in investing on human resources and IT infrastructure, the government has stressed the importance of improving more access to novel technologies and using IT potential in private and governmental sectors, through allocation of about 25 billion dollars initiating budget for the development of communication and IT infrastructure during the fourth-fifth Year National Development Plan of Iran. There were more than 30000 km operational Fiber-Optic Network and 35000 high speed ports. Total international Internet gateway bandwidth has been 550 Mbps in 2005. Furthermore, some projects have been carried out for developing IT infrastructure in the country. The latest macro project in the field was the National Internet Project, became operational in September 2006 and domestic users have been able to receive web services at far lower costs.

Consequently, it becomes necessary to build the infrastructure to support the development and properly use of IT, including the facilities for training and communication infrastructure, provision for maintenance facilities for computer hardware and software and organizational mechanism for procurement, development and application of the technology (58). These conditions are not only required at one sector or one organization, but it is also neccessary to develop this capability at national level. Accordingly, the government in the country has a major role to play if the country is to stand perfectly in this global information arena (59).
1.5.2 IT NATIONAL POLICIES, STRATEGIES AND PROGRAMMES

As mentioned before IT plays an important role in the development processes of countries. It effects all society sectors including industry, economic, agriculture, mining, banking, commerce, health-care, education, publishing, environment, management, energy conservation, transportation and so on (60). The IT can be the main factor in increasing productivity in public administration, communications infrastructure, industry and agriculture. (61, 62 & 63).

Furthermore, many studies have already shown that IT can be useful for education purposes (64 & 65), geographical applications (66), financial applications (67), health systems (68), tourism (69) and other sectors. Such centralized IT system requires administrative and supportable infrastructure (70). Governments can play a catalytic role in developing this infrastructure and stimulating the effective use of these infrastructures in supporting of nation-wide competitiveness. About 10 years ago, in Iran IT looked like a vital tool for economic and social development, but no priority and national plan were defined by the government in this regard. Some organizations had their own IT plans, but they were old and out dated with the limited specific budget allocation at national level. Several authorities with different and sometimes overlapping responsibilities were involved in IT application (71). The oldest entity, which is responsible for developing IT policies and strategies in Iran, is the High Council of Informatics, established after the Iran Revolution to systemise information technologies (IT) and ICT activities. Its primary role was to assess and classify IT enterprises and supervise software development activities. Another entity is the National ICT Agency (NICTA); in Farsi called TAKFA; which is led by the previous President of Iran, S M Khatami. It has the overall responsibility for ICT initiatives in the country. NICTA is responsible for designing and managing the Application Plan of Information and Communication Technology (TAKFA) in Iran. Although NICTA is very important to the support of ICT, it has not established policies and strategies for using ICT in Iran. This task fell to the High Council of IT, a Board of the Post, Telephone and Telegraph Ministry, recently Ministry of ICT.

Further, the Iran Informatics Companies Association (IRICA) was formed in 1944 with the primary objective of being a catalyst for the growth of the ICT
industry. IRICA is a nongovernmental, not-for-profit organisation, financed mainly by the annual payments of its 600 members. The Information and Communication Technology Application programme (TAKFA) is, at this point, the most important policy initiative for Iran. Its mission was to foster the development of a knowledge-based economy by achieving the following objectives:

i) Creating infrastructure (network, law and security) for Iran’s information and communications development.

ii) Compiling and applying a comprehensive system of communications and information.

iii) Developing productive employment.

iv) Promoting the development of ICT skills at both individual and institutional levels.

v) Implementing flagship projects.

A number of plans are to be developed to guide the pursuit of these objectives:

i) A plan for electronic government (system, virtual network, law and security).

ii) A plan for promoting ICT application in education and expanding digital skills in Iran’s manpower.

iii) A plan for expanding ICT in higher education.

iv) A plan for expanding ICT in health, treatment and medical education.

v) A plan for expanding ICT in economy, commerce and trade.

vi) A plan for expanding the culture and knowledge of ICT, and for strengthening the Persian script and language in the computer environment.

vii) A plan for expanding active SME in ICT by creating growth centres and ICT parks.

A number of initiatives have been undertaken to execute these plans, and the most relevant to the education sector are:

1. Developing a science network (universities and research institutes).

2. Developing a growth network (Ministry of Education Schools).

3. Creating a national information portal (i.e., creation of a web for all executive bodies and dissemination of relevant information through it.)
4. Developing ICT in schools.
5. Creating digital libraries.
6. Developing remote control medical services.

The main activities of TAKFA that have affected education in Iran are:
1. The application of ICT in schools and workforce development (at primary and secondary schools as well as vocational training institutes).
2. The application of ICT in higher education (Medicine, Engineering, Social Sciences, Arts, etc.).
3. The development of ICT in cultural issues (Farsi writing and usage, art, culture, etc).

In all, a total of 1,650 projects have been officially submitted to the Supreme Council of ICT (SCICT) with a total value of over US$ 2.7 billion. Most of them were for consultancy, concept development and feasibility studies, creating infrastructures in organisations, completion of projects defined in the past and human resource development.

1.5.3 IT ACCESS AND USE IN EDUCATION

The most widely used ICTs are multimedia CD-ROMs, web portals, electronic support of traditional curricula (PowerPoint presentations, etc.) and online newsgroups. The governmental partners in Iranian education are:

i) The Ministry of Education has planned to develop ICT applications in primary and secondary education. The Growth Network is the ministry’s plan for establishing ICT facilities in schools. Guidelines for the Growth Network include research and development, putting hardware and the Internet connectivity in place, developing educational materials and providing training for people in the education sector.

ii) The Vocational Training Institute has a few courses on IT and ICT.

iii) The Tehran Technical Training Institute provides training leading to the Microsoft Certificate of System Engineering (MCSE).

iv) The Electronic Education Committee of TAKFA is responsible for expanding the use of ICT in education by continuing to manage the progress of projects, conducting seminars to develop ICT expertise, identifying appropriate
educational models and establishing a digital education database. They continue to develop education software products.

v) The Iran National Radio and TV offers the Education Channel, which offers many programmes in the realm of IT-related subjects ranging from how to use various softwares to scientific shows and documentaries. There is also a radio station, the Education Station, which offers similar programmes. The other effective public broadcasting medium is the teletext provided by TV channels 2 (Farsi version) and 3 (English version). It offers a wide variety of information that is periodically updated, as well as daily information on topical matters.

vi) The Private Sectors offers computer training in computer labs certified by the Ministry of Jobs and Social Insurance. These are the centres of IT-related training.

1.5.3.1 MAJOR INITIATIVES

The various efforts have been made to develop IT based education in Iran are:

i) The Ministry of Education has initiated an Electronic School Plan in 10 schools that facilitates the use of computers and provides training for teachers and learners.

ii) Pardis Technology Park is located in Pardis area in the northeast of the capital city of Tehran. It plans to provide a range of services including ICT services; training and education; consulting, investing and marketing; banking, financing and insurance; and laboratory and workshop facilities.

iii) School Net was established with the support of the Science and Arts Foundation (SAF) and Sharif University of Technology. School Net makes it possible for schools and cultural institutions to connect to the Internet. Moreover the central intranet at SchoolNet facilitates access to the educational resources on the web and provides a portal to interact with the users.

iv) The Vocational Training Institute has established more than 50 centres for ICT education.

v) The Electronic Education Committee of TAKFA has held some electronic education seminars in Tehran that brought together experienced specialists and
technologists to brainstorm about both the literature and the perspective of e-learning.

vi) The website www.irankids.com provides services to children that include training in areas such as science arithmetic, safety, art and music; entertainment such as proverbs, comics, jokes, picture galleries and computer games; parental training such as nutrition for kids, how to “tech” your kid and how to behave towards your kids; an Internet school for Iranian children; and a news board for kids.

vii) The first virtual classroom was an online teacher training class promoted by the Research and Programming Organization. It provided an opportunity for a number of experts of the Educational Department of Technology Lab (EDTL) to take part in the classroom as students and experience a virtual classroom. The project was suggested by Parviz Dullayee, President of EDTL and the staff of Electronics, Computer and Telecommunication Department (ECTD) of Wollongong University. The content of the eight-week course focuses on computer hardware and software, connection to the Internet and web-based applications.

1.5.3.2 DETAILS OF SOME TRAININGS COURSES IN IT

The details of some of the training courses are given below:

i) The Vocational Training Institute has established ICT courses for teachers.

ii) All governmental staff must take a 130-hour course on MS Office and ICT concepts.

iii) Seventy percent teachers of the Ministry of Education have passed ICDL courses. The content of these courses includes general IT information, introduction to OS and working with files, word processing, electronic presentation, spreadsheets, databases, the Internet and mail and using search engines (74).

At present, Ministry of ICT is responsible for national development of ICT in Iran and Information Technology Council Excellence (ITCE) is responsible for national level strategic decision making and IT policies. Iran Telecom Research Center (ITRC) is also responsible for research, knowledge creation and high level consultancy in IT development in Iran. National approach on IT could be viewed at
two aspects; (a) IT as an enabler for national development and (b) Promote local IT industry. Currently the focus of Iranian IT is on the following areas:

1.5.4 THE FOURTH FIVE YEAR DEVELOPMENT PLAN

In the fourth 5-Year Iran National Development Plan (2005-2009), IT has a major role. The main goals of this plan includes: i) Increasing the Internet users to 35% of population; ii) Increasing telephone subscribers to 50%; iii) Increasing mobile cell phone subscribers to 40%. The value of ICT projects in this plan consists of 19 billion dollars for communication development and 5 billion dollars for IT infrastructure. The government’s policy in telecommunication sector has comprised:
i) Migration from monopoly to competition in telecom industry;
ii) Telecom de-regulation;
iii) Migration from traditional telecom to Next Generation Network (NGN); and Promotion foreign investment. The quantitative goals in this plan contains 40 million telephone lines, 30 million mobile lines, and 20 million Internet access accounts. The qualitative goals of government includes: developing e-enabled national services such as E-commerce, E-learning, E-health, and E-government.

First-step IT infrastructure implementation plan also includes some projects for developing IT infrastructure in the country. These projects mostly contain e-services in fields of commerce, learning, health, and government. These projects need to cooperate between related Ministries and Ministry of ICT. The IT has to be treated as a priority segment, which will improve the existing segments of the economy (75). It becomes necessary for each country to have an IT strategy. As an example, Japan was one of the first countries to have a national level strategy for the informationalization of the society (76).

This policy envisages promotion of IT development, promotion of software development and acquisition and promotion of education and training, promotion
of database establishment and development of complete information providing services, and international cooperation. Iran IT plan has comprised these strategies:
i) National ICT development strategy document (finalized); ii) Telecom revolution plan; iii) Migration to NGN plan; iv) Telecom Liberalization plan; v) National IT policy and strategy document; vi) National IT strategy for e-Government; vii) National IT strategy for e-commerce;
viii) National IT strategy for e-learning and; ix National IT strategy for e-health (77).

1.5.5 RESEARCH AND INNOVATION IN IT

Iran Telecom Research Center (ITRC) proceeds as a national-level organization for research management in IT fields such as: Developing National Strategy in IT, Developing Migration Plan to NGN, and Supporting Innovation in IT Industries. Government has created several ICT parks and Incubators such as: Tehran Software & Information Technology Park, IT Park and proceeding to the Regional Center of Excellence of ICT (RCEICT) and other provinces technology parks such as: GSTP - Guilan Science Technology Park; KSTP– Khorasan Science and Technology Park; SBTP-Sheikh Bahai Technology Park; Yazd IT Park and PTP - Pardis Technology Park (78).

More than 427 companies located in Science and Technology Parks as well as Incubators 1600 individuals employed. Their main objective is to increase the wealth of the society by encouraging and furthering a culture of innovation and competitiveness among the companies and institutes relying on science and technology and located in these parks. These parks offer:
i) A tool for knowledge based development; ii) A tool for regional development; iii) Appropriate, high-quality infrastructures for technology-intensive enterprises; iv) Services with high added value (expert, communication and support); v) Synergism among universities, research centers and private companies; vi) Expanded international linkage and; vii) Attractive investment opportunities in technology (79).

Regarding to Iran Government’s policies, it observes that the existing IT initiatives have been made in a context, wherein there are some integrated policies on IT for development, which takes into account the national and regional
specifics. In fact, the Government has developed researches relatively in the field of IT and its policy in developing national capabilities.

1.6 DESIGN OF THE STUDY

This section outlines the research design of the study undertaken. It describes the need and significance of the study, statement of the the problem, objectives, research questions, assumptions, scope and limitations, research methodology, definition of major terms that has been used to examine the use of IT in academic departments of Library and Information Science (LISc) in Iranian universities.

1.6.1 STATEMENT OF THE PROBLEM

Faculty members must makes new choices about their pedagogy to incorporate IT into their classroom practices and also students to support in their various works, which are expected to do. This research tried to study the use of Information Technology in academic departments of Library and Information Science in universities of Iran.

1.6.2 The NEED AND SIGNIFICANCE OF THE STUDY

Despite the increasingly widespread use of IT by faculty members and students, relatively few research works are available, either based on personal experiences and/or theoretical in nature. There is not a single study based on scientific based research. However, some related studies are available at international level but not directly related to present study. Among the issues related to the academics use of networks, McClure (80) raises the following questions:

1. How can the use of electronic networks facilitate the tasks and goal of particular communities of users within this academic setting?
2. What problems do particular academic groups of users face in attempting to exploit networks for the accomplishment of those tasks and goals?

On the other hand new trends in teaching have happened. There is an indisputable need to maintain continuity, change and growth. The rapid development of using IT in the libraries and information centres has made a need to
study technology tools, e-resources, and the services. A large amount of universities budget is spent for purchase IT facilities and equipment in Iran. Authorities and decision makers should know whether the IT facilities and equipment are used properly in the academic teaching departments or not and also for which purposes the academic members and students use them. They should know whether they use these facilities for academic purposes or not.

Consequently, there is an urgent need to address these problems and other ancillary questions to find out the use of IT services among the LISc faculty members and students in the universities of Iran.

1.6.3 OBJECTIVES
1. To study the status of IT utilization among LISc faculty members and students in universities of Iran;
2. To identify users and non-users of IT and IT components and services among Iranian LISc faculty members and students;
3. To find out purposes of IT use among LISc faculty members and students in Iranian universities;
4. To explore the possibilities of various IT based services/systems, used by faculty teachers and students in academic LISc departments in Iran;
5. To explore the possibilities which help and motivate faculty members and students to increase use of IT;
6. To suggest/recommend ways and means to overcome problems faced by faculty members and students.

1.6.4 RESEARCH QUESTIONS
In connection with the objectives of the study, the following research questions will be addressed:
1. Do Iranian LISc faculty members and students use IT?
2. How is the status of IT utilization among Iranian LISc faculty members and students?
3. Who are the users of IT among LISc faculty members and students? Who are not? and why?
4. Why do faculty members and students use IT? What are their purposes?
5. Which IT tools and services are used by LISc faculty teachers and students?
6. What factors help and motivate faculty members and students to increase use of IT?

1.6.5 ASSUMPTIONS
1. More than 80% of LISc faculty members use IT in Iran.
2. More than 70% of LISc students use IT in Iran.
3. Highly qualified faculty members will join academic LISc departments with IT qualifications and trainings in Iran.

1.6.6 THE SCOPE AND LIMITATIONS
The present study is limited to the above statement of the problem, objectives, research questions and samples selected for the purpose. Apart from these the other limitations are:

i. This study includes only LISc departments in universities of Iran.
ii. The study covers only LISc faculty members and LISc students in Iran.
iii. The study restricted only to full time LISc faculty members and full time LISc Bachelor, Master and PhD students in Iran.
iv. The study place (Pune, India) and data samples were from Iran, consequently leads to various limitations.

1.6.7 RESEARCH METHODOLOGY
Descriptive-analytical method (survey approach) was adopted in this study. Faculty members and students were surveyed in 86 academic LISc departments in Iran. Data was collected using questionnaires as the research tool. Observations and interviews also were carried out. Two sets of questionnaires were designed and distributed among 180 full time LISc faculty members and 500 full time BLISc, MLISc and PhD students. Statistical Package for Social Science (SPSS) was used to analyze the collected data. MS Office Excel was used to draw figures and MS Office Word was used to type texts and draw tabulars.
1.6.8 DEFINITION OF MAJOR TERMS USED

i) Information Technology (IT): Information Technology refers to those technologies that are creation, gathering, processing, storage, manipulating, presenting or communication of Information. These Technologies include hardware devices; software applications; and connectivity e.g. access to the Internet and other networks, videoconferencing, and so on. In this study Information Technology (IT) defines as new technologies like: Computers, microprocessors, computer networks, information networks, the Internet, Intranet, LAN, WAN, online and offline databanks, CDs and DVDs, mobiles, faxes, multimedia, animations, educational sofware, electronic boards, printers, scanners, digital cameras, data projectors, videoconference, satellite and digital TV, etc. associated with utilizing of information.

ii) Academic Departments: One of several divisions of a faculty in a university e.g. department of LISc. Here in the present study academic departments mean faculty members and students.

iii) Library Information Science (LISc) Departments: Departments which offer Library and Information science courses for A.A, Bachelor, Master and PhD students in the subject of Library and Information Science.

iv) Iran: The Islamic Republic of Iran is situated in the Middle East (West Asia), bordered by Armenia, Azarbaijan, Turkmenistan (the former Soviet Union) and the Caspian sea to the north, by Turkey and Iraq to the west, by the Persian Gulf and the Gulf of Oman to the south, and by Pakistan and Afghanistan to the east. It has an area of 1,648,195 square Kilometers, with a population of 70,472,846 million.

v) Iranian Universities: In Iran there are 457 universities and 77 higher education institutes, colleges and research centers. Out of these, 67 universities are under the jurisdiction of the Minstry of Science, Research and Technology (MSRT), 37 universities are Medical Science Universities, which are affiliated to the Ministry of Health, Treatment and Medical Education (MHTME), 229 universities are Distance Education Universities (Payame Noor Universities) under the control of MSTR and 124 universities are non-govermental universities which are known as Islamic Azad Universities (IAU).
1.7 CONCLUSION

Information plays a vital role in every aspect of life and academic university departments is no exception to it. IT has revolutionized information-related activities globally. The creation, processing, storage, retrieval and dissemination of Information have been tremendously enhanced because of recent developments in IT. Clearly the advantage of having access to information resources irrespective of geographical location should come as a boost to researchers, faculty teachers, educators, and scientists, especially those in developing countries like Iran. To maintain steady progress in universities, faculty members, researchers, educators and students must be provided with proper information at proper time, pinpointedly, expeditiously and exhaustively, from all the possible sources. The efficiency and effectiveness of academic LISc departments can be seen only by using the modern means of IT. The present study is expected to investigate the use of these modern means by LISc faculty teachers and students in Iran. The sufficient identification and analysis of the use of IT in academic departments could provide a base for decision makers, planners and policy makers in Iran MSRT to design a modern educational system.
1.8 REFERENCES


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