Chapter I

INTRODUCTION
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Background

Education is the backbone of any nation. Similarly, library is the backbone of education. Education is must for any kind of development activities of the country. There are different tiers of education, such as primary, secondary, and higher. Library is a vital part for any higher educational institute. No higher educational institute can run without any resourceful library. A library is an essential prerequisite for education, research, and development in accumulating and disseminating information. So, higher educational institutes must have facilities for a good library. Faculty members, students, scientists, and researchers are very eager to know about the library for better use of resources. In the current information age, it is not possible to keep track of development activities in the absence of a good modern library or information centre in the country. “The developments of a country depend largely on its research output” (Mostafa, 2004:2). Libraries usually have a very important role to play in future development and socio-political, cultural, educational, and intellectual progress of the country.

Library started as a social unit in the social structure. According to Ranganathan, it is a ‘growing organism’ (Kumar, 1992:1). It develops and continues to grow as a social organization. Originally, the library was intended to preserve racial memory through books; however, with the progress of civilization and advances in science and technology, libraries and information centres are intended to preserve the memory of mankind through the compounded global store of intellectual capital, consisting of all forms and types of graphic, holistic and acoustic materials, including microforms, audiovisual products, computers, CD-ROMs, DVD-ROMs, pen drives, Intranet, Internet, e-library, digital library, and photocopies (Sattar, 1997:1).

Bangladesh still lacks a well-organized and planned library and information system. At the same time, some organizations in the government and private sectors in Bangladesh have shown an awareness of the importance and need of the information system. The existing libraries are not properly organized and suffer from various problems, such as, acute shortage of funds, inadequate information resources, lack of qualified and skilled staff, modern technological facilities, and there is a lack of willingness of the authorities. Under such situation, it is really very tough for any single library in Bangladesh to meet the information needs of its users. To overcome this situation of research and development
activities, establishing excellent academic library, with all sorts of information technology (IT) facilities, is a must. The main reason of developing this excellent library is to use library resources effectively through various forms. The resources are needed to ensure such a library where information, equipment, facilities, systems, services, qualified staff, time, and money are available. No library can, now-a-days, run without IT. Many academic libraries of the country started to realize that using IT facilities is one of the most effective ways to provide information at right time to users. But many of them have still not decided about what type of software they should use for the library, how they include IT facilities in their existing library system, due to lack of experience and education on IT, etc. (Mannan, 1997:2-3).

In the current study, an attempt has been made to propose and design an appropriate model plan for establishing excellent private university libraries in Bangladesh.

**Statement of the problems**

The information technology relating to library systems and services has come into force at the present information age in Bangladesh. This technology has been adopted by some academic libraries in carrying out their duties and responsibilities on information services and management. Although it is very challenging for Bangladesh to cope with the fast technology due to cost-effectiveness and administrative policy-making, the country is lagging far behind. It has been observed that many library professionals who are working in public university libraries, are not much skilled in IT to handle information systems in the country, except few. On the other hand, those who are working in private university libraries are much better skilled in IT to handle information systems for the respective institutions. Most private universities in the country do not have any organized library, except a very few.

It was almost about 20 years back that the need of the use of information technology in libraries was felt in Bangladesh. But those efforts were isolated, institution-based, and confined to a few person’s foresight, dedication, and determination. If we consider these efforts in the light of a long span of 20 or more years, it is very disappointing compared to the situation of our neighboring country, i.e. India. Due to rapid advances in computer, communications media, and related technology, libraries could not catch up that trend. While the application and use of information technology in library and information services are developing at a rapid pace in other countries, we, in Bangladesh, seem to be still slow due to lack of interest and initiatives for using information technology. Bangladesh has made a little progress in the IT sector. In the real sense, we are only considering in terms of applying information technology in the management of libraries. The librarians of Bangladesh have fully realized the importance and use of information technologies in discharging their duties efficiently. But
just the desire to use information technology is not enough. There are so many basic problems in the application and use of information technologies in libraries, particularly in higher educational institute libraries. These problems are very acute in Bangladesh (Sattar, 1997:3).

There are some problems which I felt seriously as a professional librarian of a leading private university in Bangladesh. As such I profoundly engaged myself in finding out the relevant problems in the process of application and use of information technology in private university libraries of Bangladesh. At present, there are 54 private universities in Bangladesh (UGC, 2006:88-110). Most private universities do not have any organized library with all sorts of IT facilities. Some of them have their libraries only in name, and some private universities have their organized libraries to some extent. But still now, they are facing some problems in organizing their libraries.

On the other hand, if we review the public university libraries, the picture is not at all satisfactory. There are 24 public universities in Bangladesh (UGC, 2006:63-76). But at present, only two universities have full-fledged professional librarians in their respective university library, such as Bangladesh University of Engineering and Technology, and Shahjalal University of Science and Technology. Other than these two universities, the remaining universities do not have any professional librarian. Some libraries have their librarians but not professional. The teacher of other subject of the respective university holds the librarian post. Some public universities have professional deputy librarians, but, in some cases, they hold the post of librarian-in-charge. Under the circumstances, no public universities could develop their libraries along with IT infrastructural facilities for providing faster services to users’ community, except a few of them.

Recently, University Grants Commission (UGC) of Bangladesh is trying to plan and start some programmes for public and private university libraries in Bangladesh with the help of IT facilities funded by the World Bank. The UGC will act as a focal point of all universities. Now-a-days (March 2008), it has been observed that the UGC has a very good intention to do something in respect of establishing digital libraries, electronic libraries, consortium, and developing IT infrastructural facilities for the university libraries in Bangladesh.

Since librarians are moving beyond their traditional roles as custodians of printed materials and integrating new methods of information storage, retrieval, and transmission into existing collections and services; they are, at the same time, incorporating the extensive changes that information technologies bring to organizational structures and staff responsibilities. Cline and Sinnott (1983:172) mentioned the consequences of these technological changes in their book titled The Electronic Library. They explained that “libraries are being pummeled by profound and undoubtedly permanent changes. For example, the distinction between public and technical services appears to be eroding; communications within library and outside organizations are taking on new dimensions; and new
demands are being placed on professional staff. These shifts and turns, moreover, are not one-time modifications to which libraries subsequently adjust, quickly rebounding to status quo. Rather automation apparently introduces continuous change”.

Libraries are currently experiencing technological changes in how services are provided and what these services are. These changes can be described into three major phenomena: the information explosion, rising costs of information materials, and the technology revolution (Sattar, 1997:4).

Information technology has brought a great impact and changes in our daily life, such as use of cell phone, electronic communication, internet facilities, etc. In the same manner, development of information technology has already deeply affected our libraries. Almost every function performed in a library has been altered to some extent by advances in electronics, computerization, and telecommunications. The manner in which libraries process, store, and retrieve information is changing, as is the information medium itself. The technological evolution in libraries has been called a ‘quiet revolution’. According to Becker (Winter 1979:409-17), it is quiet because the signs of change are subtle and not always obvious; it is a revolution because all libraries are affected by information technologies.

Today’s libraries are in transition from manual to electronic systems. Databases are replacing card catalogues, printed indexes, and abstracts. Information is being produced, stored, and disseminated in new forms. The merger of computers and printing is leading to a new method of information transfers. Libraries are no longer self-sufficient but are linked through electronic networks of various types. The changes brought by advances in information technology have been so extensive that it is difficult to assess their total effect, but it is clear that libraries are in a state of fundamental transformation. In the words of Battin (May 1984:170), libraries are being “reinvented in the electronic environment”.

In fact, the purpose of this study is mainly to help and establish university libraries with information technology for placing those libraries in a structural framework. As no such programme had been undertaken by any professional librarian, new avenue in the education sector, very challenging place for professional librarians, good opportunity to learn and to make the librarian scholar, vast scope to work, made myself interested in the subject and led me to take up this study.

In this study, an attempt has been made to identify all the problems relating to information technology in organizing university libraries. So, at first, problems will be identified, and second, necessary recommendations for remarking those problems in the application of information technologies in university libraries of Bangladesh will be thoroughly analyzed and discussed. As such, the librarians and information scientists could be benefited.
In view of the above, I have decided to work on Application of Information Technology in Libraries of Private Universities of Bangladesh. I will identify and analyze problems associated in IT application and show and recommend the future prospects so that Bangladesh could go forward in establishing university libraries with all IT facilities despite its present shortcomings in this area.

Objectives of the study

It has been observed that the Government of Bangladesh is not paying much attention to organize public university libraries due to budgetary constraints. As a result, public university libraries are suffering a lot. On the other hand, authorities of private university libraries are not that much interested to invest in organizing their libraries as there is no recognizable pressure from the Government and from users for establishing good libraries. There is no legal obligation also to establish libraries in private universities. Although the facilities of university libraries and laboratories have been checked by UGC people before according the approval for establishing private university. However, it is observed that the way entrepreneurs are keen to set up a university, they are not that much eager to establish a library at the same pace. Since every university should have library, so the private university authority maintains a library but not in an organized way. A very few private university maintain organized libraries. But, to some extent, there is a demand of organized libraries from users. Libraries are used in various purposes, such as reading, borrowing, reference, referral, browsing, photocopying, guiding, education, research, skills development, resource-sharing, networking, etc. Keeping these in mind, the current study has been proposed to develop a model university library, along with all sorts of information technology facilities in Bangladesh. So, the study has been designed to:

- ascertain the present scenario of library services of major public and private universities in Bangladesh;
- determine how information technologies are applied to library and information services in major public and private universities of Bangladesh;
- find out the problems relating to application and use of information technologies in the major university libraries and information services of Bangladesh;
- find out the prospects for the future of information technologies in the said libraries of Bangladesh;
- discover the strengths and weaknesses of collections of the said university libraries;
- detect the communication channels through which information is acquired by the users;
- know the current status of information technology facilities available in the university libraries;
- learn the availability of manpower, finance, and other resources required for establishing good university libraries in Bangladesh;
- get an idea of the developments in the information technology usage in different activities of the said libraries and information services;
- trace the developments in application and use of information technologies in library automation in Bangladesh;
- formulate a model plan of action for further developments in the use of information technology in private university libraries in Bangladesh;
- advise the Bangladesh Government, authorities of private universities, and management of university libraries, for giving the importance of application and use of information technology in university libraries of Bangladesh.

Scope of the Study

The present study intends to cover the whole range of facts relating to the use and application of information technology in libraries of private universities of Bangladesh. At present, there are 24 public universities in Bangladesh, of which the National University and the Open University are not having campus education with undergraduate or postgraduate departments of studies. There are also 54 private universities in Bangladesh. Since it is very difficult to study with 78 university libraries in Bangladesh due to lot of technical problems, hence I have decided to work with major public and private university libraries in Bangladesh. Accordingly, I have categorized public and private university libraries in Bangladesh as follows:

1. Dhaka University Library (categorized as general university)
2. Bangladesh University of Engineering and Technology Library (categorized as engineering university)
3. Bangladesh Agricultural University Library (categorized as agricultural university)
4. Jahangirnagar University Library (categorized as residential university)
5. North South University Library (got recognition by UGC and Webometrics ranking)
6. Independent University, Bangladesh Library (got recognition by UGC)
7. East West University Library (got recognition by UGC and Webometrics ranking)
8. BRAC University Library (got recognition by UGC)
9. American International University Library (got recognition by UGC)
10. Ahsanullah University of Science and Technology Library (got recognition by UGC and Webometrics ranking)

The above-mentioned universities have been included in this study for ensuring representative-ness from public and private university libraries and considering the application and usefulness of information technology facilities to users. Ten university libraries of the country were purposefully selected and brought under the investigation, of which, four are public universities and six are top-ranking private universities in Bangladesh.
The need and importance of use and application of information technologies in university libraries of Bangladesh have already been realized, and a beginning has already been made by major public and private universities, such as DU, BUET, NSU, IUB, EWU, BU, and AIUB.

The present study reviews the following issues out of a large number of issues that can be studied in relation to set up a model university library in Bangladesh:

- available literature of major university libraries in Bangladesh;
- status of major university libraries in Bangladesh
- status of available IT facilities in important university libraries of Bangladesh;
- survey of some selected university libraries and users in Bangladesh;
- a model plan for establishing university libraries along with all sorts of IT facilities in Bangladesh based on the survey results, literature review, and other considerations;
- recommendations for the smooth management and operation of the university libraries.

Methodology

Choosing methodology is one of the important works for any research. Correct research findings need reliable scientific methodology. In the present study, the following methodology has been undertaken:

a) Study design

- Introduction and methodology;
- Theoretical discussion of education system of Bangladesh;
- Overview of private education in Bangladesh;
- Discussion on historical background with existing status of major public and private universities and their libraries in Bangladesh;
- Collection of information and analysis of the data of major university libraries;
- Development of a model plan and recommendations.

b) Literature Review

Existing literature on the subject were studied and reviewed to examine the status of activities and services along with the help of IT facilities of major university libraries of Bangladesh. A bibliography of available literature has been given at the end of each chapter of the thesis. This study follows Harvard reference style.
c) Sample design

Considering the types, IT facilities, services, and nature of public university libraries, only four major public university libraries were selected for this study. On the other hand, as per ranking of the UGC and Webometrics, a Spain based organization funded by European Union, six private university libraries were selected for investigation. At the first phase, these 10 university libraries were brought under this survey (table 1).

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Public University</th>
<th>Year of Establishment</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Dhaka University Library</td>
<td>1921</td>
<td>Dhaka</td>
</tr>
<tr>
<td>02</td>
<td>Bangladesh University of Engineering and Technology (BUET) Library</td>
<td>1961</td>
<td>Dhaka</td>
</tr>
<tr>
<td>03</td>
<td>Jahangirnagar University Library</td>
<td>1970</td>
<td>Savar, Dhaka</td>
</tr>
<tr>
<td>04</td>
<td>Bangladesh Agricultural University Library</td>
<td>1962</td>
<td>Mymensingh</td>
</tr>
<tr>
<td>05</td>
<td>North South University Library</td>
<td>1992</td>
<td>Dhaka</td>
</tr>
<tr>
<td>06</td>
<td>Independent University, Bangladesh Library</td>
<td>1993</td>
<td>Dhaka</td>
</tr>
<tr>
<td>07</td>
<td>American International University – Bangladesh Library</td>
<td>1994</td>
<td>Dhaka</td>
</tr>
<tr>
<td>08</td>
<td>Ahsanullah University of Science and Technology Library</td>
<td>1995</td>
<td>Dhaka</td>
</tr>
<tr>
<td>09</td>
<td>East West University Library</td>
<td>1996</td>
<td>Dhaka</td>
</tr>
<tr>
<td>10</td>
<td>BRAC University Library</td>
<td>2001</td>
<td>Dhaka</td>
</tr>
</tbody>
</table>


At the second phase, more than 100 users from different groups, such as students, teachers, researchers, and other categories have been interviewed.

d) Survey

Information was collected through two sets of structured questionnaires, of which one was prepared for the survey of sample libraries and the other one for the interview of the users. Both the questionnaires, one for librarians and the other one for users, were prepared keeping in view the objectives of the study.

Based on the analysis of the general and specific objectives of this study, information on 15 broad categories of variables for libraries and 10 broad categories of variables for users were identified.

The variables and indicators of the questionnaires for libraries and users are shown in Table 2 and Table 3 respectively:
<table>
<thead>
<tr>
<th>Types of variables</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Institutional profile</td>
<td>Name, designation, and head of the university, year of establishment, educational qualification of chief executive, parent body, name of library, address, telephone, fax, telex, email, head of library, pay-scale of librarian, highest educational qualification of librarian</td>
</tr>
<tr>
<td>02 Facilities</td>
<td>Area of the library</td>
</tr>
<tr>
<td>03 Processing status of library materials</td>
<td>Methods of processing, cataloguing code, form of catalogue, catalogue system, cataloguing status of books and journals, union catalogue, classification scheme, and subject heading lists.</td>
</tr>
<tr>
<td>04 Users’ attendance</td>
<td>Teachers, students – Under Graduate, Post Graduate, M.Phil., Ph.D., researchers, staff members, and others</td>
</tr>
<tr>
<td>05 Library statistics</td>
<td>Number of books, journals, slides, daily newspapers, news clippings, audio-cassettes, video-cassettes, microfilms, microfiches, CD-ROMs, DVD-ROMs, reports, theses, maps, atlases, e-resources, subscribed databases, complimentary databases, number of additions as per fiscal year, number of current journals being subscribed, number of subject collection list – where collection is stronger</td>
</tr>
<tr>
<td>06 Library staff</td>
<td>Number of professional staff, para-professional staff, non-professional staff, technical staff, and general staff</td>
</tr>
<tr>
<td>07 Computers and infrastructural facilities</td>
<td>Computer facilities, number of computers, configuration of computers, pen drive port facilities, printer facilities, provision of CD and DVD ROMs, e-mail facilities, name of library software, name of databases, number of records entered into different databases, availability of network connection, Internet facilities, consortium, and etc.</td>
</tr>
<tr>
<td>08 Budget</td>
<td>Institutional budget, library budget, budget of books and journals, salaries of library employees, building cost, and training of library staff</td>
</tr>
<tr>
<td>09 Library services</td>
<td>Various types of services, such as reading room, reference, content awareness, indexing, bibliographic, on-line searching, e-alert, translation, SDI, CD-ROM, photocopying, abstracting, counseling, referral, consultation, e-mail, mode of different types of services, and others</td>
</tr>
<tr>
<td>10 Type of technologies used</td>
<td>Computer, facsimile, telex, telephone, photocopier, electronic mail, television, internet, and others</td>
</tr>
<tr>
<td>11 Type of services expected by users</td>
<td>Services are expected by users such as borrowing books, reference services, reading room, photocopying services, OPAC, online searching, Internet, CD-ROM search, email, land phone, through email and online network, borrowing journals, through fax, through telex and others</td>
</tr>
<tr>
<td>12 Reasons of library computerization</td>
<td>For - sophistication, smooth services, less time-consuming, shortage of sufficient space, attracting readers, cost-effective, accuracy, more effective literature search, makes an user efficient, less errors, increasing efficiency of library staff, increasing standard of library services, providing more effective services, broadened the scope of services, and others</td>
</tr>
<tr>
<td>13 Problems in providing services with IT facilities</td>
<td>Increasing cost, non-availability of IT related person, lack of computer literacy of users, time-consuming, technical barrier to access, lack of IT knowledge of staff, makes a staff idle, laborious, budgetary problems, environmental problems, and others</td>
</tr>
<tr>
<td>14 Different programmes of library services</td>
<td>Inter-library loan, use of IT changed the range or style of services, digitization programme, intellectual property rights (IPR), and measures to preserve resources.</td>
</tr>
<tr>
<td>15 Any proposal or recommendation</td>
<td>Any other developments which are not covered in this questionnaire.</td>
</tr>
</tbody>
</table>
### Table 3: Variables and indicators of users

<table>
<thead>
<tr>
<th>Types of variables</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Personal data</td>
<td>Name, age range and sex</td>
</tr>
<tr>
<td>02 Category of users’ details</td>
<td>Student – Under Graduate, Post Graduate, M.Phil., Ph.D.; faculty member, researcher, administrator, pay-scale, organizational affiliation, area of specialization, present field of study, and frequency of library visit</td>
</tr>
<tr>
<td>03 Information need</td>
<td>Collect information for teaching or study purpose; know about political situation, economic activities, and social life of the country; check references; for entertainment or recreation; gain knowledge from journals; write articles for seminar/conference; review articles or prepare research proposal; organize new design; find statistical data; and get information in discussing with the Librarian</td>
</tr>
<tr>
<td>04 Channel of information</td>
<td>Asking the author, attending conferences/seminars, accessing on-line databases, taking help of your senior professionals, writing letter to a friend, through telephone/fax/email/personal visit to an expert, from personal collection of your colleagues or own collection, and any other channels; and frequency of use of information sources</td>
</tr>
<tr>
<td>05 Time spent in the library</td>
<td>Time allotted for users</td>
</tr>
<tr>
<td>06 Evaluation of library resources</td>
<td>Journals, books, magazines, newspapers, conference proceedings, dissertations, theses, indexing/abstract journals, text-books, encyclopaedias, dictionaries, directories, yearbooks, reference books, CD-ROMs, DVD-ROMs, video cassettes, online journals, published bibliographies, on-line databases, unpublished sources, and other sources</td>
</tr>
<tr>
<td>07 Book-shelf area</td>
<td>Satisfaction of users about the arrangement of resources, suggestions of users</td>
</tr>
<tr>
<td>08 Reading room</td>
<td>Reading room space, reading room facilities, proposal for reading room, and recommendations</td>
</tr>
<tr>
<td>09 Library services</td>
<td>Lending, reference, referral, photocopy, on-line new arrival, on-line database, current content, literature searches, newsletter, translation, newspaper clippings, abstracting, indexing, SDI, guidance, students counseling, and others</td>
</tr>
<tr>
<td>10 Recommendations</td>
<td>Science and technology database, consortium for sharing databases, networking facilities, IT-based acquisition systems, use of electronic media for transfer of information</td>
</tr>
</tbody>
</table>

e) Data collection

General data about major university libraries of Bangladesh have been collected by sending questionnaires and visiting the universities, whenever needed. The librarians of the selected library were interviewed carefully with the structured questionnaires for the purpose of the study. Based on random sampling, 148 structured questionnaires prepared for users and librarians, which were distributed among various categories of library users and librarians of respective university. The users’ group includes students, faculty members, researchers, administrators, and others from different universities. 10 questionnaires were received filled up by the librarians of major universities, and 130 questionnaires were received filled up by different users of different universities. All these have been
tabulated and analyzed (both the questionnaires are given in Appendix-1). The sample consists of the following:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Public universities</td>
<td>04</td>
</tr>
<tr>
<td>Private universities</td>
<td>06</td>
</tr>
<tr>
<td>Students</td>
<td>105</td>
</tr>
<tr>
<td>Faculty members</td>
<td>17</td>
</tr>
<tr>
<td>Researchers</td>
<td>05</td>
</tr>
<tr>
<td>Administrators</td>
<td>03</td>
</tr>
</tbody>
</table>
| **Total**              | **140**

f) Sample

The following criteria were selected for the samples study:

- Libraries (public) which have already undertaken automation programme;
- Libraries (public) which have IT facilities;
- Libraries (private) which have satisfactory ranking according to the UGC of Bangladesh;
- Libraries (public and private both) which were ranked by Webometrics a Spain-based organization funded by European Union
- Regarding the users: students, faculty members, researchers, and administrators from different universities who use libraries either frequently or on ad-hoc basis for meeting their information needs were selected.

g) Data processing and analysis

Two sets of questionnaires of this study were duly edited to verify that the data recorded in the questionnaires have been carefully and accurately filled in. All the questionnaires were duly coded after editing for computer input. The steps followed in the process of data input are:

- entering data on the computer;
- conducting validation checks to ensure that data have been correctly entered on the computer;
- preparation of output tables.

The SPSS (12th edition) was used to enter, edit, and analyze data. Findings of the study have been presented in 47 tables and 18 figures using bivariate and multivariate analyses as per their applicability.
Implementation

The study was implemented in three steps:

**Step I:** Reviewing of all available relevant literatures, preparation of reading list / bibliography for the background study;

**Step II:** Preparing and testing of questionnaires, sample design, data collection, data analysis, presentation; and

**Step III:** Development of a model library.

Organization of the text:

The whole work is arranged in nine chapters, including preliminaries and appendices.

*Chapter one* is allocated for background of the study, statement of the problems, objectives, scope, methodology applied to the study, implementation and organization.

*Chapter two* deals with the education system of Bangladesh where primary, secondary, higher, technical, and library science education are discussed briefly in this chapter.

*Chapter three* is devoted to historical background and development of private university education in Bangladesh.

*Chapter four* covers historical growth and development of major public and private universities in Bangladesh.

*Chapter five* contains historical growth and development of major public and private university libraries in Bangladesh. Existing facilities and services of libraries are discussed here briefly.

*Chapter six* includes status of IT application in public and private university libraries in Bangladesh. The present scenario of IT facilities available in major public and private university libraries in Bangladesh are stated here briefly.

*Chapter seven* gives the findings of the study of 10 libraries surveyed.

*Chapter eight* provides a model plan for establishing private university libraries in Bangladesh.

*Chapter nine* discusses problems, includes recommendations and conclusion.

The study concludes with *limitations* of the study.
References


Further readings
