CHAPTER 1

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Libraries are the centres of learning and the treasure houses of knowledge. These are mainly service and nonprofit oriented organisations and play a very important role in the overall development of the nation. The role of libraries as knowledge centres and information repositories are well defined and focused, viz., acquire, organise, preserve, retrieve, and disseminate pertinent information to their clientele. Library's role as information intermediaries has always been this and it will continue to be this in future too. Libraries are rightly called the "store houses" of valuable knowledge, in the form of invaluable books, journals, databases, standards, patents and other information materials (Gopinath et al., 2002). Library collection means the several types of documents- books, periodicals and serials, government publications, academic thesis & dissertations, research reports, annual reviews, conference proceedings, pamphlets, standards & specification, patents, trade literature, maps, atlases, and globes, photographs, illustrations, painting, microfilms, microfiches, rare books, manuscripts, slides, audio cassettes etc. Among these collections, journals are core resources in libraries.

In the research and higher education sector, journals form an indispensable part of the library and information system. The primary mandate of journals are to support cutting edge academics and promotion of frontline research. Journals are the primary sources of information published with certain periodicity and they do play an important part in the communication of knowledge in scholarly disciplines. Journals are
indispensable feature of most of the libraries by virtue of their informational and research value. Among all the services provided by a research library, journal based information services are one of the most influencing functions of the library. As researchers often find current information in journal articles, effective flow of journal based information is essential for the development of teaching, learning and research activities in libraries.

Many aspects of publishing are being transformed by the arrival of World Wide Web (WWW) and its facility of electronic publishing. For Journals, the transformation has been at a fast and rapid pace. Developments in digital technologies in the recent years have given an astounding boost to electronic publishing worldwide. There has been a substantial increase in the production of electronic content, trade as well as scholarly, over the past several years. Developments in information and communication technologies have a profound impact on every sphere, academic and research activities. Research libraries are not an exception for this. Changes have been noticed in all aspects of library activities, collection, policies and user preferences. The research habits of users are changing and the researchers expect all the information to be found online. Now most of the libraries have been able to provide fast and seamless access of information to its users. In the 21st century most of the library resources are being made available in electronic formats such as E-Journals, E-Books, E-Databases, etc. Libraries are now moving from print to E-Resources (Singh, M. P. 2011).

1.2 E-PUBLISHING

The publishing world has undergone a sea change as more and more publications have become web centred. Technological revolution and information explosion have changed the contemporary outlook towards the functioning of libraries
and information centres. The library environment is rapidly changing to electronic environment. The physical hard volumes are replaced by electronic media like magnetic tapes, CD-ROMs, DVDs, etc. To cope with these changes, the publishers, libraries and users have opted Electronic Publishing. Electronic Publishing implies that the information technology has been used for generating, processing and disseminating the information to its users. In general, it is used to mean any information sources published in electronic form. The ultimate goal of electronic publishing is to provide fast and easy access to the information contained in the publications with simple, powerful and retrieval capabilities.

1.2.1 Forms of E-Publishing

The major forms of e-publishing are E-Books, Electronic Databases, CD-ROM/DVD, Multi media documents, Electronic Thesis and dissertations, Internet resources, and E-Journals.

(i) **E-Books:** An E-Book or an electronic book is an electronic or digital equivalent of a print book. E-book is either read on personal computer or on dedicated hardware device known as E-book device or E-book reader (Khan et al., 2011). The elements that are considered as important for the use of E-Books are their content, software and hardware standards, digital rights management access, archiving and privacy.

(ii) **Electronic Databases:** The holding of library databases consisting of books, periodicals, reports, and theses can be converted into electronic form that allows access for public use through digital networks. Nowadays, various electronic publishers account for publishing information, both bibliographic and full text on CD-ROMs as well as making them available for online retrieval.
(iii) **CD-ROM/DVD:** CD-ROM has provided new dimension for information storage and retrieval. This format in fact considered more useful for frequently used reference materials such as encyclopedias, dictionaries, directories and the like. Further development on this media resulted into emergence of DVD technology, which can store both sides and in two layers and storage capacity is even higher than CD-ROMs (Kumbar and Hadagali, 2009). Now-a-days most of the E-Resources are available in CD-ROM/DVD.

(iv) **Multimedia Documents/Resources:** Multimedia refers to the integration of multiple media - such as visual imaging, text, video, sound and animation in one level. On another level interactive multimedia refers to the ability of the users to control these components and interact with as needed. Multimedia is the convergence of computer and communication technology. It refers to the use of several types of media which integrates text, voice processing, film, picture, graphics, animation etc.

(v) **Electronic Theses and Dissertations (ETD):** An electronic or digital thesis/dissertation is like a conventional thesis or dissertation, a document that explicates the research of a researcher. It is developed in a form which is simultaneously suitable for machine archives and worldwide retrieval (Swain and Panda, 2011).

(vi) **Internet Information Resources:** Internet information resources can be defined as resources (including documents and non-documents) in electronic format that provide information or an indicator to the information and are accessible over the Internet (Indira Gandhi National Open University, 2003). Resources available on the Internet include web sites, web pages, library blogs,
library catalogues, e-projects, e-mails, e-maps, e-newspapers, e-zines, search engines, software, online discussion forums, online courseware etc.

### 1.3 E-JOURNALS

E-Journals are the electronic equivalents of their print counter parts. E-Journals often referred to interchangeably as “Electronic Serials”, “Online Journals” and “Electronic Periodicals”. E-Journals form a major digital collection in most of our libraries and they are growing at a surpassing rate. Almost all popular journal publishers now have their electronic version in addition to their print counterparts. Most of the renowned publishers provide online access to their current as well as retrospective contents. On the other side, the user community also has been influenced by these technologies to such an extent that there has been demand from users for providing such electronic information services in the libraries. E-Journals are becoming increasingly in demand both as a means of rapid desktop access to current research materials and as way to view past volumes.

#### 1.3.1 Definition of E-Journals

Electronic serials may be defined very broadly as any journal, magazine or newsletter which is available over the internet (Colorado Alliance of Research Libraries, 2013). There is no universally accepted definition for E-Journals. Different people might have a different term or understanding of the term ‘Electronic Journals’. Some of the definitions given by experts in the field are discussed below.

According to ALA Glossary “A journal is a periodical especially one containing scholarly articles or disseminating current information on research and development in a particular subject fields. If this task is done by electronic media then it may be called
E-Journals” (Young, 1985). According to Pullinger and Brian (1990), E-Journal is “one whose text input may be entered directly by a computer or by other file transfer mechanisms in a machine readable form, whose editorial processing is facilitated by a computer and whose article are thus made available in electronic form to readers”. Gail McMillan (1991) defines electronic journals as “any serials produced, published, and distribute nationally and internationally via electronic networks”. According to Lancaster (1995), “An electronic journal is created for the electronic medium and is available only in this medium”. From the above definitions, it is clear that electronic journal is nothing but a journal available in electronic format using Internet technology. Though it has the same characteristics as the printed journal but the differences are that, the electronic journal is available electronically with some additional features like multimedia support, reference linking and links to other related websites by providing some extra information to the users.

1.3.2 History and Developments of E-Journals

The first scientific journal was published in January 5, 1665. It was published from Paris in the name ‘Le Journal De Scavants’. With the advances in technology, from the printing technology, yet another media namely, the electronic media was developed and E-Journal is the bi-product of this technology. E-Journals appeared in the 1970s and they got popularised by mid 1990s. Vannevar Bush first described the “E-Journals” in 1967 as a part of MEMEX proposal. Before that on this matter - UNESCO took a project in 1967 to test networking computer as means of improving scientific communication. Their first product was published in the form of an E-Journal in 1980 named ‘MENTAL WORKLOAD.’ The first prototype and E-Journal named ‘CHIMO’ was published in 1976 by the New Jersey institute of Technology. The first
peer reviewed electronic, full text E-Journal including graphics in the area of science named “The Online journal of Current Clinical Trials (OJCCT)” sponsored jointly by the American Society for the Advancement of Sciences (AAAS) and OCLC was launched on July 1, 1992. A major trend beginning in the mid-1990 has been for commercial and university presses to offer simultaneous electronic versions of their established print journals. Project Muse from the Johns Hopkins University Press was the example of such an initiative. A significant trend during the last half of the 1990s was the creation of web-based electronic journals. The number of scholarly, peer-reviewed journals also increased in the 1990s.

In recent years, a large number of online journals have been launched which have no print version at all. The Royal Society of Chemistry, UK has started a series of journals, which are available in electronic form only. IEEE (Institute of Electrical and Electronics Engineers) launched IEEE Xplore digital library as a powerful resource for discovery and access to scientific and technical contents published by IEEE. The Elsevier science publishers have launched science direct to extend web access to more than 2800 journals published by them. American Institute of Physics (AIP) offers online version to all of its journals. American Physical Society (APS) makes electronic version of its journals available on the Internet at no additional cost of the print version subscribes. Many important journals such as Nature Online, Science Online, New England Journals of Medicine, British Medical Journals (BMJ) etc. are also available online (Ramesh Babu et al., 2006).

The situation prevailing in the current library scenario reveals that it has reached a critical mass both in terms of digital collections as well as the number of users. Today, a large number of E-Journals are available in the various subject fields. But about decades ago when Electronic Journals first appeared, the publishers did not know
how to sell them, nor librarians knew how to handle them. The technology scenario prevailing those days was entirely different too. Technology kept advancing and today the E-Journals are sold as hot cakes in the developed world. The trends in the developing world also are equally encouraging, especially in India (Sathyanarayana, 2000).

1.3.3 Need for E-Journals

Though the print mode of information is still a dominant medium, it becomes the secondary mode due to the innovations in information and communication technology (ICTs) and its involvement in manage, manipulate and disseminate the information. Today, the users need latest and authentic information without time lag. Therefore the whole world is shifting from print resources to electronic resources. There are many reasons why one should now consider a shift away from the use of conventional paper based journals to the great use of publications that are based on the use of electronic media. Jagadeesh et al., 2006 outline the set of factors for which E-Journals are needed - the need to provide parallel support and electronic methods of knowledge dissemination; the information needed by all users especially researchers are increasing exponentially in all subject fields; interdisciplinary research has increased the scientists’ need for new information; with the new technologies, academics and researchers can distribute their own materials more effectively than the traditional publishing houses; the rising cost of the journal publications, coupled with the explosive growth in research and concomitant explosion of paper journals in various disciplines have made it impossible for most libraries to maintain a comprehensive selection of literature; and ease of access and dissemination by the users.
1.3.4 Features of E-Journals

E-Journals have brought about momentous changes in journal publishing and are revolutionising libraries. With the backup of technology, E-Journals are able to provide a number of features which attracts a wide user base and this has registered a notable increase in library subscriptions. There are many features which make the E-Journals user friendly. The unique features of E-Journals as compared to the print journals are as follows (Sreekumar and Sunitha, 2006) - Online access (endless outreach capability); anytime, anywhere access and at a 24 X 7 X 365 formula; allow remote access; can be used simultaneously by more than one user; provide timely access; support for multi-point searching capabilities; accommodate unique features such as hyper links to related items; reference linking etc; substantial saving in physical storage space; support multimedia information; do not require physical processing; and environmentally valuable.

1.3.5 Advantages of E-Journals

E-Journals have many advantages over the print journals, such as: i) the speed of publication and delivery of the E-Journal issues are much faster than that of the print versions; ii) to access and retrieve relevant articles, a good number of search engines are available; iii) downloading and printing of relevant articles at the end user workstations are possible; iv) E-Journals have solved many problems of libraries such as space, shelving, missing of issues, missing of pages and cutting of the pages, etc.; v) multiple access and access through local networks become easy; vi) provide hypermedia linkages, i.e., linkages to the related articles cited in each article and other useful sources; vii) help in minimising the problems related to the conservation and preservation of journals; viii) potentially accurate usage statistics to help with
collection development decision; ix) cost of publication and distribution is less than that of the print versions; x) alerting the users regarding the publication of new issues and articles of their interest becomes easier in electronic media; xi) they take less time to publish and distribute as they does not require time consuming printing and mailing process; xii) the content can be reproduced, forwarded and modified; xiii) more titles for the same cost; xiv) it provides improved access through full text searching; any change in E-Journals can be made available quickly; xv) in case of any eventuality, calamity such as fire, the resources can still be in tact; xvi) they can foster an online exchange of ideas by mail. In other words, they can be interactive; xvii) generally an E-Journal can publish a greater number of articles and lengthy articles compared with a printed journal; and xviii) many E-Journals even provide the facility for translation of articles into other languages with just the click of a button.

1.4 E-JOURNALS COLLECTION DEVELOPMENT

Collection Development is considered as one of the primary tasks for a library. It is a dynamic and continuous activity. The main aim of a library is to satisfy the information needs of its users including the academics and researchers. This can be achieved by taking utmost care when developing its collection. According to Bonn (1974), both the quantity and quality of a library’s collection depend almost entirely upon the library’s collection development process, including its acquisition procedures, and most importantly, its selection methods. The process of collection development must be carefully planned and constantly evaluated and monitored. In order to develop a balanced, user-oriented and active collection, a well planned and thought out system has to be evolved by the library and information managers in close association with the representatives of a various user constituencies. Such a system will not only help to
develop need based collection but also save money, time and space that would, otherwise, be wasted on developing irrelevant, outdated and passive collections (Srivastava and Tiwari 2011).

According to Reiz (2007), collection development is the process of planning and acquiring balanced collections of library materials over a period of years, based on an ongoing assessment of the information needs of the library’s clientele, analysis of usage statistics, and demographic projections.

Evans and Saponaro (2005) define collection development as the process of identifying the strengths and weaknesses of a library’s materials collection in terms of patron needs and community resources, and attempting to correct weakness, if any. Collection development process, therefore involves analysing the needs of the users that are served and ensuring that the collection is adequately developed towards meeting those needs. The tasks involved in the process include: identification of user needs; establishing a collection development policy framework that will guide the collection process; selection and acquisition of the relevant information materials; and evaluation and de-selection of the collection. If these tasks are not done effectively, the result is a collection that does not adequately meet the needs of its users.

Today due to advent of Information Communication Technology (ICT), paradigm shifts from print resources to E-Resources have taken place in past two decade in libraries. Changes in information formats, access to local and global information through the internet, and changing information seeking behaviors of the library users have changed the process of collection development in libraries. There is more emphasis on collection of E-Journals and other E-resources. Therefore, for effective building and management of these collections, there is need for effective practices for E-Journals collection development in libraries. Various processes and
procedures followed in the E-Journals collection development include: Identification and selection; Evaluation; Acquisition; and Renewal/Cancellation. As these resources change at a very rapid pace and as libraries continue to build larger collection of E-Journals, each and every procedure from selection to acquisition of E-Journals is becoming a challenge for librarians. Collection development of E-journals requires a multifaceted level of cooperation. Multiple stakeholders must work in tandem, throughout the stages of evaluation, acquisition, activation, access, maintenance, marketing, assessment, and renewal. Added to that, the lifecycle of E-journals are so complex, and require input and support from different people (Martin et al., 2009). A well planned and documented collection development policy for E-Journals helps as a guideline for E-journals collection development.

1.4.1 E-Journals Collection Development Policies

A collection development policy defines the scope of a library’s existing collections, plans for the continuing development of resources, identifies collection strengths, and outlines the relationship between selection philosophy and the institution’s goals (White and Crawford, 1997). It is one of the first pieces of evidence in determining whether a library is engaged in good collection development practices. Collection development policy informs everyone about the nature and scope of the collection and collecting priorities.

The collection development of E-journals involves a number of complex and complicated processes. Though most of the traditional collection development criteria such as subject, level and target audience apply to E-Journals, it is good practice to develop a separate policy for E-journals which take into account its specific format related issues. The entire process of E-journals subscription and management becomes
easier for the librarian when a collection development policy is in place. Such a policy provides a framework for decision-making and it is a necessary planning tool, the use of which leads to consistent, informed decision. It is a blueprint for the collection developers and helps them to ensure uniformity in procedures and appropriate balance in the library collection. The policy serves as a supporting document for the library in each phases of the E-Journal collection development.

The basic factors to be considered while developing an E-Journals collection development policy include articulating the institutional mission of the library, the purpose of the policy and the audience for whom it is developed; describing the community to be served including the users, academic program and research focus of the institution, off-campus users, and their needs; providing the criteria and guidelines for the selectors; identifying the selection tools appropriate for the library; addressing the access versus ownership issues as to whether electronic access is sufficient to meet the user’s needs or whether the library should add print subscription; including the guidelines for weeding, cancellation, retention, preservation and replacement of resources; including the cooperative collection development issues such as the role of consortia; including the general guidelines for licensing requirements for E-Journals such as the number of authorised users at a time, remote access availability, and allowing various library services such as inter library loans and digital reserves; covering the process by which selection recommendations or decisions are made, that is, whether selections made by committee or by individuals; and including the expectations from providers with regard to training, technical support, compatibility with existing platform and so forth.

A well written collection development policy for E-Journals is the best way to establish consistency and avoid conflicts, and it is useful for communicating with
others, responding to requests, and educating users. The E-Journals collection development policy should be reviewed and revised on a regular interval and this will help in building high quality and strong E-journals collection (Joshipura, 2008).

1.5 LIBRARY CONSORTIUM AND E-JOURNALS COLLECTION DEVELOPMENT

A library consortium is a collective activity of a group of libraries towards a common goal of sharing resources. No library can possibly have all books, journals and information to meet the user requirements. With the advent of information communication technology explosion and the web revolution, libraries can now opt for easy access to more information through a meaningful co-operation among themselves. Library consortium is a cooperative arrangement among groups of libraries or institutions helping to derive the best possible purchase bargain from publishers due to collective buying power. In other words, it is a kind of an agreement between various publishers and cooperative group of libraries/information centres, for accessing the large number of E-Journals and other E-Resources published by various publishers/group of publishers on highly discounted rates. This type of arrangement on the one hand permits access to large number of electronic resources at a highly discounted rates, and on the other, it meets the increasing pressure of diminishing library budgets, increased users’ demand and rising cost of journals. Consortia offer healthy business opportunities to the electronic publishers and thus attract the best possible price and terms of agreement for libraries. However, by forming a consortium among libraries; it becomes possible to purchase resources in stabilised and reasonable prices (Singh and Krishan Kumar, 2005).
1.5.1 Impact of Library consortia in E-Journals Collection Development

In the present electronic era, only collaborative efforts can be sustainable. Vast growth of E-Journals across the world and growing technology and the resource sharing activities led to the formation of the consortium. A consortia based subscription to E-Journals is available solution in order to increase the access of E-Journals across the sharing institutions at a lower cost. To become the member of a consortium has become almost essential for every library.

The world is witnessing aggressive consortia activities particularly for sharing E-Journals. Today, electronic consortia have been budding forth in every part of the word in bewildering forms and shapes. Many libraries are already a part of one or more consortia. Library consortium is one of the emerging tool kits for libraries to survive (Ratnakar et al, 2013). During recent past there has been a host of library consortia came into existence in India. The major academic and research institutions in India spend annually huge amount towards library acquisitions. In spite of this, they are not in a position to maintain the subscription of core journals. These circumstances force Indian libraries to form consortia for accessing more and more E-Journals. Some of the notable consortia initiatives in India include: INDEST-AICTE Consortium, UGC INFONET, DAE Library Consortium, NKRC Library Consortium, ISRO Library Consortium, IIM Library Consortium, ICMR Library Consortium, ICSSR Consortium, MCIT Library Consortium, DRDO Library Consortium, CERA Consortium, ERMED Consortium, IISER Consortium, NIFT Consortium etc.

The formation of E-Journals consortia helps the participating libraries in improving and increasing their E-Journals base. Access to E-journals through consortia has numerous advantages and has to be taken more seriously to promote teaching,
learning, scholarship, research and development activities. But the consortia activity is a complex and complicated task and the success of a library consortium depends much on how to strategically tackle the issues like shrinking of library budgets, assessing user requirement, identifying the right resources, consensus on subscription pricing, complicated and vulnerable license terms and conditions, perpetual rights to back files, copyright issues, uninterrupted and hassle free access, bandwidth issues, usage statistics, assessing return on investment etc. At the same time consortium approach brings in numerous benefits to the participating libraries – a steep increase in the resource base at a nominal investment burden, ensuring uninterrupted access to the array of E-Journals, enabling perpetual access to the previously subscribed scholarly content for future, increasing the institutional intellectual capability and scientific productivity, opportunities for long term preservation of scholarly materials through state-of-the-art archiving strategies, and above all a thorough check and balance opportunity for libraries towards the monopoly and the upper hand being exercised by the commercial publishing community for long. No doubt, the E-Journals consortium efforts helps in strengthening the resource base, information utility and usability of libraries.

1.6 KEY AREAS OF CHALLENGES, ISSUES AND PROBLEMS IN E-JOURNALS COLLECTION DEVELOPMENT

Collection development of E-Journals is a complex and complicated process, as there is a great deal of difference between the traditional print information resources being handled by libraries and the new genre of electronic and digital information being sourced and accessed. In the traditional paradigm, the journals bought and subscribed to by the libraries were naturally owned by them, allowing them to make the best use of
the resources within the ‘fair use’ clause or principle. Whereas in the electronic publishing scenario all the traditional belief, approach and understanding about the digital documents that the library purchases / subscribes to, have a world of difference. Libraries get only a license to use the electronic information while purchasing, and even this license is issued only for a prescribed period of time. Librarians at the same time, have the professional responsibility to assure uninterrupted as well as perpetual access to the information subscribed to by the library. There are many issues that libraries subscribing to E-Journals must consider: issues relating to various subscription models, budget provisions, IT infrastructure, access issues, preservation/archival considerations, swinging pricing models, license, staffing etc. Serious attention should be paid to find the solution to these issues. Major challenges, issues and problems in E-Journals collection development are described below.

1.6.1 E-Journals Subscription Models

There is a variety of subscription models practiced for E-Journals. E-Journals can be subscribed directly from publishers, through second party/vendors and through aggregators. In addition to this libraries can build their E-journals collection through participating in various consortia. Libraries also get access to a number of E-Journals by virtue of their print subscription. Information professionals should have a good knowledge of various subscription models offered by the publishers. Awareness of various subscription models and selecting the best one suitable for the library is a major challenge faced by the libraries (Sunitha, 2008).

Libraries can subscribe E-Journals just like they subscribe to print journals. Major publishers like Elsevier, Emerald, Wiley, Springer, Taylor & Francis etc. offers e-versions of the print journals. The distinction between publishers and second parties
is important. In a second party electronic journal database, the entire journal is collected and users will get the look and feel of reading a journal. Some examples of second party E-Journal databases include JSTOR, Ingenta, Project MUSE, J-Gate etc. There are advantages as well as drawbacks in the case of direct/second party E-Journals. In the case of E-Journals, either sourced directly from the publisher or through a second party, the users have the advantage of accessing the journals direct. The disadvantage is that in the E - Journal services, mostly, search facilities are kept at a low profile.

Another category is aggregators. They are companies who create collections of entire journals and sell access to these collections. Aggregators use to buy the copyright of the journals in bulk and provide access to the journals through a single interface. Examples of aggregators include EBSCO Online and PROQUEST. In the aggregated services, search facilities are fairly high, with low priority for content layout, get up etc. A library may also get access to the electronic content from the publishers directly by virtue of their print subscription to a title. Most of the publishers offer free online access to the journals as part of their print subscription. But some publishers provide print journals with online access on nominal charges. The library will have to be alert and vigilant in order that these facilities are not left unnoticed or the free offer access opportunities missed out.

A recent trend, being observed all over the world is the formation of a number of library consortia most of which are well conceived and managed. A library consortium is a collective activity of a group of libraries towards a common goal of sharing resources (Janakiraman, 2002). Consortium based subscriptions draws its strength from the vast outgrowth of E-Journals across the world in almost every subject
area, the fast growing technology push, the unprecedented and ever increasing demand pull, and the diminishing budget allocations being confronted by libraries.

Open archives/open access publishing is also emerging as a mode of E-journals collection development. Open-access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions. It is all about democratising the scientific intellectual capital, which often draws its energy from publicly or privately funded research. It is not against proprietary or peer reviewed scholarly journals. First and most important preprint server and archive is physics preprint archive. Directory of open access journals (DOAJ) is a service that provides access to quality controlled Open Access Journals.

Each of the subscription models described above has varied features and drawbacks. As the cost of E-Journals are sky rocketed, new subscription models such as pay per view, limited period access rights, perpetual access rights etc. are evolving. Libraries should have a good knowledge of various subscription models offered by the publishers and choose the best models which help them in building excellent collection of E-Journals.

1.6.2 Adequate Budget and Financial support

Finance is the most vital factor that contributes much for the progress of any library. It is a very essential element wherein the management should take up necessary measures to provide stable and adequate financial support to meet the objectives of an organisation. Adequate funding is a pre requisite for the successful implementation of any services in a library.

The acquisition of library resources starts with the availability of funding. Availability of sufficient funds is an important factor that affects E-Journals collection
development. But most of the libraries have inadequate fund for acquiring E-Journals and the users do not get their needy information at the right time. Need for rational budgetary allocation assumes significance when financial resources are limited. Librarians should convince the authorities to obtain special funds for the acquisition of E-Journals as well as developing infrastructure for providing access to the E-Journals collection to the users. The support and cooperation of management is very essential for getting the required finance. Budget plays a major role in the subscription of new E-Journals as well as the renewal of existing titles. As more and more of library’s fund are used for E-Journals subscriptions, library professionals should take extra care while spending for E-Journals.

1.6.3 ICT Infrastructure

Information and Communication Technology (ICT) Infrastructure have been playing substantial role in library activities and services ever since its inception. ICT offers ample opportunities for libraries to automate the traditional activities, implement efficient and effective resource sharing networks, and provide value added information services like E-Journals, E-Resources, Digital Library and Institutional Repository services. In a digital information service system, infrastructure such as software, hardware, internet facilities and other physical equipments are required to provide easier, faster and comprehensive access to information. Therefore, libraries in the digital age need to enhance and upgrade current technical architecture to accommodate E-Journals and E-Resources. Moving towards E-Journals requires libraries to develop good ICT infrastructure at their end. The basic ICT infrastructure required for the successful implementation of E-Journals collection in a library include:
(i) **Computer Servers and workstations**

Libraries should possess basic hardware such as servers, computer workstations/nodes for providing electronic information services to their user community. Separate servers should be maintained for the management of E-Journals collection. Similarly users should be provided with sufficient number of workstations/nodes for accessing E-journals.

(ii) **Networking**

The network environment of a library system has an important role in providing access to the information sources and services to the end users at their points. Libraries provide access to the E-Journals and other E-Resources through the campus network. Networking in the library should be efficient enough to provide uninterrupted and hassle free access of E-Journals. Different network environments are available and latest technology like Wi-Fi, Wi-Max, Cloud computing etc. bring considerable changes in the communication of information. Libraries should adopt these technologies in their libraries to provide effective and efficient internet based resources and services including E-Journals.

(iii) **High speed Internet connectivity**

Internet connectivity in the library is a pre requisite for providing all the internet based services including E-Journals and E-Resources. Internet can be accessed through different type of connections such as dial up, broad band, leased line etc. and each type of connectivity has different speed and capacity. High speed internet connectivity with good bandwidth is indispensible for the providing E-Journals services in the library.
Library Website/Portal

Library website acts as one stop shop for accessing entire resources of a library. Library portal/website is very essential to provide internet based resources and services like E-Journals. A full-fledged library web portal/website with multiple pages and features is essential for providing efficient and effective access of E-Journals collection in a library. Content Management Systems (CMS) are most convenient and cheaper solutions to build functional library websites. CMS are computer software systems for organizing, displaying and facilitating collaborative creation of content. Using content management system, library professionals can create and update the website concentrate on the content and do not have to care about the layout.

Sufficient ICT infrastructure is very much essential for the successful implementation and development of E-Journals collections. The libraries should possess Hi-end ICT infrastructure such as good quality servers, workstations, networks, internet connectivity, High speed bandwidth, good library website/portal for building and managing a strong E-Journal collection. But this is a big challenge for most of the libraries. Most of the libraries do not make the effective use of information communication technology for E-Journals collection development as they are either weak in their ICT infrastructure or that the right methodologies are not known to the library professionals. As new developments in hardware and software are taking place, libraries should make appropriate measures for upgrading and developing excellent ICT infrastructure in order to develop a good E-Journals collection.

1.6.4 Pricing Models for E-Journals

There are a number of pricing models practiced in E-Journals subscription. The pricing of E-Journals may be depend on the product type, period of subscription,
according to size of the institution, number of users (FTE), consortia based pricing, bundle purchase or package deal etc. But there are no standards for pricing of E-Journals and the pricing strategies vary widely from publisher to publisher. Few of the most demanded pricing models are:

(i) **Pricing according to product type**: The pricing model for E-Journals can be based on the products type such as aggregated E-Journals databases, full text database etc.

(ii) **Pricing according to institution size**: Many publishers offer different price for the same journals based on the size of the institution. They may charge more when selling to a large organisation with multiple branches, location, or sites compared to small organisation.

(iii) **Pricing based on number of users**: The price may vary with the number of users. Publishers offer price based on the full-time equivalents of the users, total number of users, unlimited access, remote access to users etc.

(iv) **Price for consortia model**: Many publishers offer special pricing for consortia based subscription. Consortia model pricing is an important pricing option that can be adopted by libraries for subscription of E-Journals in their libraries.

(v) **Price for journal package deal**: Many of the E-Journal publishers offer bundled set of titles at lower price. In this model, selected groups or subject clusters of titles are being subscribed, some of which may be lesser used titles. The advantage of buying journal titles in bundles is that it saves time and it can be more cost-effective than buying individual titles. Publishers might bundle all their E-Journals into a collection or based upon subject. A downfall with purchasing bundles is that the journal titles carries may change
frequently. Similarly, libraries have to acquire entire list of titles irrespective of the relevancy of the titles to their library.

(vi) **Print Plus Electronic Model:** In this model an “add-on” (normally a percentage) to the base price to give electronic access to the journals included in the agreement.

(vii) **Electronic Plus Print Combined:** In this model base price is applied to the electronic access and the add-on to the journals received on paper.

(viii) **Pay-per-View:** In this model library has to pay for whatever has been downloaded by the users of the library.

(ix) **Use-based Model:** This is based on use statistics. It assumes that the publisher maintains accurate statistics through standards such as COUNTER (Counting Online Usage of Networked Electronic Resources). Pricing can also be based on the number of simultaneous users. This is a good option if librarians know that there will be a high number of users for an E–Journals.

(x) **Tiered Pricing Model:** Tiered pricing has been employed by publishers of E-Journals. In some cases tiers may define service levels that offer differing options from the basic to the premium, as determined by the publisher.

The number and range of pricing models seems infinite. There are no universally accepted pricing models for E-Journals as pricing strategies varies from publisher to publisher. The selection of best pricing model from the many options is really challenging task for libraries. Librarians have to negotiate with the publishers for finalizing the best pricing models for their libraries. All the pricing models have one purpose – to generate prices that are acceptable to both publisher and customer. Practically a library can opt for a combination of various pricing models from various publishers based on their economic viability (Fischer, 2006).
1.6.5 Licensing for E-Journals (Licensing, Negotiation, Copyright and Fair use)

Unlike the print journals, E-Journals are not owned by the subscribing library. They are licensed for a period of time rather than purchased outright. Hence, the librarians must negotiate licenses that address the institution’s needs and recognise its obligations to the licensor. The license usually takes the form of a written contract or agreement between the library and the owner of the rights to distribute information. In the area of licensing E-Journals, failure to read and understand the terms of the agreement may result in consequences such as loss of certain rights, restrictions, sudden termination of contract etc. Hence the library has to negotiate and comply with the vendor’s licensing agreements. The librarian should ensure that the agreement is in compliance with the existing copyright laws and guideline. The license agreement contains various clauses that define the rights of the libraries, users and the publishers (Koteswara Rao, 2013).

The following are some of the important clauses included in the license that can act as a checklist for the librarian who review the license agreement.

(i) **Content of the licensed material:** The license should clearly include the list of the titles that can be accessed.

(ii) **Location:** It is important to include names of the domain/campuses that have authorised access to the product. Sometimes access to the product is limited to a particular building or campuses, and it is necessary to name them in this clause.

(iii) **Authorised users:** Definition of authorised users is an important clause in any license agreement. This clause defines the authorised users of the library such as students, researchers, faculty members and users with certain privileges.
Copyright and fair use: The license for E-journals imposes restrictions on how the resources can be used. It is the responsibility of the library to ensure that E-journals are used for educational and research purposes only. At the same time the license agreement should allow the users to view, download, or print a copy of the material. Librarians should carefully review this clause, identify the institutional needs and include them in the agreement.

Subscription cost: This clause should clearly include the cost of subscription of the E-Journals.

Perpetual access: This clause allows the library to retain access to the materials for which payment has been made after cancellation of the product. Libraries should ask for archival access if it is not included in the contract.

Liabilities of libraries: The agreement includes the responsibility of the library to monitor the use of the resource for unauthorised access by the user. Librarians should carefully review this clause and make sure to agree to a feasible level of monitoring, if any.

Terms of payment and termination: This clause includes payment of invoices within certain time frames as well as requirements for the renewal of the contract. It is important to review this clause and make necessary changes before signing the agreement. Termination includes reason and time of termination and notification from the provider.

Usage statistics: Under this clause, the content providers agree to provide usage statistics for E-Journals, which help libraries to compare usage statistics and make informed decisions for renewal or cancellation of E-Journals (Joshipura, 2008).
The licensing is one of the major areas of challenge faced by libraries while subscribing E-Journals. There are a number of issues that the library should be highly careful while entering into E-Journals subscription agreement. Catches can come in multiple forms. It is important for the libraries to review licensing terms, particularly those defining content and access of the E-Journals. Licenses must be carefully reviewed to ensure that the library maintains fair use rights for its users and that the E-Journal is easily accessible to all users with minimal monitoring or tracking requirements. The contract should include clearly written clauses on Authorised users, Remote access, User authentication- through password, IP, or other methods, Fair use rights for library services including ILLs, document delivery, etc., the cost of the subscription, Perpetual access, Protection of privacy if tracking or monitoring systems are used, Vendor and organisational liabilities, Terms of payment and Termination of the contract- when, why and how. Clarity and standardisation in license agreement would be beneficial for librarians as well as publishers.

1.6.6 E-Journals Access Management Methods

E-Journal access management has become an important concern for all the libraries. It provides controlled and mediated access to the library’s E-Journals. It defines which users exist and what roles they have. It comprises creating and defining the list of users with access to the various E-Journals and assigning access right in the form of roles. The most important elements of any E-Journals license agreement are the determination and definition of the authorised users and how the E-Journals will be accessed. Access to E-Journals is provided using a wide variety of access mediums to meet the users’ needs. Currently, various access methods are available such as Internet Protocol (IP) address activation or by password, Single Sign on/ Remote Access
methods using proxy server, VPN Software etc. The publishers provide the following different types of access mechanism.

1.6.6.1 User ID and Password based access

User ID/Password based access method is among the earlier models to emerge which is the popular access system. This model is very popular and most of the service providers use this model for access authentication. But when the number of resources and users increased this method became a growing concern and problem for libraries. Another problem with User IDs/Passwords is that they do not encourage seamless navigation among resources, as each resource is going to disturb the user by asking for his or her User ID and Password on each visit. User ID/Password method provides less security as it is not easy to keep the password secret for long period.

1.6.6.2 IP Authentication

IP Authenticated access is one of the most commonly used access mechanism. IP filtering should be performed by both library and service providers. To make IP filtering work properly, library should provide the vendors the range of IP addresses of the network of the library or the parent organisation. For a wider audience, IP based access is mostly preferred, as the users need not have to bother about the User ID and Password every time. IP based access is a good choice if the users are closely located and covered by a single network. This method allows (i) seamless access (ii) usage statistics for the institution (iii) greater security as there is no misuse of usernames and passwords (iv) access to all computers thereby releasing other terminals and staff time (v) direct recognition of institutional networks by publishers and vice versa (Armstrong, et al., 2003).
1.6.6.3 Single Sign on/Remote Access

Though the IP based access model has been found to be an appropriate and a suitable access model for the on-campus community the main limitation of this method is that it cannot be used for remote users. For the off-campus user community the IP based access to E-Journals will not be possible, as they will not be able to resolve the Institute IP while sending the URL requests from outside the campus. Thus there became a need to deploy alternative mechanisms that meet the needs of both local and remote users.

Proxy Servers: The technique being developed to solve the problems associated with the both the above methods, is to set up a gateway of proxy server. In this type of access, a unique user logon ID and password is given to users to access all the E-Journals. The access is provided through a temporary IP address and a single username is sufficient for accessing many online resources. This process also solves the problem of remote access.

VPN Software (Virtual Private Networks): By installing VPN software at users’ machine, the institute’s server temporarily assigns an institutional IP address to that machine which is then recognized as legitimate by the publishers’ website. But this kind of access is regulated by the provisions made in the license agreements only (Vasisht, 2012).

Single Sign – on (SSO) systems: Single sign-on (SSO) systems refers to a type of authentication system where a user only has to be authenticated once, and is able to access multiple services where he has access permission, without having to enter his password again. SSO system helps the users to access the resources very fast and secured. It also provides quality response time as well as user
satisfaction. There are a number of single sign on/ remote access authentication models that prevail in the market and are being used by organisations with varying degrees of satisfaction. There are a few open source solutions and prominent among them include Shibboleth. Prominent commercial solutions include Ezproxy and Athens (Single Sign On, 2012).

There are a host of issues and problems that keep haunting the libraries while arranging subscriptions to E-Journals as well as providing long term and perpetual access to the vast amount of digital scholarly content spread across the world. Access to E-Journals is provided using a variety of access mediums to meet the user’s needs. Libraries should consider the access requirements of both on campus users and remote users while taking decisions on access methods. Another important aspect is the local administration of access management system. Library staffs are to be properly trained in the administration of access management system and the users are to be properly oriented towards the effective and efficient use of E-journals.

1.6.7 E-Journals Collection Retrieval / Resource Discovery Methods

Dissemination of acquired E-Journals is must for proper information retrieval. The users must be made well-versed with the available E-Journals and it may be done through different mechanism such as online public access catalogue (OPAC), library website or portal, digital library, and through latest technologies like Library discovery/Federated search system etc. Online public catalogues are the primary means of displaying library collection and libraries can provide access to their E-Journals available to their users through Online Public Access Catalogue (OPAC) (Vasishta, 2012). Library website is also an important medium for accessing and showcasing the E-Journals collection and it plays an important role in promoting and maximising
access to E-Journals. Library portals act as a one stop shop for accessing the entire E-Journals collection in a library. Digital libraries can act as a good access delivery platform for E-Journals. Libraries can display and provide access to their E-Journals through a well developed digital library and the strong retrieval mechanism in the DL software help an easy retrieval of E-journals. Library Discovery/Federated search system is an advanced technology for accessing and retrieving E-Journals and E-Resources. This service provides a single search interface that allows users to search multiple online resources simultaneously. Creating a user-friendly interface is a prerequisite for effective dissemination of E-Journals. At the same time it one of the most tedious and time-consuming task. Whatever be the method used, the ultimate aim of the library is to provide an uninterrupted and hassle free access to the content to its user community.

1.6.8 Organisation of E-Journals

Once the E-Journals have licensed and acquired, libraries must decide on the organisation of E-Journals. E-Journals can be organised in the form of A-Z (Alphabetical) list, listed by subject disciplines, publisher wise etc. The most popular approach of organisation of E-Journals is in the form of alphabetical (A to Z) listing. Another approach of organisation of E-Journals is to classify them by subject disciplines. The subject wise listing of E-Journals helps in easier browsing. E-Journals can also be organised and listed in the form of publisher/vendor wise listing. There are number issues libraries have to face while providing access to E-journals. Regular updating and maintenance of titles and URLs is required to assure uninterrupted access of the E-Journals. Libraries should adopt all possible methods for the organisation of E-Journals which helps in the quick and efficient retrieval of information.
1.6.9 Usage Reports/Statistics

Usage reports/statistics has an important role in the E-Journals collection development. Libraries are investing huge amount of money in E-Journals. They should ensure that these resources are effectively and efficiently being utilised. Also, in order to show the accountability for the cost of E-Journals, the usage statistics are to be used as a source of information to guide the selection and acquisition decisions. These usage statistics play a major role in the renewal and cancellation of E-journals collection in a library. Libraries should take utmost care in getting usage reports of E-Journals. Libraries can collect usage reports/statistics mainly from publishers/service providers or can adopt own usage tracking methods for collecting the statistics. Majority of the libraries collect usage report directly from the publishers and it is the easiest way of collecting usage report. Libraries can also collect the statistics locally from the server logs using usage tracking software/systems.

Whatever be the source of usage reports, the collection and compilation of usage reports take a great deal of time and effort of the libraries. COUNTER (Counting Online Usage of Networked Electronic Resources) report is considered as an important measure of usage of E-Journals and other E-Resources by publishers and libraries. It is an international initiative serving librarians, publishers and intermediaries by setting standards that facilitate the recording and reporting of online usage statistics in a consistent, credible and compatible way. Standardised Usage Statistics Harvesting Initiative (SUSHI) defines an automated request and response model for the harvesting of electronic resource usage data utilising a web services framework. It is intended to replace the time-consuming user-mediated collection of usage data reports. Implementation of SUSHI Protocol by the publishers allows the automated retrieval of
COUNTER usage reports into local systems. But libraries should use Electronic Resources Management (ERM) System capable of fetching the statistics in order to take advantage of SUSHI. Even after statistics have been gathered, they must be organised in such a way as to make them easily usable for decision-making purposes (Rathemacher, 2010).

1.6.10 Archiving and Preservation of E-Journals

The E-Journals have created new paradigms for archiving journals resulting in controversial debates and throwing in new technological complexities. The very process of delivery is being reversed in the E-Journal system. While the print journals were delivered to the libraries by publishers or the subscription agents, the libraries may have to now electronically visit the publishers to collect the journals. This alone adds a new set of cost and infrastructure dimension to the libraries. Long-term preservation and archiving of E-Journals is an important issue for libraries and this issue cannot be neglected anymore because the usage of E-Journals has increased significantly in recent years. Though the E-Journals are enabling information to be created, manipulated, disseminated and located with increasing ease, preserving access to this information poses a great challenge. Unless, preservation of E-Journals is actively taken, the information will become inaccessible due to changing technology platform and media instability. But archiving of E-Journals is more complex and complicated process than archiving print journals. The life expectancy of digital resources is very short as compared to the print format. The technology used to store the publication is likely to become obsolete even before that happens. Therefore, continued access to archived resources is a big issue in digital archiving.
The other important concern in electronic archiving is legal issues, such as copyright and intellectual property rights, selection of E-journals, cost, infrastructure and many more (Moghaddam, 2013). Currently, not all publishers allow archiving rights for E-Journals to libraries. Each publisher is evolving his own commercial policy and is exercising customised technical features and controls for delivering E-Journals to libraries for archiving. Libraries should ensure perpetual access to the subscribed content even when they stop subscription. All these issues require thoughtful debate and understanding to formulate effective archiving strategy by the library community (Sathyanarayana, 2000).

1.6.11 Staffing for E-Journals Management

Human Resources play pivotal and crucial role in the collection development and management of E-Journals in the library. The collection development and management of E-Journals involves a series of workflow. Consistent and meticulous working and follow up is required for efficient and effective E-Journal management. Managing E-Journals requires a range of expertise and sufficient staff strength is crucial for developing a strong E-Journals collection. The effective involvement of library staff members are very essential at each stage of activities relating to the selection, evaluation, negotiation, acquisition, renewal and management of E-Journals. As such, the library staff should not only be technically competent but should also have excellent managerial and leadership skills. The staff appointed for E-Journals collection development and management requires strong managerial skills for acquisition decisions such as identification & selection, evaluation, renewal, de-selection of E-Journals, pricing negotiation and dealing with licensing issues. Good knowledge of copyright laws is essential for ensuring the fair use of E-Journals. Strong technical
skills and knowledge are essential to deal with access management, access authentication and for providing easy retrieval of E-Journals. Sufficient number of highly skilled staff must be appointed for the management of E-Journals. The support and cooperation of staff members are very essential to provide effective service in a digital environment. As such, the library staff should not only be technically competent but should also user-friendly approach.

1.6.12 Training

The amazing growth of E-Journals poses biggest challenges for the library staff. The professional staffs are required to constantly update their own knowledge and skill base so as to work in today’s rapidly changing digital environment. If the library professionals lack managerial and technical skills, they are not able to handle the E-Journals. Proper training should be provided to the library staff in the management of E-Journals. There is a variety of ways to learn about E-Journal management such as attending in-house training programs, training programs arranged by the publishers and vendors, attending conferences/workshops, training through web based tutorials etc. Whatever be method of training adopted, the staff involved in E-Journals collection development should be in a position to manage E-Journals efficiently.
The various challenges and issues in the collection development of E-Journals are shown in the following figure:

Figure 1.1 E-Journals Collection Development Issues and Challenges
1.7 SPECIAL LIBRARIES

The world of libraries comprises the Public Libraries, Academic Libraries and Special Libraries. Among these, special libraries assume more importance as they substantially support the scientific research and the higher learning institutions. In other words special libraries are vital and crucial for the advancement of academic and scientific research. Special libraries are different from other libraries in a number of ways. Special libraries are created to serve the information needs of a specific audience. The main focus of the special library is not on creating and managing a large, diverse collection of materials. Rather, the focus is on actively providing a specialised information service to the users (Bavakutty et al., 2006). The resources and services of special libraries vary, reflecting the values, services and mandate of the parent organisation. In addition to offering traditional library services, special libraries offer a number of value-added services. The core collection possessed by a special library is highly significant that the entire set of services offered by the library has a direct bearing on the collection. In the present scenario the core collection of any special library is composed of print as well as digital materials. The significant content types include books, journals, databases, online services, patents, standards, reports etc.

With the advancement of Information Communication Technology (ICT) and electronic publishing, there has been a substantial increase in the digital collections and electronic subscriptions in the research libraries. To meet the ever increasing demand from the users, special libraries are investing a major portion of their budget for the subscription of E-Journals. In addition to this, libraries are getting access to a large number of E-Journals through membership in various consortia agreements. Generally,
special libraries in India are positive towards building E-Journals collection and special libraries in Kerala are not exception to this trend.

1.8 NEED AND SIGNIFICANCE OF THE STUDY

The Number of E-Journals penetrating into libraries are increasing day-by-day, and they come from multiple sources such as subscriptions from publishers, content access through aggregated journal databases, consortium subscriptions etc. E-Journals help special libraries in providing effective and efficient services to their user community and users get instant and uninterrupted access to their required information. But collection development and management of E-Journals are now posing numerous problems to libraries. E-Journals being digital by default and more over, their accessibility being mainly based on online delivery, there are a number of issues bound to crop up in the course of their subscriptions in a library. On the other side, technology has been perfected enough to offer high-end online services, whereas publishers’ rules and restrictions come as a bottleneck to the full-fledged and free flow of E-Journal services in the library. E-Journals collection development and management issues faced by special libraries are not well documented and there exists no detailed account of the state of special libraries and their problems in E-Journals collection development and management. A preliminary survey of the literature indicates that no significant research study has been undertaken regarding the E-Journals collection development challenges and issues in special libraries in Kerala. A research study which addresses the above topic therefore assumes great significance as these are pressing issues of any library in Kerala. Hence, the need is felt to study in detail the issues relating to E-Journals collection development and management in special libraries in Kerala and come out with workable solutions which special libraries could implement in the state.
The study provides the information on the present E-journals collection development practices and issues faced by special libraries in Kerala, and suggest possible solutions for the effective and efficient management of E-Journals in Special Libraries.

1.9 STATEMENT OF THE RESEARCH PROBLEM

The research problem for the present study is entitled as “E-JOURNALS COLLECTION DEVELOPMENT ISSUES IN THE SPECIAL LIBRARIES IN KERALA: A RESEARCH STUDY”.

1.10 DEFINITION OF KEY TERMS

In order to provide the meaning of terms used in the title of the study, the following working definitions are given for the key terms.

1.10.1 E- Journals

University of Nebraska-Lincoln (1994) defines E-Journals as “a full text electronic publication, which may include images, and is intended to be published indefinitely”. In the present study the term ‘E-Journals’ means journals that are available in electronic medium.

1.10.2 Collection development

Collection development is defined as “a process of making certain, the information needs of a people using the collection which are met in a timely and economical manner, using information resources produced both inside and outside the organisation” (Evans G Edward, 1984). In this study, ‘Collection development’ refers to the techniques and policies for developing and management of E-Journals collection in special libraries in Kerala.
1.10.3 Special Libraries

Special libraries are libraries maintained by institutions, corporations, government agency or any other group for the collection, organisation, and dissemination of information and primarily devoted to a special subject and offering specialised service to a specialised clientele. Special libraries covered by this study include the libraries and information centres that exist to cater to well defined group of specialist clientele such as researchers, scientists, engineers, medical practitioners, managers, teachers etc. In this research study the word ‘Special Library’ is intended to mean special libraries attached the research institutions in Kerala, run by the Government of India and those run by the Government of Kerala.

1.10.4 Kerala

The term ‘Kerala’ denotes the geographical area covered by the political map of the Southern most state in India under the same name. Kerala is one of the constituent states of the Indian Republic.

1.10.5 Issues

In this study, the term “Issues” refers to the set of challenges and problems faced by the libraries under the study, in the collection development of E-Journals.

1.11 OBJECTIVES OF THE STUDY

The present study has been undertaken with the following objectives:

1. To systematically examine and compare the existing programmes and practices of collection development of E-Journals in the special libraries in Kerala.

2. To assess the extent of E-Journals penetration in the special libraries in Kerala.
3. To study the E-Journals budget share allocations in the special libraries in Kerala.

4. To assess the problems and challenges relating to E-Journals collection development in the special libraries in Kerala.

5. To examine the role of library consortia in E-Journals collection development in the special libraries in Kerala.

6. To put together and compile a best practice reference manual on E-Journals collection development and management, for the benefit of the special libraries in Kerala.

1.12 HYPOTHESES

A thorough examination of available literature enabled the investigator to arrive at certain assumptions at the starting point of the enquiry. They are stated here in the form of hypotheses.

1. E-Journals have emerged as a major source of scholarly primary information for the research and higher academic community in Kerala.

2. Libraries are spending a good share of their budget for the subscription of E-Journals.

3. Libraries are striving hard to overcome the issues relating to collection development of E-Journals.

4. E-Journal Consortia play a major role in the collection development of E-Journals.
1.13 METHODOLOGY IN BRIEF

The study is designed as an empirical inquiry into the topic stated above, backed up by descriptive survey. The present study is an attempt to examine the E-Journals collection development issues in special libraries in Kerala. All the special libraries attached to the research institutions in Kerala, run by the Government of India (Central Government) and those run by the Government of Kerala (State Government) are identified for the study. In order to ensure sufficient first-hand information with respect to the study, a questionnaire was administered to the persons in charge of representative sample of special libraries in Kerala. The main purpose of this questionnaire was to collect details of special libraries with respect to their administrative set up, general collection development practices followed, E-Journals collection development practices and key areas of challenges, issues relating E-Journals collection development. In addition to this, visits, personal interactions, discussions, e-mail correspondences, observation and websites were adopted to supplement the collection process towards requisite data for the research.

1.14 SCOPE AND LIMITATIONS

The present study is focused on the E-Journals as a prominent publication type and a bibliographic format. The study assesses in detail the collection development and management aspect of E-Journals from a practical special libraries’ environment in Kerala. The universe selected for the study confines to special libraries in Kerala. Hence the coverage includes the special libraries of research institutions in Kerala managed by Government of India and Government of Kerala. The study is also limited to the special libraries that subscribing / using E-Journals. This study does not cover the
usage of E-Journals among the user community and hence a user satisfaction survey was not undertaken.

1.15 ORGANISATION OF THE THESIS

The Thesis has been presented in six chapters. The preliminary part, bibliography and appendices are also given at appropriate places.

Chapter 1 introduces the topic as well as the problem of the research study. It gives the outline of the topic E-Journals, collection development of E-Journals, role of library consortia on E-Journals collection development and various challenges and issues in the E-Journals collection development. It also gives need and significance of the study, statement of the problem, definition of key terms, objectives, hypotheses, methodology in brief, scope and limitation of the study and organisation of the thesis.

Chapter 2 deals with review of literature related to the study covering E-Journals growth and penetration and E-Journals collection development and management.

Chapter 3 describes the methodology of research, briefly describing the population of the study, samples used for the study, data collection methods, design of questionnaire, statistical techniques used etc.

Chapter 4 includes the analysis of data and its interpretation.

Chapter 5 presents a best practice reference manual for E-Journals collection development and management in special libraries in Kerala.

Chapter 6 gives summary of major findings, tenability of hypotheses, suggestions for improving E-Journals collection development and management in special libraries, recommendations for further research and conclusion.