Chapter - I

1. INTRODUCTION

The Phrase ‘electronic resources’ refers to the variety of electronic and digital sources of information available to teachers and learners within an academic context. The Change in traditional document delivery services, from print to electronic, has come about very quickly and libraries and information services have undergone significant transformation in order to effectively deliver electronic resources to the academic community (Appleton, 2006, p. 619).

The rapid advancement of Information and Communication Technology (ICT) has brought a revolutionary change in information and knowledge scenario giving rise to a number of options to the user communities to handle varied information resources at their ease. It is the electronic resources that add lively substance to the modern library’s collection and satisfy the varied needs of students, faculty and research scholars with minimum risk and time. Therefore, electronic resources, in its scope primarily include e-books, e-journals, e-theses, e-newspapers, e-databases and several such reference materials in electronic form.

The phrase ‘electronic resources’, has broadly been defined as, information accessed by a computer, may be useful as bibliographic guides to potential sources but, as of yet, they infrequently appear as cited references in their own right (Graham, 2003, p.23). Moreover, e-resources refer to that kind of documents in digital formats which are made available to library users through a computer based information retrieval system. Internet is said to be the right and most extensively used channel to catch hold of the majority of e-resources through different search engines (e.g. Google, AltaVista, Msn, Yahoo, etc.) and Webopac and, of course, some offline databases in CD/DVD formats that can even be accessed without the help of internet.

Electronic resources have the potential to increase the learning opportunities offered to students in particular, the interactive and multimedia elements provided by the electronic medium can offer a great variety of learning experiences than those
offered by text on paper. Teaching material in electronic form greatly enhances teaching possibilities, giving the students a greater variety of exercises and making courses much more lively and interactive. These e-resources enable instant feedback to students and facilitate students’ ability to understand concepts more clearly and easily (Wilson, 2003, p.162) by providing several supporting and supplementing resources for the courses so that students can visualize the material and its content without facing much difficulty in understanding.

Electronic packages are now being considered as standard resources in many libraries and information centers and are having a great impact on their respective library collections and their development and maintenance. Libraries are now often purchasing e-journal bundles as a means of providing e-access to their print subscriptions and to enhance their collection. Brophy (1993, p.52) explicitly details certain advantages of e-resources for the user as being: the information needed can be delivered from the most appropriate source to the user: the user can re-specify his or her needs dynamically: the information is obtained when it is wanted, so becomes “just in time” rather than “just in case”. The user selects only the information needed to answer the specific question and, finally, the information is stored should the user wish. These advantages include the fact that, electronic information sources are often more faster than consulting the print indices. They open up the possibility of searching multiple files at one time, more easily compared to using printed equivalents.

In the recent years, online e-journals, an important component of e-resources, have got wide popularity among library users. One can access e-journals round the clock across geographical barriers, which make e-journals omnipresent. The e-journals get published or reach subscribers much before their print counterpart, besides their ability to reach all its subscribers simultaneously. Another important advantage of e-journals is that, more than one person can access them at a time. Articles can be downloaded and printed simultaneously by more than one reader depending upon access right and permission. Electronic journals offset the missing issue problem. This is a boon for huge campus particularly where there are hundreds of readers with many departments (Halijwale, et al., 2004, p.82).
Understanding the growing importance of e-resources, modern libraries are advancing a step ahead to keep pace with the latest e-publications. It is in fact, a great question in mind, whether every B-School library is structurally and functionally equipped to provide the latest channel of electronic information services to the clientele. Therefore, the present study is an attempt to focus the current status of electronic information services in leading B-Schools in Orissa and aims to study the attitudes, reading behavior in use of electronic resources, such as e-books, e-journals, e-theses, e-articles, and use of internet by the faculty, and students of B-Schools in Orissa with an aim to recommend better established e-learning business environment in B-School libraries in near future.

1.1. RATIONALE OF THE STUDY

Growing trend of e-publication has put the information professionals into an utter state of confusion as to which package of e-resources are useful. It is found that in certain cases, the libraries place orders with the vendors for the subscription of e-journals blindly being mostly impressed by the title and later noticed that, the said journals are of little use by their respective clientele. Thus, periodic survey must be undertaken to assess and evaluate the standard of use of different e-resources, which in turn, can reduce sheer waste of money and ensure quality procurement of online e-resources. Moreover, the user study can provide the right kind of boost to the administrators and information professionals so as to set the right kind of standards and strategies required for building up an effective e-learning environment in libraries. Several surveys are being undertaken in different parts of the world to evaluate the use of different e-resources with a view to minimize investment (minimal cost) and maximize the quality of electronic information services (optimal service). However, it is observed that, no such comprehensive study has yet been conducted for measuring the depth of electronic information services offered to the faculty, students and research scholars of B-Schools with specific reference to Orissa. Therefore, the investigator takes the opportunity to study the Use of e-resources in Business Schools of Orissa with a view to arrive at some useful and interesting findings with recommendations so that, the libraries and resource learning centers attached to these premier professional institutions will surely promote the
most promising and modified electronic services in future tailored to the needs of their respective library clientele.

1.1.1. STATEMENT OF THE PROBLEM OF INVESTIGATION

"Adhibition Of Electronic Resources In Libraries Of B-Schools In Orissa: A Study" is a topic of great significance and interest to library planners and administrators as well as the users of Business Schools in Orissa. Since modern academic libraries invest considerable resources into the procurement, creation, organisation and maintenance of digital collections, the library administrators are often puzzled and undecided in setting up of the specific kind of e-learning environment that suits best to their library users. It takes several key factors into consideration like, providing adequate number of computers, purchasing right kind of software packages, placing orders with online e-vendors, participating in different library consortiums for availing more electronic information resources and services, so as to meet the exact need of their users.

Therefore, the findings of the proposed study could act as a problem solving tool and allow the administrators and information professionals of B-Schools in Orissa to easily track the use of electronic resources in enhancing the standard of electronic information services in their respective libraries and information centers. The significance of the problem chosen for the present investigation, therefore, can hardly be questioned. Furthermore, the word "adhibition" has been extracted from Roget's Thesaurus, Ed.3, the meaning of which is "Use" or "Application". Thus, there should be no confusion in mind in making out the sense of adhibition as it has been used consistently throughout the thesis.

1.2. REVIEW OF LITERATURE

Review of literature is not mere reading for reading sake. It is selective, focused, and directed towards specific purposes. A researcher has to select the kinds of literature to be reviewed and determine the purposes for which he has to study them. The literature review starts with the selection of a problem for research, continues to various stages of the research process and ends with report writing
(Krishnaswamy and Ranganathan, 2005, p. 64). Powell (1997, p. 59) adds that, review of literature are in some respects exploratory in nature and in that they often focus on developing hypotheses, based on previous research, that may suggest further research. Literature surveys may stand alone, but more often they are, of course, a part of a larger study. In the latter case, they are considered to be supportive of the research that follows rather than research studies themselves.

Since formulating hypotheses based on previous research is the most key and essential factor of every social science research, the significance of review of literature is quite inevitable. Therefore, the investigator focuses due attention to the major studies related to the present investigation.

Several user studies have been undertaken by the LIS researchers all over the world related to the use of electronic resources. These literature show that, almost all the developed libraries in different parts of the world are offering electronic information services, of some kind or the other, to their clientele. In India, most of the Science and Technology (S & T) libraries and/or large special libraries are the leaders in providing electronic information services. Brief findings of some of the studies conducted earlier on the relevant fields are succinctly presented below in their chronological emergence:

1.2.1 Ensar (1992, pp.67-72) in his study on, "Users Characteristics of Keyword Searching in an OPAC" found that, faculty, older respondents, and less frequent searchers, are less likely to have done keyword searching at Indiana State University libraries compared to other categories in using e-resources.


1.2.3 Singh, et al.(1996, pp.9-13) in their study on, "Electronic Journals on Library and Information Science" traced out that, electronic journals clearly have
more potential advantages in terms of flexibility over printed journals, but adherence to the precedence set by print journals, however, can diminish these perceptions.


1.2.5 **White and Crawford** (1997, pp.53-57) in their investigation on, "Developing an Electronic Information Resources Collection Development Policy" have clearly addressed the development of an electronic information resources collection development policy to guide the librarians at Penn State Harrisburg in the selection of electronic reference resources that include and address several crucial issues such as relevance and potential use of the information, redundancy of the information contained in the product, demand for the information, ease of use of the product, availability of the information to multiple users, stability of the coverage of the resource, longevity of the information, cost of the product, predictability of pricing, equipment needed to provide access to the information, technical support, and availability of the physical space needed to house and store the information or equipment, etc.

1.2.6 **Woodward, et al.** (1997, pp. 144-151) in their study on, "Electronic Journals: Myths and Realities" considered the preliminary findings of the Café Jus Research project, investigating end-user reactions to electronic journals. Issues explored in the above study include access to e-journals, reading habits, human factors, financial implications, and the future role of librarians, subscription agents and publishers in the electronic environment.

1.2.7 **Mahesh and Ghosh** (1998, pp.67-76) in their study on, "Availability and Use of Indigenous Database by S & T Libraries: A Case Study" pointed out that, science and technology libraries in Delhi are willing to buy and make use of more indigenous databases compared to traditional resources

1.2.8 **Martin** (1998, pp. 24-27) in his paper on "Library Management of Electronic Information: Reports on Recent Conferences" discussed the outputs of
two conferences held in 1997 focusing on various elements relating to the management of electronic resources and services and found that definitive answers to financial management questions continue to be a missing element in the area of library management of electronic information.

1.2.9 Sandelands (1998, pp. 75-80) in his study on, “Creating an Online Library to Support a Virtual Learning Community” highlights how an independent business school, International Management Centres (IMC), has created a virtual library in partnership with database publisher Anbar Electronic Intelligence. He further outlines the action learning methodology used by IMC in delivering management development programmes, and how the virtual business school model being developed and used.

1.2.10 Berger (1999, pp. 146-151) in his study on, “Digitization for Preservation and Access: A Case Study” described the process whereby digitization of a journal is used to preserve and provide access to the contents on the World Wide Web and presents the project objectives and goals and the steps taken towards these goals.

1.2.11 Chan (1999, pp. 10-16) in his study on, “Electronic Journals and Academic Libraries” delineated the positive and negative aspects of the technology and reviewed the crucial issues and trends concerning electronic journals, which librarians need both to be aware of and understand. He highlighted some practical implications that are unique to academic libraries.

1.2.12 Shemberg and Grossman (1999, pp. 26-45) conducted a survey in late 1997/early 1998 on contemporary library provision of electronic journals and other electronic resources from a consensus of Association of Research Libraries (ARL) to a sample of non-ARL Master’s, Doctoral, and Research Institutions. The survey found that both ARL and non-ARL libraries offer extensive services to their constituents and they have decided to cancel paper journals in favour of electronic versions.

1.2.13 Todd (1999, pp. 36-41) in his study on, “Metadata Mayhem: Cataloguing Electronic Resources in the National Library of New Zealand” described the historical development of the Internet and World Wide Web as valuable information.
resource, and provided a guide for browsing, searching and capturing data and identified some of the potential problems in accessing relevant sites.

1.2.14 **Al-Baridi and Ahmed** (2000, pp. 109-117) in their study on, "Developing Electronic Resources at the KFUPM Library" highlighted the use of the KFUPM Library Web site and Internet to enhance their library collection, expand services, and improve operations to provide access to a growing array of internal and external electronic resources.

1.2.15 **Armstrong and Lonsdale** (2000, pp. 21-29) in their research paper entitled, "Scholarly Monographs: Why Would I Want to Publish Electronically" offer a description of the structure of electronic monograph publishing, including the role of various parties involved in the publishing process, and address such issues associated with the characteristics of monographs and a brief consideration of some of the challenges that confront the users of electronic scholarly monographs, including issues of access.

1.2.16 **Chang** (2000, pp. 15-27) in his study on, "Developing an XML Framework for an Electronic Document Delivery System" finds that, increasingly XML applications are appearing on the World Wide Web, from e-commerce to information management. In the case of libraries and archives, XML enables more flexible information management and retrieval than using MARC or a relational database management system.

1.2.17 **Gilliland** (2000, pp. 208-211) in his investigation on, "The OhioLINK Approach: Records and Holdings for Print and Electronic Serials in the OhioLINK Central Catalog" unfolds the fact that since 1992, when OhioLINK’s central catalog was first implemented, the consortium’s union listing and serials holdings activities have shifted from an emphasis on print holdings in individual libraries for traditional inter-library lending to dealing with holdings for electronic serials purchased with group licenses and with related issues for linking catalog records, abstracting and indexing data.

1.2.18 **Jeevan** (2000, pp. 272-278) in his research on, "Kharagpur Electronic Library on the Internet (KELNET)" found that KELNET is one resource with a good
quantity of local databases and digitizing local contents and a means of coping the spiraling cost of information resources. Moreover, he observed that improvements in computer systems, communication links, and databases and other resources are taken up as a continuous process so as to offer consistent help to information users from all around the world.

1.2.19 **Liew, et al.** (2000, pp. 302-315) have made a study on, "A Study of Graduate Student End-Users' Use and Perception of Electronic Journals" in which they have expressed that, the growth and diversity of e-journals in the past five years led many to predict, the extinction of print journals and that a new paradigm is sweeping scholarship. The above work also highlights the future of e-journals in the light of the use and perception of graduate student end-users, and their expectations about the future of e-journals as they are absolutely different from print journals, with novel forms of functionality not possible in their print-counterparts.

1.2.20 **Ming** (2000, pp.26-32) in his study on, "Access to Digital Information: Some Breakthrough and Obstacles" opines that, keyword searching on the internet needs to be supported by other search options, including wild card, proximity search, Boolean logic and term expression.

1.2.21 **Ashcroft** (2001, pp.378-388) in his case study on, "Electronic Journals: Managing and Educating for a Changing Culture in Academic Libraries" arrives at the conclusion that, for electronic journals to become a significant alternative to the print version, there needs to be a recognition that the introduction of electronic journals will impact on working practices and staffing requirements, requiring more technical skills and competencies and changes in management priorities.

1.2.22 **Chiang** (2001, pp. 102-111) in his study, “Developing an XML Framework for an Electronic Document Delivery System“ develops an Extensible Markup Language (XML) framework for electronic document delivery that offers a novel electronic document delivery system and also locates publishers who can provide the copyrighted material in an electronic format via the OPAC.

Questions compared the annual subscription prices of core printed journals with their electronic counterparts in the disciplines of political science and economics during 1998-2000 academic years. The electronic use statistics were examined by the scholar for the expensive serials, based upon the numbers of hits cumulated by user’s requests via the Web sites of the Texas A&M university libraries and arrived at the conclusion that, electronic resources are easily accessible online than its printed counterparts.

1.2.24 Herring (2001, pp.313-19) in his study on, "Using the World Wide Web for Research: are Faculties Satisfied? Survey Results" explored faculty member’s satisfaction towards the web as a valuable research source. Results of the study indicate that, although faculty members are generally satisfied with the web, they question the accuracy and reliability of much web-based information and the sufficiency of web resources for research.

1.2.25 Hiremath (2001, pp.80-88), on the other hand, in his findings on his investigation on, "Electronic Consortia: Resource Sharing in the Digital Age" points out the search for effective electronic resource sharing by libraries around the world within a framework of commonly felt needs fomented by the fast emerging digital age.

1.2.26 Rosers (2001, pp. 25-34) in his study on “Electronic Journal Usage at Ohio State University” pointed out that, there has been an increased use of e-journals and decreased use of printed journals by the faculty and graduate students at Ohio State University (USA).

1.2.27 Saye (2001, pp. 71-78) in his study on, “The Organization of Electronic Resources in the Library and Information Science Curriculum” stressed the need of introduction and integration of the organization of electronic resources into the LIS curriculum. The description is based upon the experience of the School of Information and Library Science, University of North California. The study also identified other means by which the topic can be included in a student’s programme.

have elaborately discussed the issue of user privacy in the digital library environment and provide certain useful guidelines on privacy matters of information professionals.

1.2.29 **AlShehri and Gunter** (2002, pp. 56-70) in their study, *"The Market for Electronic Newspapers in the Arab World"* found that, most readers of Arab online newspapers were male, students, professionals or business persons, residents overseas, and were established regular users of the internet. For most, the internet was regarded as a vital source of news, and more than half of the respondents claimed to have read Arab online newspapers everyday. Internet news was valued because it was readily available all the time, free of charge and provided a substitute for printed newspapers not available to them in their current location. The main problems were technical, linked to difficulty in downloading or browsing the content. A majority of the users were found satisfied with online newspapers. Frequency of reading newspapers and overall satisfaction with online newspapers were predicted with a positive note.

1.2.30 **Bednarek** (2002, pp. 378-383) in his study on, *"Creating a Job Description for an Electronic Resources Librarian"* discusses the rules and methodology of introducing a new job description for an electronic resources librarian in an academic library in Poland. The study further indicates that, a precise job description and its implementation in a job position is found linked to the strategic goals of an organization that make the structure clear and, consequently more efficient.

1.2.31 **Petric** (2002, pp.123-133) in his study on, *"Electronic Resources and Acquisitions Budgets: SUNY Statistics, 1994-2000"* examines whether an increase in acquisitions of electronic resources was affecting overall acquisitions statistics for the libraries of the State University of New York (SUNY) and concluded that the amount spent on electronic resources has not continually increased, but in fact decreased in some years. The study further reveals that, although electronic resources are consuming a higher proportion of the overall acquisitions budget, at least in the SUNY system, the money is not necessarily coming at the expense of acquisitions in other formats.
1.2.32 Ali and Husan (2003, pp. 91-95) find in their study on, “The Use of Electronic Services at IIT Library Delhi: A Study of Users’ Opinion” that, users feel more at ease using online databases and other e-resources compared to CD-ROM databases. So, the library should subscribe to more web-based databases compared to their printed counterparts the study asserts.

1.2.33 Chen (2003, pp. 8-16) in his research paper on, “Application and Development of Electronic Books in an E-Gutenberg Age” finds that, e-books have gained immense popularity among the users during the last decade and their rapid emergence has substantially minimized the task of printing. The study further highlights the electronic books by giving a review of their historical development, definition, scope, characteristics, constraints, typology, and several other related issues for library services, and user preferences.

1.2.34 Manjunath and Shivalingaiah (2003, pp. 27-30) in their study on, “Electronic Resource Sharing in Academic Libraries” identified the needs and factors that influenced the electronic resource sharing and lucidly presented the requirements and strategies required for effective resource sharing in academic libraries.

1.2.35 Medeiros (2003, pp. 51-53) in his study on, “E-Prints, Institutional Archives, and Metadata Disseminating Scholarly Literature to the Masses” expresses the history and maturation of e-print servers, institutional archiving, and the role metadata plays in retrieving information from these repositories.

1.2.36 Todd (2003, pp. 214-222) in his investigation, “Metadata Mayhem: Cataloguing Electronic Resources in the National Library of New Zealand” takes a chronological approach to the cataloguing of electronic resources within the National Library of New Zealand and briefly outlines the early work in this area and then looks at how the role of a national library affects the cataloguing process. The study further provides a description of current approaches to cataloguing of published digital materials and then the transformation of the said catalogue record that has been part of this process.
1.2.36 **Wilson** (2003, pp. 162-75) in his study on, “E-education in the UK”. points out that, there is a considerable lack of time, skills and support available to lecturers wishing to implement their e-learning ideas in the UK HE institutions. He proposes that, while aspects of paper books such as tables of contents, indexes and typography should be retained; books delivered electronically should also adapt to fit the new medium through the use of hypertext, search engines and multimedia to make the process of learning more lively and impressive.

1.2.37 **Wilson, et al.** (2003, pp. 454-477) in their study, “The Web Book Experiments in 38 Electronic Textbook design” described a series of three evaluations of electronic textbooks on the Web, which focused on assessing how appearance and design can adversely affect users’ sense of engagement and directness with the material. The EBONI project’s methodology for evaluating electronic textbooks is outlined and each experiment is described, together with an analysis of survey results.

1.2.38 **Witt** (2003, pp. 383-395) in his study on, “Bibliographic Description of Electronic Resources and User Needs” presents several useful observations gathered from public libraries and considers the condition of access and description to varied electronic resources.

1.2.39 **Petrick** (2004, pp. 174-182) made a study on, “The Electronic Library: Responses from the State University of New York (SUNY)” in which he expressed that, the library at SUNY campuses have shown different responses to the issue of making available remotely-accessible electronic resources in academic libraries other than those at the research level was noted. The findings are limited insofar that no effort was made to determine the reasons, why each library did not include records for remotely accessible electronic resources in their respective online catalogs.

1.2.40 **Seamans** (2003, pp. 56-61) in his paper, “Electronic Theses and Dissertations (ETDs) as Prior Publications: What The Editors Say” tries to unfold whether the electronic theses and dissertations (ETDs) as either option or a requirement for the graduate students. It succinctly presents survey findings that
indicate that, while more study is needed, this concern appears to be largely unwarranted.

1.2.41 **Tadas, et al.** (2003, pp 31-42.) in their study on, "Use of Internet by Undergraduate Students of P D A College of Engineering, Gulbarga" found that, the use of internet at college is being made by a very few students which needs to be increased. The said study also suggests that, internet facility should be extended to library, as it has become an important medium for providing e-information both to students and faculty members.

1.2.42 **Ashcroft and Watts** (2004, pp. 284-291) in their study on, "Change Implications Related to Electronic Educational Resources" elaborately addressed the issues of e-books to those who are in use of other electronic resources, such as e-journals. These include changes in professional and management skills, such as collection development, marketing and evaluation, user education, technological as well as communication skills.

1.2.43 **Farb and Riggio** (2004, pp. 144-152) in their study on, "Medium or Message? A New Look at Standards, Structures, and Schemata for Managing Electronic Resources" have examined several library metadata standards, structures and schema relevant to the challenge of managing various electronic resources like, MARC, METS, Dublin Core, EAD, XrML, and ODRL, etc. The study reveals that, there is currently no one standard, structure or schema that adequately addresses the complexities of e-resource management and proposes for a new metadata schema exclusively designed to manage different electronic resources for their effective management and retrieval.

1.2.44 **Johnson Qiana** (2004, pp. 73-77) in his study on, "User Preferences in Formats of Print and Electronic Journals" stressed the need of introducing more and more electronic journals and electronic versions of journals in libraries that made serials collection management more complex. Libraries may want to offer a particular journal, both in print and electronic formats, but found that, it is often not financially feasible. In order to make the decision about what format to purchase, librarians need to know first the format preferences of the users. To determine these
preferences, library professionals can use several methods, such as user surveys, usage reports, and educated guessing, the survey asserts.

1.2.45 **McCallum** (2004, pp. 82-88) in his study, *An Introduction to the Metadata Object Description Schema (MODS)* provides an introduction to the Metadata Object Description Schema(MODS), a MARC21 compatible XML schema for descriptive metadata. It explains the requirements that the schema targets and the special features that differentiate it from MARC, such as user-oriented tags, regrouped data elements, linking, recursion, and accommodations for electronic resources.

1.2.46 **Rockliff** (2004, pp. 433-439) in his study on *Queen Elizabeth Hospital Library Experience* examines the experiences, benefits, pitfalls, lessons learned and outcome of committing to electronic resources in The Queen Elizabeth Hospital Library(TQEH) over the last four years and looks at where the future lies for electronic delivery in TQEH.

1.2.47 **Singh and Gautam** (2004, pp. 249-260) in their study on *Electronic Databases : The Indian Scenario* present an overview of some of the important electronic databases developed in India or on Indian topics and have discussed at length their usefulness to library users.

1.2.48 **Vicente, et al.** (2004, pp. 401-407) in their study on *Use and Awareness of Electronic Information Services by Academic Staff at Glasgow Caledonian University* reports on the use of electronic information services both by staff and students at Glasgow Caledonian University. The majority of the users opine that, the freely available internet was the most widely used source and some respondents viewed as a more appropriate source of vocationally oriented information than password restricted databases.

1.2.49 **Wang and Hwang** (2004, pp. 408-415) in their study, *The E-Learning Library : Only a Warehouse of Learning Resources* have addressed the issue of e-resources management and discussed the concept of "learning", and how the same can be pursued and managed in the library environment. The study also discussed the
functionality of the e-learning library, and how the e-learning resources are included and organized in the e-learning library.

1.2.50 Zhu (2004, pp. 251-256) in his study, "Understanding Open URL Standard and Electronic Resources: Effective Use of Available Resources" provides a mechanism to transport metadata or identifiers of a digital item from one resource to another and the way the books are to be constructed in a dynamic-linking environment and describes some integration issues for electronic resources in the library. The said study further explained the types of URL before giving an overview of the Open URL standard and the open URL linking system, the link resolver. The major OpenURL linking products and host solution options are described, and the impact of the OpenURL standard and its linking system on library users and library services are discussed vividly.

1.2.51 Abdulla (2005, pp. 48-55) in his study, "The Development of Electronic Journals in the United Arab Emirates University" shows that, e-journals have added enormous resources to the collection, improved service, enhanced access to journal literature, increased its usage, and decreased the demand for document delivery of single articles. The study further indicates the challenges of offering e-journals as "bundled" packages and UAEU's concern about the library's inability to remove irrelevant titles, control cost, and retain the freedom to make changes on its journal collection.

1.2.52 Ali (2005, pp. 691-700) in his survey on, "The Use of Electronic Resources at IIT Delhi Library: A Study of Search Behaviours" finds that, Boolean logic and truncation are the most often used search facilities by IIT users. Lack of printing facilities, terminals and trained staff are the major reasons that would discourage users from accessing the e-resources. The survey also reveals that, 60 percent of the users face difficulties while browsing e-information.

1.2.53 Bevan (2005, pp. 100-111) in his study on, "Electronic Thesis Development at Cranfield University" provides useful advice on the issues that will arise, as institutions go through the process of introducing the mandatory submission of electronic theses.
1.2.54 Copeland, et al. (2005, pp.185-197) in their study on, “Electronic Theses: The Turning Point” provided information about the value of the NDLTD Web site, the suitability of D-Space and E-Prints software for institutional e-theses repositories, and the recommended infrastructure for the operation of an e-theses service at national level. Details are included about the agreed metadata core set for UK e-theses, and provided several useful advice about administrative, legal and cultural issues relating to e-resources and services.

1.2.55 Dadzie (2005, pp. 290-297) in his study, “Resources : Access and Usage at Ashesi University College” focuses some of the issues of value to library administrators considering how to determine the level of use, type of information accessed, assessment of library’s communication tools, problems encountered when using electronic resources and ways to improve the provision of electronic information in a Library and Information center.

1.2.56 Krishnamurthy (2005, pp. 200-203) in his study on, “Digital Library Services at the Indian Statistical Institute” finds that in a short period, considerable progress has been made in consortium project in the Indian Statistical Institute(ISI) libraries. Important services like, online resource, online Public Access Catalogue (OPAC) were the key highlights of the above investigation. The study further explores as to how these sources are helpful in building digital collection in Indian Statistical Institute, Bangalore.

1.2.57 McFall (2005, pp. 72-81) in his study on, “Electronic Textbooks that Transform How Textbooks are Used” indicates that, no significant differences in student learning or textbook usage were observed between students using the electronic and paper versions of the textbooks. However, the survey provides some useful guidance to those seeking to design and implement electronic books in an educational setting.

1.2.58 Mishra, et al. (2005, pp. 8-12) in their study on “Motivation and Pattern of Use of Internet by the Undergraduate students of G B Pant Agriversity”, revealed that, majority of the students use internet. Out of the total internet users, 67.71% were the male and 32.29% were the female students.
1.2.59 **Medeiros** (2005, pp. 145-147) in his study, "Electronic Resource Usage Statistics: the Challenge and the Promise" provides a brief description of the grassroot effort initiated to develop a 'decision support system' for electronic resources through usage statistics in the library.

1.2.60 **Medeiros** (2005, pp. 92-94) in another study on, "Electronic Resources Management: an Update" analyses the Digital Library Federation's (DLF) Electronic Resource Management Initiative (ERMI) provided several useful guidelines and related commercial e-resource management system development. The above study further provides the status of industry initiatives to respond to the DLF ERMI functional specifications and useful information about commercial and library developed systems. It also suggests measures required to improve workflows in conjunction with implementation of an e-resources system so as manage the electronic resources more effectively.

1.2.61 **Mounissamy, et al.** (2005, pp.91-95) in their study on, "Users Attitude Towards Electronic Journals" find out that, 67% of students and 33% of faculty at NITT, Tiruchirapualli use the electronic journals to fulfill their information needs. On analysis of users' opinion, the study unfolds the fact that, the adobe acrobat software used by several commercial publishers does not yet adequately support the usage of user-friendly journals. On the contrary, the users' preference goes to HTML, SGML, HY Time or XML, the study asserts.

1.2.62 **Pickard** (2005, pp. 172-182) in his study, "The Role of Effective Intervention in Promoting the Value of Electronic Information Services in the Learning Process: Case Studies in Higher Education" reveals various ways in which access to EIS can provide valuable learning opportunities in higher education. Moreover, the cross-case analysis of the change in perceptions and use of EIS over a period of three years and the nature of the intervention that impacted upon this perception and use has also been focused vividly.

1.2.63 **Pond** (2005, pp. 318-332) in his research on, "The House of Commons Library and the Transfer of Resources to Electronic form for Users Self-Service, 1979-2004" expressed how the growth of resources delivered via the parliamentary
internet and the end-users have significantly reduced their demands on traditional
librarianship as well as reference skills.

1.2.64 White (2005, pp. 324-336) in his study, “The Development of Digital
Resources by Library and Information Professionals and Historians: Two Case
Studies from Northern Ireland” strongly argued that, if sufficient financial resources
and staff are given, it is relatively easy to adapt a transparently academic approach
for the development of digital resources in a given library system.

1.2.65 Stewart, et al. (2005, pp. 265-286) in their investigation on, “Accessibility
and Usability of Online Library Databases” have indicated that, most of the indexes
and databases are largely compliant with common accessibility standards and permit
the performance of common search tasks and to the accessibility of document
content.

1.2.66 Vijayakumar, et al. (2005, pp. 16-18) in their study on, “Regulation of
Doctoral Research in Universities: Importance of INFLIBNET Online Doctoral
Theses Database” highlighted that, the database of Doctoral Theses provides
bibliographical details of Ph D theses or Doctoral dissertations awarded by around
200 Indian universities are quite useful to researchers community because of their
electronic format.

1.2.67 Williamson (2005, pp. 508-513) in his study on, “Strategies for Managing
Digital Content Formats” provides some useful insights on some of the issues
surrounding the choice of open or proprietary formats and examines some of the
pitfalls of a proprietary approach and suggests some strategies that might be
effectively employed for managing digital content formats in the long-term. The
study also concludes that, the choice of file and media formats for the content can
have a significant effect on long-term access to electronic content.

Models: An Analytical Comparative Study” observed that, among offline access
models, Microsoft Reader has most of the features well defined and among online e-
book access models.
1.2.69 **Appleton** (2006, pp.619-634) in his research on, "*Perceptions of Electronic Library Resources in Further Education*" reveals personal experiences and perceptions of using electronic library resources and the influence they have had on teaching and learning activity.

1.2.70 **Carlson** (2006, pp. 6-11) through his research paper, "*The 1st Electronic Resources & Libraries Conference : A Supplemental Report*" brings out the summary of findings of the 1st ER&L conference and states that, ER&L conference is the first step in building a shared understanding about the unique medium of electronic resources and its management, and developing a supportive community or audience for dissemination of basic practices and latest developments in the field.

1.2.71 **Jewell** (2006, pp.183-196) in his project on, "*University of Waterloo Electronic Theses : Issues and Partnership*" observes that, E-theses supports author's rights, minimizing access restrictions and encourages innovations while respecting the value of gradually evolving thesis standards and traditions.

1.2.72 **Korobili, et al.** (2006 pp. 91-105) in their study on, "*Factors that Influence the Use of Library Resources by Faculty Members*" traced out that, the great majority of the faculty of Technical Educational Institution(TEI), Thessaloniki, Greece use printed sources more than e-sources, but they also use e-sources quite frequently. Use is mostly of books, websites and printed journals. The results of the above study further indicated that, the use of e-sources is higher in the School of Business Administration and Economics among those who hold a Ph. D. degree and among younger members of the faculty compared to other categories of members, and the use of e-sources is positively influenced by the respondents' perceived usefulness of resources.

1.2.73 **Skaggs, et al.** (2006, pp. 192-206) in their study on, "*One-Stop Shopping : A Perspective on the Evolution of Electronic Resources Management*" drew the inference that, there should be common practices for the management of electronic resources and insights into possible problems that can arise when creating a one-stop shopping archetype for electronic resource management. Thus, the above study focused more on organization and management of e-resources rather than on their
usage. The study further suggests that, the librarians of e-resources must develop effective practices to manage the varied electronic resources that continue to be accessioned within most libraries. Moreover, the study provided varied examples of selection, bibliographic description of electronic resources, and the mediation provided by librarians of French Libraries which can help users with their choices during searching as a role model.

1.2.74 **Sujatha and Mudhol** (2006, pp. 96-112) in their research paper, "Electronic Information Services on Fisheries : A Study" discussed some of the important databases in fisheries and aquaculture research and management, and finds out that, librarians are facing many challenges posed by numerous electronic information sources such as CD-ROM databases, online databases and web resources in this area.

1.2.75 **Beard, et al.** (2007, pp. 7-17) in their study on, "The Impact of E-Resources at Bournemouth University 2004/2006" observed that the use of, and enthusiasm for, electronic resources is quite widespread amongst students and staff of Bournemouth university (UK).

1.2.76 **Jackson, et al** (2007, pp. 4-17) in their paper entitled, "Electronic Resources & Libraries, 2nd Annual Conference 2007" elaborately explained the issues and programs of the Electronic Resources that were discussed in library conferences held in Atlanta, Georgia at the Georgia Institute of Technology Campus in February 2007. Acquisition staff, cataloguers, public service staff, administrators, IT personnel, information providers, content managers, and others, all came together to assess the possible resources to be initiated so as to continue high and qualitative servicing of both born digital and electronically available resources in a hybrid environment that continues to describe all modern contemporary libraries today.

1.2.77 **Kanungo** (2007, pp. 7-18) in her study "The Use of Internet in Scholarly Communication of Social Scientists : A Case Study of IGNOU" highlights the purposes and frequency of use of the internet by the social scientists, and their methods of locating, accessing and using information on the internet.
1.2.78 Mohamed (2007, pp.23-31) in his investigation, "Use of ICT Based Resources and Services in Special Libraries in Kerala" unfolds the popularity of ICT-based resources and services among the special library users.

1.2.79 Mandal and Panda (2007, pp. 54-58) in their paper "Usage of e-Resources Supplied Through a Consortium: A Study" vividly discussed the usage of e-resources received through INDEST consortium by a group of members of the consortium in the backdrop of 21st century library environment. The study successfully unfolds some reasons for low usage and suggests some remedial steps to improve the use of e-resources and services.

1.2.80 Manihar and Bhatt (2007, pp. 15-18) in their paper entitled, "Designig Educational CD-ROM for Higher Education Students" highlight the need for designing of CD/DVD ROM-based e-resources and services in accordance with the users requirements, if the full benefits of such services are to be availed by the library users.

1.2.81 Nikam and Pramodini (2007, pp. 19-22) in their study on, "Use of e-Journals and Databases (subscribed by UGC- Info net consortium) by the Users of University of Mysore" examined the utilization and satisfaction levels of users in respect to the e-resources and presents the use of internet by the users of University of Mysore unfolding the usage trend.

1.2.82 Ritchie (2007 pp. 440-452) in his study, "Print V. Electronic Reference Sources: Implications of an Australian Study" has stated that, both electronic and print sources are equally important to reference service at the Northern Territory Library(Australia).

1.2.83 Swain, et al. (2007, pp. 122-128) in their paper, "A Rapid Rise of Electronic Resources in the Libraries and Information Centres: An Overview" described the conceptual frame work of e-resources and traced out the genesis of the use of e-resources. The paper also discussed the merits and pitfalls of their use and highlighted the legal issues and licensing restrictions pertaining to e-resources.
White Andrew (2007, pp. 36-46) in his study on, "Using CD-ROMs as a Pedagogical Tool" illustrates the importance of different forms of new media and draws conclusion that, CD-ROMs strike a good balance between the limitations of the codex book and the nature of the World Wide Web (W3).

However, it is interesting to note that, none of the studies has been undertaken yet regarding the exclusive use of e-resources in B-Schools in Orissa. Therefore, the investigator takes the opportunity to carry out his research on such a vital topic of great significance that has been unexplored.

1.3 AIMS AND OBJECTIVES OF THE STUDY

Electronic resources are regarded as the most significant part of the collection development of a modern library. Now-a-days, a huge amount is spent in procuring e-resources and providing electronic information services (EIS) in large modern library systems without assessing the user's attitude towards use of e-documents. It is in fact, unexplored whether the investment of B-Schools on e-resources is fruitful and users are perfectly satisfied with the electronic services provided to them.

The main objective of the present study is to provide a clear picture of the existing e-learning environment of major B-Schools in Orissa with regard to user's awareness on EIS, use of e-resources, advanced search facilities, the purpose of using e-information, problems encountered by the users in accessing various e-resources, infrastructural facilities available and satisfaction level of the users of B-School libraries.

The core objectives of the present study are, therefore, as follows:

- To identify the availability of different e-resources in libraries of leading Business Schools in Orissa;
- To assess and evaluate the frequency of the use of such electronic information services by the users of B-Schools in Orissa;
- To examine the performance of B-School libraries in Orissa in satisfying the information needs of students, faculty, and research scholars via e-resources;
To identify the major barriers that hinder the use of e-resources by the clientele of B-School libraries;

To identify the existing information infrastructure available at libraries of B-Schools to provide e-resources;

To unfold the specific e-resource/service that predominant in the library’s e-resource/service program and most frequently used by the library clientele of B-Schools; and

To suggest and recommend for establishing a much better and an effective e-learning environment for the users of Business Schools in Orissa in the light of the findings of the study.

Fulfillment of the above objectives, however, depend upon the existing infrastructural facilities available on e-resources and services and, the extent to which the investigator received responses from its respondents.

1.4 SCOPE AND LIMITATIONS OF THE STUDY

Scope is intimately related to generalization. A scope statement sets empirical and theoretical limits on the extent to which an inference can be generalized (Goertez and Mohoney, 2006, p.1). The fields of social science research is virtually unlimited, and the materials of research endless. Every group of social phenomena, every phase of human life, and every stage of past and present development are materials for social scientists (Young, 1977, p.31).

However, Research in social science has certain limitations and problems like, language, geography, complexity of the subject matter, human problems, personal values, selection of sampling techniques and statistical methods etc that are inherent with the scope of research (Krishnaswamy and Ranganatham, 1995, p.26). Therefore, scope and limitations of the research needs to be clearly addressed from the very outset of the investigation.

The scope of present study is limited exclusively to faculty, and students of leading B-Schools in Orissa included in the survey. In order to facilitate dependable collection of data, only 30 leading B-Schools in Orissa were taken into the purview
of the research that included almost all AICTE approved B-Schools excluding four B-Schools who have got fresh AICTE approval in 2006 & 2007 and five such other low profile B-Schools.

Therefore, the scope and limitations of the present study may be summarized as below:

- The present study considered the state of electronic resources of 30 leading Business Schools of Orissa including the Post-Graduate teaching departments of Business Administration of different universities of Orissa, but no other States (i.e., limitation of respondents by geography/territory);

- This study included in its sample only the e-resources to survey its usage, but not the traditional and printed equivalents (i.e., limitation by the type and form of material included in the survey);

- This study included in its sample not only the librarians but also the members of the faculty, and students of B-Schools as its target respondents to elicit their views on consumption of e-resources. Thus, guest users, visiting scholars, part time teachers and such other persons temporarily authorized for access or use privileges of the e-resources of the institute were excluded from the study (i.e., limitation by type of respondents); and

- It included in its scope the target respondents who are primarily associated with two years master degree programme in Business Administration (MBA/PGDM) only, but no other management courses. Hence, Business Schools, if imparting other peripheral Management courses like, Hotel Management, Catering Management, etc. were excluded from the ambit of the study (i.e., limitation of respondents by class and level of course being pursued),

1.5 HYPOTHESES

Goode and Hatt (1952, p.56) define hypothesis as “a proposition which can be put to a test to determine its validity”, and Johnson (1956, p.192) adds that, keen
observation, creative thinking, hunch, wit, imagination, vision, insight and sound judgements are of greater importance in setting up reasonable hypotheses.

Therefore, for the purpose of the present investigation, the following hypotheses were formulated:

- Even though, e-resources cannot be considered as a viable substitute for their printed equivalents, there might be a growing need for electronic resources par with their printed counter parts owing to their *easy and quick accessibility nature*.

- The users of B-Schools must be *spending at least 1-2 hours* on an average, in the institute’s internet Lab for browsing different e-resources available online pertaining to their respective area of research/study.

- The users of B-Schools must have been well-acquainted with the use of popular *search engines* like, Google, Yahoo, etc. since internet becomes the medium and the main gateway to access to e-resources.

- Majority of the students might be seeking the help of *e-books, e-journals, and e-articles*, compared to other e-resources/form of documents, for supplementing their academic assignments so as to fulfill the needs of their course curriculums.

- Majority of the libraries of B-Schools in Orissa must be subscribing to online *e-journals and databases* in the field of management and business studies compared to other e-form of documents as well as other disciplines.

- Most of the B-Schools must be having *ideal infrastructure*, well furnished computer labs with LAN connection to the library server to provide effective electronic information services to their users.

- The knowledge centers of B-Schools who are avoiding using electronic resources could be, either due to lack of *computer facilities or adequate budget* rather than their ability to handle and utilize the e-resources and services.

These hypotheses have been thoroughly tested in Chapter-V with the elicited data to fulfill the survey objectives.
1.6 METHODOLOGY

Methodology describes how one would investigate the topic by specifying the methods of both data collection and data analysis, identify the variable(s) of interest, define them and their relationship (if any), and specify how they would be measured (Doty, 2002). Moreover, he identifies two broad categories of methods in social science research, viz, Qualitative methods, and Quantitative methods.

LIS being an emerging discipline, adheres to both the methods of research. Within the LIS literature, there is still a strong inclination towards survey as compared to other methods. In addition, there is more emphasis on investigating user needs and in the domain of user studies there is enormous emphasis on quantitative approaches, and user studies has been the area containing most of the LIS research (Wilson, 1981, p. 3). To supplement the idea, the investigator decided to use quantitative methods applied in user studies with special reference to the use of e-resources available in the knowledge centers of major B-Schools of Orissa included in the study.

To assess and evaluate the type and frequency of use of e-resources, the degree of satisfaction and the constraints encountered by the users of B-Schools in the use of e-resources and services, a structured questionnaire consisting of 40 key questions spread over 07 sections (A-G) was administered to study the status of e-resources and their consumption by the users of 30 major B-Schools included in the survey. Besides the above, the said questionnaire was designed with a view to elicit information on the attitude and information seeking behaviour of B-School Library users in use of varied electronic information services made available to them in their respective parent library systems. The questionnaire method was followed by observation and interviews for achieving the survey objectives. Harvard style of reference (Emeral pattern of citation) is followed for all bibliographical citations made at the end of each chapter of this thesis.
1.6.1 Sample Size

The key strength of survey research is that, if properly done, it allows one to generalize, from a smaller group to a larger group, from which the sub-group has been selected. The sub group is referred to as the sample. The larger group is known as the population; it must be clearly defined, specifically delimited, and carefully chosen (Powell, 1997, p. 57). Moreover, Kothari (2004, p. 152) opines that sampling is the most important ingredient of social science research and it should be truly representative of population characteristics without any bias so that it may result in valid and reliable conclusions.

Taking the concept of sampling in care, for the undertaken study, a method of random sampling was adapted. It included a sample size of 450 respondents (students and faculty) from among 30 leading B-Schools in Orissa, on an average of 15 respondents from each B-School covering students, and faculty members. Concurrently, all the 30 librarians of B-Schools of Orissa were personally administered questionnaires at their respective Business schools.

Thus, the size of the sample in the present study can be summarized as under:

(i) by total B-Schools : 30
(ii) by total Respondents : 480 (300+150+30)
(ii) by total States : 01 (Orissa)
(iv) by No and Categories & Level of Respondents : 03 (Faculty, Students, Librarians)
(v) by No and type of Resources : 01 (Only E-resources)

The aforesaid limited sample included in the scope of investigation helped the investigator to complete the project well in time, besides providing a scientific progress to work.

1.6.2 Data Collection

The structured questionnaires were personally distributed to the sample respondents at their respective Business schools. Some of the respondents were personally interviewed as and when felt essential to unshawdow the doubts. Moreover, librarians of 30 major B-Schools were distributed questionnaires
personally and were interviewed so as to obtain their personal opinion on the current status and use of e-resources and services, problems and constraints faced in using e-resources, adoption of standards and strategies for offering effective electronic information services in future.

450 questionnaires were distributed directly among 300 and 150 students and faculty members respectively at their respective B-schools. Out of which 98 (65%) of the faculty and 192 (64%) of students population responded to the effort. In tandem, all of the 30 librarians of B-Schools (100%) responded to the research endeavor.

1.6.3 Statistical Techniques Used

Statistical techniques refer to collection of methods used to process large amounts of data and report overall trends. Moreover, statistical techniques lend a hand to summarize data, analyze them, and draw meaningful inferences that then lead to improved decisions. (Aczel, 2005, p.23).

Therefore, for the present study, the statistical tools such as test of proportion, chi-square ($\chi^2$), “t” tests and one-way ANOVA were applied to analyze the collected data using SPSS software package to make the resulting analysis statistically sound and meaningful.

1.7 SCHEME OF THE WORK

The present investigation made a sincere endeavour and strain so as to assess, evaluate and trace out the major factors that affect and influence the use of varied electronic resources and services by the users of major B-School libraries that were included in the study. The whole gamut of the present study, therefore, for the sake of convenience, has been presented though the following five broad chapters:

Chapter I: Introduction, scope and limitations of the study, aims and objectives, hypotheses, methodology, and review of literature, etc.
Chapter II: Growth and Development of Business Schools in Orissa.
Chapter III: Electronic Resources: A Conjectural Approach
Chapter IV: Analysis and Interpretation of Data
Chapter V: Conclusion and Summary of Findings.
1.8 CONCLUSION

The use of digital information in the modern world is increasing at a phenomenal rate. Library and Information Centers are investing in the digitization of existing materials to make them accessible online or in other electronic media and products. Identifying, developing and promoting standards and best practices in the creation and management of high quality electronic resources have become the top priority for each and every information centers. Information professionals are expected to take utmost care in eliminating the hurdles that come in the way of users’ effective exploitation of digital resources and computer technologies. The dollar mark question that remain to be answered in the present investigation was to unmask whether such trend is apparent in all the libraries of Business Schools in Orissa? Thus, the study of the use of electronic resources in B-Schools of Orissa became imminent. It is expected that, the outcome of the present study would certainly yield benefit to B-School Librarians, Library Planners, Administrators, and Policy makers, Collection Resource Managers to reengineer and revamp their libraries’ e-resources tailored to the needs of their user community.

Before a conjectural approach is made on the E-resources, it is essential to understand the growth and genesis of Business Schools in the State of Orissa as has been depicted in Chapter-II.
REFERENCES


Young, P V. (1977), "Scientific Social Surveys and Research", New Delhi: PHI.