CHAPTER-2

REVIEW OF LITERATURE
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2.1 INTRODUCTION

Literature search found that there is no research had been conducted in local and international sources on the application of computer in college libraries of Coastal Karnataka. In this study, researcher goes ahead to review the comments from some researchers and writers alike. An attempt has been made to review briefly the important literature and studies on library automation efforts, applications of information and communication technology, the library management softwares, usage of library house-keeping operations in academic libraries to justify the need and relevance of the present investigation. The researcher has used the Library and Information Science Abstracts INGENTA Portal, Emerald Database and Google Scholar to gather the relevant data.

The researcher has tried to collect the views of different eminent personalities in the fields of library science and articles written by various authors in the related fields.

2.2 REVIEW OF LITERATURE

Literature Review of a research topic is an exercise in which the researcher tries to identify, locate, read and evaluate the previous studies, observations, opinions, comments related to what he or she intends to research on. Such a review is intended to provide the researcher with a good knowledge of up to date information on what she is working on. In this study, researcher goes ahead to review the comments from some of the study reported are as under.;

Kumar {1987} stated that, computerization provides the following benefits to housekeeping operations particularly in classification; [1]. Helps the classifications in the selection of isolate terms, grouping and arranging them in hierarchical sequence; [2]. Helps a classifier in synthesizing the class numbers; [3]. Saves time by avoiding
frequent reference to the schedules of scheme for classification; [4]. The constructed class number can easily be used as a query language in a typical retrieval system, and [5]. Improves accuracy and speed in classification.

Lin (1988) indicates the growth of computerized library services in the People's Republic of China. He has discussed the important role of the National Library of China and recent advancements in computerized acquisitions, cataloguing, circulation control, union catalogues of periodicals, and on-line cataloguing. He has emphasized in his study that education; training and use of standards are the keys to make the resource sharing a success.

Kaul (1990) reveals the developments of library automation in the European countries. Provides an overview of networks in UK with special reference the British Library's automation program and key areas of work, the Joint Academic Network (JANET), and the CATS on-line cataloguing system, developed by the University of Cambridge. Describes other cooperative projects including the Commonwealth Agricultural Bureaux International (CABI) data base highlighting their activities. He lists broad projections emphasizing the need for automation programs in Indian libraries.

According to Vishwanathan (1991), many libraries around the world have automated one or more of the following functions: acquisition, serials control, circulation, and cataloguing, interlibrary loan. For this automation information technology offers two approaches at system level i.e., integrated automation systems approach, it refers to a single system is used to implement automation in all the functions or activities and distributed automation systems approach it refers to it permits incremental growth with low initial investment.

Ashford, et al (1992) reviews that a project to advancements an academic union catalogue for the 49 universities and major teacher training colleges of Indonesia has completed its design stage, and the procurement of software and computing equipment will follow. The operational centre will share a site in Depot with the University of Indonesia and the use of national plan and end users'
requirements in library automation as a whole. The use of CD-ROM is proposed as a distribution medium for the union catalogue of at least 500,000 titles.

**Bhargva, et al (1993)** stated that a library automation software package (SANJAY) has been improved in the CDS/ISIS V2.3 environment by using extensively the Pascal interface to meet the requirements of a model library. It is an interactive, menu driven, and user friendly package which carries out routine functions of a library.

**According to Tang (1994)** National Library of China (NLC), Beijing played a most important role in the national standardization of bibliographic control and in library computerizations and networking in 1991. It developed an integrated library automation system with Japan’s NEC Inc. This system is capable of handling acquisitions, cataloging, circulation, and OPACs in simplified Chinese characters as well as in English. There are currently more than forty libraries that are using the system.

**Gorny and Jazdon (1995)** stated the results of a 1995 survey on library automation development and the quality of the computer infrastructure and the use of electronic media in Polish scientific libraries. College and university libraries are generally more advanced in their automation efforts and access to electronic media. There is no unified program of library computerization for scientific libraries in Poland.

**In (1995) Roy S.** worked on the topic entitle ‘INFLIBNET’: A discussion’ and explained on the function of INFLIBNET. The author also discussed the area Network covered Research and Development Organizations, Universities, colleges and Information Centers. INFLIBNET worked in the four stages, such as national level, state level, district level and zonal level.

**Rajasekhran, K. (1995)**, Reported on the topics’ entitled ‘Computerization of Kerala Agricultural University: a proposal’ and explained the advancements of Agricultural education and research. He has stressed the library automation for the better services rendered to its users community and attempts to solve the long
sustainable problems with the help of computer uses in library. Author has described that the library can no longer be considered as a depository, but identified as the nucleus of the academic activities, provides lifeblood of research in any academic institution. He also describes that the effectiveness of library services will certainly develop if professional leadership and coordination of with the authority is the essential factors. Automation of Kerala Agricultural University has discussed and their needs of computer in University Library and areas of computer application is discussed.

Satish Kumar and Kar {1995} explained the use of the CDS/ISIS bibliographic database package within the Tata Energy Research Institute Library in Delhi. They shows the capabilities of the package and state the hardware requirements and package availability from UNESCO. They have assessed the applications of the package through a comprehensive survey of the literature on its use within libraries throughout the world.

William, B.K. and Others {1995}, stated on the topics entitled using ‘Information Technology’: a practical introduction to computer and communication technology where he mentioned the need of implementation of information and communication technology as well as Telecommunication facilities for serving the advanced scholar both form on-line and off-line point of view.

Nair R.R {1995}, reported on, the topic entitled ‘Revitalization of college libraries with computer assistance’ in the document Academic Library automation and emphasized the changing in library operation and functions. With the development of science and technology library can enjoy the benefit and provides better services to its users.

Ravi Kumar, S.R. {1995}, stated on the topic entitled ‘Software package for academic library systems’ and discussed on the various library software package available in the Indian market. Another has explains the some of the library
management software and their functional details, operating environment, and various fields and sub fields of the package. He opinioned that lack of finance prevent from acquiring computer systems of academic libraries in India.

According to Schlembach et al in {1996}, a networked serials control system developed at the Grainger Engineering Library Information Center at the University of Illinois at Urbana- Champaign. The Grainger serials control system encompasses serials processing, public service, and end-user functions. It is designed: to expedite check-in, binding, and claiming within a graphical user interface; to provide expanded search capabilities and access points; to provide a notes capability for public service staff; to provide a user-friendly interface for patrons; and to serve as a test bed for interface design and database technique applied to serials control systems, and by extension to other search and retrieval systems.

Kaur, A. {1997} recorded on the topic entitled ‘Use of computer and CD-ROM in the libraries of Agricultural Universities and Research Institutes in the State of Punjab, Haryana and Himachal Pradesh: a study” and explained computer and CD-ROM used by the institutional libraries as a tool. The author shows the use of computer is initial stage and processed was started in 1990. Though most of the libraries are follows manual system, because lack of budget, trained library Personnel etc.

Rama Reddy {1997} indicates the management of data collection of books database for the data entered during retrospective conversion operation and regular cataloguing function by using check source from LIBSYS. He briefly presented the books database of the case study of the University of Hyderabad.

Vyas, S.D. in {1997}, presented ‘Library automation and networking in India: problems and prospects’ and discussed on library automation. Author also pointed out that computer and Internet environment will necessary for academic libraries. He also shows the financial proposals given by different Commissions and allocation of
fund foe College Libraries. He stressed automation and networking in academic libraries in India.

Hackett and Geddes (1998) stated an overview of Horizon, a client-server library automation system from Ameritech Library Services. In the UK, the Universities of Huddersfield, Staffordshire, Middlesex and Strathclyde were among the first to opt for Horizon, as did Birkbeck College. They delineated hardware and operating system requirements, and consider the functionality of the principal modules, focusing on the academic library selling.

Aruna (1998) reveals that an increasing number of libraries now make their catalogues available as OPACs, which can be searched from a terminal within the originating library, from a terminal elsewhere in the organization, or remotely via national or international telecommunications networks. The author debated the impact of an OPAC on library automation, different types of OPACs, how to search OPACs in different ways, and the limitations of OPACs. Also the author evaluates the OPAC module of the SUCHIKA software.

According to Prtwardhan, D.V. in (1998) his topic ‘Industrial information sources on Internet’ and examine by argument to the importance of Internet using by the industrial sector. The author has described the various types of information sources and full text, bibliographic, economic required by the business community available on the Net-site.

Michos, Stamatatos and Fakotakis (1999) presented that the language barriers present a major problem in the effectiveness of resource sharing and in common access to the resources of libraries. The authors explained the TRANSLIB system, which consists of an integration of both new and existing multilingual information tools. This system takes full advantage of some AI-based methods in order to provide multilingual access to library catalogues.

Ravichandra Rao and Abideen (1999) explained the need for library automation and offer an overview of the features and functions of library automation software. They look at an overview of the additional features required in the context of the Internet and discussed the need for evaluation, and factors to be considered in
this process. Also they delineate a checklist for evaluation and selection, and comparative tables of selected software packages.

Singh, S.N. {2000}. Presented his topic ‘Library resource sharing in network environment: an overview’ and discussed on the concepts of library resource sharing. The author examine by arguments on various problems in connection with the resource sharing and IT impact on libraries.

Ming {2000} stated the development of library automation systems in mainland China. The Project of Chinese Information Process marks the beginning of library automation, and the progress of computer technology and network application which followed it are explained in four stages, such as [1]. Preparation and experiment (1974-1982); [2]. Single function and multifunction systems (1983-1996); [3]. Integrated online library systems and [4]. networking and digitization (1997 onwards). The current library automation systems of mainland China are mainly advanced by commercial software companies, both domestic and foreign.

Dixon {2000} indicated the need for management statistics and cites Florida's College Center for Library Automation as an example of how library management statistics are generated and utilized from an integrated library system (ILS). Regardless of the size of the library or the ILS in use, the primary factor in utilizing the statistics is the consistency of extraction and the comparability of the figures.

Porat {2001} lay stressed on the growing need for libraries to minimize expenses, and says that the reduction in the number of labor-intensive tasks has prompted the ILL unit of the library at the University of Haifa in Israel to undertake a systematic process of automation. The author explained the process and development of this automation and assesses the extent to which it has developed customer service.

Davarpanah {2001} delineate the level of information technology (IT) application in the university libraries in Iran. As a background, an attempt is made to present current status of IT application in the libraries. In his study gave his expression for the whole population of 79 university libraries under the jurisdiction of two ministries: Culture and Higher Education (MCHE) and Health, Treatment and
Medical Education (HTME), was surveyed. The author concludes that the automation of Iranian university libraries is a continuous exercise.

According to Breeding [2002] ‘the possible impact of open source software (OSS) on the library automation industry and OSS potential to effect radical changes in libraries should it produce an Integrated Library System (ILS) that seems a level of acceptance on the same order that Apache did in the World Wide Web server market’. Like Apache, an Open Source ILS would have to offer top-of-the-line features and performance to gain acceptance over its commercial rivals. The author concludes that Linux and Apache represent a worldwide victory over high-powered commercial opponents in the operating system and Web server arenas but such victories of OSS over commercial products in the ILS arena are not to be expected.

Matoria and Upadhayay in {2002} expressed his opinions that a number of ready-made library automation software packages are available in the market, but many of them lack Web interfaces, and thus do not provide Web-based library database access (e.g., for the OPAC). Moreover, these commercial packages provide less flexibility to librarians who want to make changes to the existing databases, and also to publish the same on the Web. Thus, the designing of in-house databases in libraries using common relational database tools (RDBMS) such as MS Access, SQL, DB2, etc. as back-end solutions represent an area of deep concern.

Sharad Kumar Sonker & Others {2003}, debated on the topic entitled ‘Koha-An Open Source Integrated Library Automation System’, recorded that the explosion of computer and communication technologies which are referred to as information and communication technology (ICT) have affected almost all aspects of human life including library. Libraries have been looking forward for better technologies even before the onset of the computers. Now in the information era, in order to avoid obsolescence of information, library professionals are applying advanced technologies to enable its user community to get the rights information at the right time. In order to achieve libraries activities consume larger amounts of staff time.
Covey in (2003), explained that academic libraries are not meeting user’s needs and expectations for easy access to online library resources. The survey results represented that technologies currently deployed to support off-campus users are inadequate and problematic for both users and libraries. A new approach is required to improve service quality. The internet Shibboleth software offers a variable alternative. Access to the Internet has precipitated new information seeking behaviors and expectations.

Gaur in (2003) has verified the present status of digitization of Indian Management Libraries through a survey. Regarding the issues such as library automation, development of digital libraries, he found that 45% of libraries have not yet started automation; out of 55% of libraries that have started library automation, only 16% have been fully automated. Thus, in Indian libraries the digital gap is widening day by day. The author discussed that it is high time for the management to make library computerization their number one priority.

Rawat and Singh in (2003) told that of all the activities in library automation, handling of subscription to periodicals is definitely the most challenging. In the absence of a satisfactory commercial system, the authors have worked out a design and used it successfully at experimental level. The authors have used sortie of the Unix OS primitives to code this project. In conclusion, the authors have given the examples of data structure and some of the program subroutines operating on it.

Sonker and Jayakanth (2003) in his debate says that to automate library services efficiently and effectively one needs an integrated library automation package. There are several commercial library automation packages now available but the cost of these packages are beyond the reach of most of the libraries, especially the school and college libraries. Koha is the first open source library automation package. The authors have briefly described the different features related to routine housekeeping operations that are supported by Koha.

According to Felstead (2004) has made a survey of the literature on integrated library management systems published between 1999 and 2003, with a bias towards the academic market in the UK and North America. Recent trends in the
integrated library management systems such as Interlibrary loan (ILL) modules integrated into the circulation system; E-check in of serials using an "Electronic Packing" (EPS); Computer-integrated telephony for sending reminders and information on reservations to users; RFID (Radio Frequency Identification) technology for stock checking, circulation and security systems; access to OPAC including both searching and patron functions, via mobile devices such a wireless PDAs are noted and predictions for their future identified in the literature are explained. The author concludes that the growth of Web services may enable a new approach to the procurement of library management systems.

Bailey {2004} described that library and information managers are now under more pressure than ever to deliver cost effective information services to their clients. Library automation is a vital tool in the push to work smarter and work better. Clear trends are emerging as managers are seeking library software which not only runs the library effectively, but also uses Internet technology, interacts with other applications and data, and provides sophisticated intelligence. Library and information managers are also demanding the integration of the library system with other applications.

Sangam, S.L. and Hadimani, M.B.in {2004}. Presented on their topic entitled ‘Use of Public Access Catalogue by the research scholars in Karnataka University library, Dharwad’ and described the impact of IT on libraries and information centers. Authors also recorded the services provide to the users community by the IT. On Line Public Access Catalogue (OPAC) is one of the services that are being provided by the modern libraries and use of OPAC by the scholars of Karnataka university library, Dharwad. The characteristic of information age today is the growth of information services of various kinds the advancement of computer age, as well as increasing in personal, organizational and national activates, have combined to promote the use and needs of OPAC.

Majumdar and Singh in {2004} significant stress on a circulation module which is a subset of Integrated Library Management System. Open industry-standard, Scalable, Modular, Web-enabled, And Comprehensive - these are the hallmarks of an effective integrated library system.
Mahajan P in (2005) stated his topic on Academic Libraries in India: a present-day scenario’ and shows the present situation in India. Author also explained on the enrollment and workload of the staff of academic libraries faced in their daily.

Cholin in (2005) presented that IT has revolutionized the information handling activities in research and academic libraries in India. The university libraries, as centers of information services, have largely benefited by the rapid changes in the information and communication technology. The university libraries in India are at various stages of development in the application of information technology tools in their day-to-day activities. The author gives an overview of Information Technology implementation in different university libraries in India that provide effective access to resources available within universities and elsewhere. He also discusses the role of the INFLIBNET Centre in the overall development of university libraries across the country with special lay stress on efforts through UGC-Infonet E-Journals Consortium.

According to Thapa, N.& Sahoo, K.C.in (2005) they expressed their opinions on the title ‘History of Automation in Special Libraries of India: a state-of-the Art’ that, the computer used by the Special Libraries in India. Authors also mentioned history of library automation and described on the library automation in India.

Oduwole in (2005) examined that, the information technology used in cataloguing in Nigerian academic libraries. The author indicated that automation of the cataloguing process has increased the efficiency of the cataloguing processes in the Nigerian university libraries, which in turn has resulted in increased productivity. The high cost of maintenance of the TINLIB software was identified as the major constraint to the use of the software.

Watane, A., Vinchurkar, A.W. and Choukhande, V. (2005). Reveals on their topic entitled that ‘Library professionals’ computer literacy and use of information technology application in libraries in Amravati City’ and described on the use of IT in libraries. The author also briefly explained the importance of IT in libraries and played a major role in library management and they significant stressed
on the role of libraries in higher education and application of information and communication technology as a tool in academic libraries to enhance the resources for the institutions.

**Rokade and Rajyalakshmi in (2005)** gave their opinions that the present condition of information services in the four agricultural university libraries in Maharashtra, India. The description changes the scenario of information services as well as their need to develop agricultural education, and research. The results show that most university libraries provide information services free of cost which will not be affordable in the future due to high cost of Internet, electronic journals, books. The authors conclude that it is essential to develop automated and digitalized information services through the development of financial and human resources.

**Dietz and Grant in (2005)** described how libraries and vendors can work together to offer the best information for consumers. Further they report that ovations from Google and Amazon are clear wake-up calls that both as a profession and as industry, things need to be done differently. The authors told that library systems must no longer solely deal with the internal flows of cataloging, circulation, acquisitions, serials, and OPAC but must rather be compatible with other internal systems and, more important, external systems.

**Pace (2005)** reveals a buyer's guide to integrated library systems. Based on the response of survey respondents, a cost basis for a system is categorized as follows: number of volumes in the collection; size of the library; number of locations; number of concurrent or simultaneous users; and site license. Contributing factors include annual circulation, library type, and country, customized services tailored for individual contracts.

**Rokade and Rajyalakshmi (2005)** explained the present condition of information services in the four agricultural university libraries in Maharashtra, India. The description changes the scenario of information services as well as their need to develop agricultural education, and research. The results show that most university libraries provide information services free of cost which will not be affordable in the future due to high cost of Internet, electronic journals, books. The authors conclude
that it is essential to develop computerized and digitalized information services through the development of financial and human resources.

According to Phyllis Alpert (2007), reveals that the internet as well as the proliferation of online resources available for purchase, has significantly changed collection management from selection to acquisitions to cataloging and processing. The nature of this work has become much more complex as our communities have become more culturally, ethnically, and linguistically diverse, as the number of information delivery mechanisms has increased, and as library consumer’s expectations for speed of receipt of information have accelerated.

Kumar, S. and Roy, P. in (2007), described in their work Electronic journals in Indian academic libraries: issues and challenges that the academic institutions in India who have computer facilities and Internet connectivity for their library. They have expressed that majority of the library have this facility and libraries are automated, partial automated and E-Journals or online journals may subscribes for the users and problems of e-subscriptions due to financial constrain. Many university and college libraries cannot subscribe to all required journals and databases and these problems can be avoided to form consortia and e-journals cooperation.

Yadav, S. and Nigom in (2007) gave their expression that, the effects of all aspect of human life including library and the web access has become essential mediating a digital era and shortening of distances, reducing time, digitized storing and manipulating of information and brought people close as a mouse click to the wealth of information in the topic Revolution in Library Technologies: an era to know-how and its transfer.

Bhatt, R.K. (2009) in his work Academic Libraries in India: A Historical Study and briefly explained that history and development of academic libraries in India has not yet received attention or library school also not given due importance to the study. He has significant stressed on to fulfill the gap of the study. He has exhibit the growth of academic libraries in different periods and the various committees and commissions was setup by the government of India for the development. The
importance of the academic libraries was admitted by the commissions and they have suggests the various steps towards the improvement of academic libraries in India.

**Onifade, A.in (2009)** gave his expressions that, the need to study of history of computer in his topic “History of Computer”. Proper study and understanding of the evolution of computer will undoubtedly gave the knowledge about to the development and creates awareness of computers.

**According to Giri K.K.(2011)** in their topic implementing and exploring open source library management software ‘Evergreen’ and explained the growth of literature in every field of knowledge. The author also discussed that newer demand are causing the changes in library and information services center all over the world. In this situation library automation plays an effective role which was started in the late 70s.

**Sudhir Kumar Jena and kailash Chandra das in (2012)**,stated that cloud computing is a completely new information and communication technology and it is known as the third revolution after PC and internet in IT. Cloud computing is the improvement of distributed computing parallel computing, grid computing and distributed databases. However, referring to the motivation of its development, high-speed internet, virtualization technology, more robust chips and hardware are all playing very important roles. Cloud computing be applied in digital library resources to improve housekeeping operations and information sharing capabilities also with improve resource utilization.

### 2.3 CONCLUSION

These studies reveals that considerable work has been done in studying the application of information and communication technology in libraries, library automation, integrated library systems and impact of IT on human resources in general. However, there is a scarcity of literature that deals specifically with the study of the level of, usage of housekeeping operations of library software in the
university and college libraries in India. The trend is gradually changing. With the advent of personal micro computers and comprehensive software packages, many university libraries are trying to automate as many areas possible. Increasing importance of computer applications in library, resource sharing and activities of INFLIBNET Centre are providing the much needed impetus for the Government and Aided college libraries. However, the research is still in the formality stage and it needs to be taken further to achieve the very objective of studying the level of use of computer applications in Library Softwares in college libraries.

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