CHAPTER- 2

REVIEW OF RELATED LITERATURE

2.1 Introduction

Collection management in the field of library management is a classic topic. It has become complex owing to the diversity in the presentation of information in different formats and varied electronic resources.

In the opinion of Busha and Harter(1980) “a literature search is an attempt to identify, locate and synthesize completed research reports, articles, books and other materials about the specific problems of a research topic. The research literature and subsequent review can be of value to researchers by helping them to regard their studies as contributions to a large topic of which the inquiry at hand is only a part.” Defending the views of Busha and Harter the literature search was conducted on the broader area, collection management, changing trend in university library collections, its impact on collection development policies, archiving, licensing agreements and digitization.

Many studies have been conducted worldwide on the changing scenario of collection management due to the impact of information and communication technology. They have examined the process of collection management in addition to its specific elements and identified factors with broad implications in the new information environment. While examining and analyzing the status of research in collection management various sources have been identified, which serve as an invaluable and practical guidelines for collection management.

The review of literature in this area is of prime importance for the present research study as it reveals a series of changes that have occurred in collection management since the origin and beginning of libraries. It pinpoints the various stages of development that have taken place since its inception. It is able to throw light on what further research has to be done, especially to deal with this change from collection management of print documents to electronic resource management. It identifies any lacunae where a study has to be carried out forward in library collection management.
The proliferating growth of various electronic resources in the present digital environment opens up new horizons across a broad array of issues related to the access, availability of information in different formats, collection policy agreements, licensing agreements, copy right issues, resource sharing, preservation and collection assessment. There is enormous literature available on this subject of collection management of electronic resources.

The present investigation has been carried out by reviewing the studies related to the existing scenario of collection management policies, problems and current practices in the field of academic libraries. Related literature on collection management includes both printed books and journals and electronic journals accessed through networks and download from the web. These articles are grouped under collection management: concept and characteristics, impact of e-resources on collection management, collection development policies, changing dimension of collection development to collection management and related case studies and user studies conducted by libraries in western countries and also in India. They have been categorized, analyzed and their findings have been interpreted.

2.2 Related Literature from Western Countries.

2.2.1 Collection Management Concept and Characteristics.

Philip Hunter & Micheal Day (2005) attempted to identify some of the main issues of collection development that need to be considered when institutional repositories and aggregator services are established. Two practical suggestions are that collection development policies should clearly state information on access, intellectual property rights, intended scope of the quality of collection and that these repositories should develop secondary metadata generation tools that facilitate the production of consistent metadata.

Mary W. Ghikas (1989) in her paper managing academic libraries in the 21st century has commented that collection development in the year 2000 will be
characterized by virtual collections where the location, the delivery time and channel will be pre identified.

Few articles have been identified on collection development models. The following paragraphs describe the innovative models framed for the purpose of effective collective management in academic libraries.

A structural and functional systems model was developed to help librarians switch from crisis managers to strategic planners. Anthony W. Ferguson (1986) designed a model that focused on the environmental factors within which a library operated. He considered the demands made upon libraries, other factors that influenced the library behavior in the decision making process and the variety of outputs or decisions that must be made by a library to stay healthy.

There are many factors that affect the collection development model. In the keynote address in the Charleston Conference by MC Clure (1996) suggested that there are six models of Internet based collection development. These models would be suitable for a particular library depending on the library’s information infrastructure, skills available among the staff, costs involved, methods of access within and outside the library, licensing and copyright issues. His intention is to link the major functions of collection management with collaborative collections, vendor supplied collections and integrate internet resources into the online public catalogue by creating hot links to the resources in URL address.

The functional model has the advantage of improved communication and coordination among librarians with similar responsibilities. The main difficulty of this model is in coordinating collection activities across a large library with many geographic or client based units. Balancing needs and goals is a challenge. Drucker (1974) analyzed the great strength of the functional model applied to libraries lies on the stability, clarity and high degree of economy. Creth (1989) describes a model that helps the library staff to benefit from different views and new information generated from relevant subject expertise.
S.D. Creth (1991) suggested a model for collection development that has a primary administrator combined with teams of librarians from all sections of the library who have the appropriate subject knowledge to accept collection management responsibilities.

Decision support system is a powerful tool for collection management. Libraries have to adopt decision support systems for task performance, monitor the results of innovation, identify problems and opportunities, evaluate alternative options and conduct strategic planning. Wanda V. Dole (2000) in his paper explored the potential use of computer based systems for decision support in collection management. He opined that decision support systems helped in decision making and utilize data and models to solve unstructured problems. He outlined the advantages and obstacles of decision support systems with respect to libraries. His paper described in detail the background information about the application of decision support systems in different university libraries located in different regions of the world.

Despite a wide variety of institutional environments and management styles, collection development would be more fruitful in fulfilling their responsibility by taking the support from their central administration. This opinion was supported by Robert Kenseler (1996) who said that strong support from the central library administration provides the best environment for maximum utility among their staff. This approach forms a well coordinated collection development program.

The literature study indicates that these models are like simplifications of the real practices. Libraries benefit from adopting the unique model that suit their environment in which they operate.

2.2.2. Impact of Electronic Resources on Collection Management.

Dramatic changes have taken place in academic libraries as a result of electronic revolution that has an impact on the functioning of traditional libraries. It has changed the way the libraries select, collect, organize and disseminate/ retrieve information. Hence they have developed new paradigms to sustain in the digital environment. A number of authors have expressed their observations or experiences that are summarized below.
Electronic resources have created more opportunities in academic libraries to redesign and reexamine collection management activities. Kebede Gessesse (2000) expressed that today libraries are in a transition phase moving from ownership to access. They have to balance between print and electronic resources and in providing access to them. Looking into the future M.B. Fecko (1997) said that libraries of the future will not consider the volumes they hold but pay importance to their in depth collections in selected research fields and their ability to provide wide network access to collections no matter in what format they exist and where they reside.

Connie Mc Carthy (1996) puts it in a more fitting manner. He stated that “the character of the library’s services and operations will change in the electronic age, not all future libraries will be identical in scope, structure and service. Some will be founded to retain their national, traditional resources and remain relatively unchanged in continuing to focus on the acquisition of comprehensive collections. At the opposite end of the spectrum some will dedicate most of their efforts and funds to provide electronic access to information resources. Marcum(2000) has underlined the following changes due to introduction of electronic resources in libraries. Some of the noteworthy changes are change in the form of acquisition, organization and retrieval of information from the library, change in the relationship between an institution’s library and its information technology division, change in the way collections are acquired, stored, organized and delivered. Finally changes have taken place in the design of library buildings and facilities provided.

Simmonds(2001) also highlights the role of electronic information resources on collection management in academic libraries. He says that the advent of electronic information resources created new methods of document delivery and access to information. With the application of internet and the use of new information technologies the range of services provided by academic libraries increased dramatically. He also stressed that users can access the libraries resources without stepping into the library building. Further they can also access other library resources like online catalogues and freely available databases. On the other hand Goehner(1992) compares the costs involved in the acquisition of printed document and their counterpart in electronic format. He says
that it costs heavily in the initial stages to install the hardware and software to take full advantage of electronic resources. Later in the long run the benefits of these resources would be more effective.

Chadwell (1998) opined that it is important to consult the available published reviews of online and offline electronic resources for their acquisition in the library collections. These reviews would provide an insight regarding the overall quality of resource.

The current information society requires collection development to guarantee to access suitable resources in libraries. Barbara Susana Sanchez Vignau and Ileana Lourdes Presno Quesada (2006) discussed about collection development in the digital environment. They opined that developing digital collections is a logical consequence of inserting information technologies in organizations. Their paper provided a number of practical suggestions towards the development of digital collections. They proposed three stages like integration of contents, implementation of software and exploitation of collections for the construction of digital collections.

Level & Myers (2003) opined that collection development activities are an important and ongoing component in every library. Digitization of paper driven environment is on the rise. The introduction of the web and the internet into the collection development has increased the level of efficiency and accessibility manifold by integrating procedures, forms, policies and library organization web sites.

It can be inferred from the above that networks, e-resources and digitization facilitated access to information beyond geographical boundaries. There is rapid change in collection development and management compared to a decade back. Similarly as envisioned by some authors the future is going to be more specialized and complex. Hence the collection development of university libraries has to take into account the present and future impact of electronic media and equip them accordingly.
2.2.3 Collection Development Policies.

The developments in information environments implies that new collection development policies need to be revised from time to time to ensure access to a wider range of e-documents and e-databases. These policies should give more emphasis on licensing agreements, copyrights, intellectual access, the mode of payment, subscription costs and archiving. A number of attempts have been made by the university libraries and academic institutions to develop collection development policies. Some noteworthy articles on this issue are presented below.

In UK the Joint Funding Council’s libraries review group the Consortium of University Research Libraries (CURL) and Research Libraries Group (RLG) initiatives have stated the implication of collection development policy in December 2002 to provide local access to global collections. During the Collection Development Policies Committee, under the Collection Development & Evaluation Section (CODES) of American Library Association has collected and analyzed collection policy statements for electronic formats. It has listed out the complete archive of policy statements and listed the core policy elements. It also took measures to look at the implications of collection development policies to provide access to global collections and the inclusion of electronic resources.

Gregory Walker & Janet Wilkinson (2003) described a CURL CO FOR project that functioned from December 2002 to August 2004. It is a partnership between twenty UK libraries to serve in collaborative collection management among the participating UK libraries. They aimed to share important collections in Russia and East European Studies.

Another major attempt in developing The task force on the CIC electronic collection developed draft guidelines are provided for the collaborative acquisition of electronic resources for the libraries of the big ten CIC universities.(Allen Barbara, 1996)

Academic university library collection is developed and focused for research and educational support. Kebede Gessesse(2000) has made a detailed study on the existing collection development policies for academic libraries. He has underlined several collection parameters that should be included in the selection criteria of various electronic
resources. His paper also examined some of the problems that an academic library must consider in order to align its collection development activities.

Collection development policies played a prominent role in the selection of materials. Buckland (1989) described collection development policies as an important preparatory work accounting for nearly two thirds of its operational expenses and space. In addition it had a strong effect on the efficiency and effectiveness of its services. Likewise as Gardner (1981) conveyed that collection development policy served a broad range of functions and he presented a dozen reasons for the existence of collection development policy. A similar idea was expressed by Evans (1987). According to him “A collection development policy is like a manual to the library like documentation to a software package. It tells about the nature and scope of collection, sets priorities calls for commitment to organizational goals, provides inclusion and exclusion guides, eliminates personal biases of selection, helps to maintain consistency by orienting new staff and controlling old staff, aids resolving complaints, weeding and evaluation of collection and collection development programe and serves as a public relations and accountability tool”.

Gorman (1989) viewed the written collection development policies as contracts between libraries and their users. This useful concept demonstrates to individuals within an institution precisely what they can expect of the library. On the other end Cargill (1984) criticizes that such written collection policy statements are inflexible, static, time consuming and libraries in the past were perceived to do quite well without them.

One of the major distinct function of collection development policy as remarked by Nina J Root (1985) is that CDPs should clearly state on retention discard, weeding, preservation and housing for each stage of materials handling that contributes to the long range success of collection development.

Fourie (2001) opined on the nature and scope of CDP as “written statement that provides planning, implementation guidelines for most collection building tasks.” He also stressed that CDP statements should be flexible, ensure stability in decision making and orient towards the objectives of the institution, mission and philosophy. Similarly Perkins
(1982) expressed the nature of CDP as “it forces one to give consideration to unspoken and unrecorded assumptions, think systematically about collection development, reduces the complexity of CD process and improves the quality of CD work”. While Vogel (1996) views CDPs as a “set of directions for the orderly selection, acquisition and management of the materials, making them available to the patrons. They serve as guide lines for decisions on the selection, relation of materials in specific subjects, to specific levels of collection depth and breadth.”

Traditionally in the print environment the collection development policies of academic libraries are static and of little practical utility. However Dan C.Hazen (1995) compared the role played by collection development policies in an academic library and research library. He confirmed that collection development policies are used to respond to the new demands of the new academic programs to ratify the status quo. He highlighted the collections of ephemera and archival sources along with the museum holdings, foreign repositories, electronic information both in portable formats as well as online sources as important to address the increasing complicated needs of users both in the present and for the future.

Gorman(2003) contends that the standard traditional collection development policy overlooked electronic information resources. He opined that for the past few years there has been an increase in the acquisition budgets spent on electronic resources. Thus he emphasized the need for including electronic information resources as a cohesive part of the library collection and not to be dealt in isolation. He also mentioned that their purchase should adhere to the chronological, geographical, language, consider present curriculum and research needs, should meet the standards like comprehensiveness, authoritativeness, excellence and weigh the purchase of particular title against other possible acquisition guidelines set forth in general or for specific subject policies.

Daniel Liestman(2001) examined the reference collection policies for college and undergraduate libraries for small and medium sized institutions of higher learning in the Kanas college and undergraduate libraries. This study made it clear that most academic libraries do not have formal reference collection policies. If they possessed it is not updated and current to suit the present digital environment. Suggestions were offered in
his article to assist libraries to develop such a policy that would help librarians and outside stakeholders.

Libraries should develop a more detailed policy for selection and maintenance of e-resources. Ann Okerson (2008) expressed that the CDP should address the contracts and license agreements, negotiations, clearly define the role of selectors in the selection of e-resources. Johnson (2009) opined that CDP should address appropriate and acceptable use of e-resource. It should explain the rules and procedures that users are expected to follow when accessing the internet from the library, the limitations that contracts place on use of e-resources, copyright and the rights of intellectual freedom. Jeff Rothenberg (1999) discussed the problems faced by digital files with regard to changing speeds and standards in software and hardware.

The CDP may be written to deal with specific issues like preservation policy also. A library should have established criteria documented in a written policy guiding the storage, access and preservation associated with electronic formats.

From the views expressed by different authors it can be deduced and established that information technology and electronic resources have changed the nature and scope of collection development policy. Collection management in academic libraries is in dire need of modifying their existing policies as electronic information continues to dictate a considerable amount of time, attention and resources of the present and future libraries.

Frederick Lynden (1983) is of the opinion that financial planning for collection management is an important component of CM. His paper has identified many factors like cost research, economic conditions, political factors, environment, administrative and historical variables which affect the planning process in the preparation of library’s material budget. Having examined each of these factors in the light of university library environment has concluded that research analysis should occur before, during and after the actual budget has been finalized.
2.2.4 Collection Development and Collection Management.

The opinion expressed by Richard K. Gardner (1981) on the Collection Development as a planned purchase of materials in various formats to match the instructional and research needs of the campus within the current fiscal environment and resource sharing opportunities. Whereas Brindly (1988) conveyed and described it in a broader view and said that “Collection Development is a planning function for the systematic and rational building of the collection From CD plans flow decisions on selection, acquisition, weeding, preservation and evaluation all embraced and quantified in collection management.”

Negrete Gutierrez (1993) stated that Collection Development as “a process that permits the library to develop the collection of materials that respond to the information needs and service requirements of the users.” Whereas Vignau Sanchez (1999) opined that “Collection Development is a process that satisfies the information needs of the users in an economic fashion and inside of a reasonable period of time using resources as much internal as external to the organization.” Both share the same opinion that collection development satisfies the information needs of the users within a given time frame and economic limits. Similarly the view of T.E. Nisonger (1996) is that collection development is a planning, methodology and decision making process which includes assessing user needs, determining selection policy, setting up acquisition procedures evaluating and then weeding the collection and planning for resource sharing. Further Eguavoen (2002), Ochai (2002) expressed the opinion that collection development as “a planned, systematic development of a collection, based on the objectives of the library. It is the totality of activities which lead to building up a total library collection.” In fact collection development is a tool that focuses on the building up of collections and a process of continuous growth where all the activities like acquisition, selection, evaluation and weeding never cease to stop.

Another significant development was carried out by David Kohl (1988). He reviewed the quantitative research on collection development that was published in 33 core North American Library Journals during the period 1960-1983 and identified 195 articles on collection development. Further studies conducted on these articles revealed
that the developments in collection development were primarily due to serious research activities which have been carried out.

Further Rose Magrill and Hickley (1989) described that “Collection Development includes assessing user needs, coordinating selection of items, weeding and storing of parts of the collection and planning for resource sharing”. Collection development takes into its preview the demands of the user, identification of resources, their presentation and removal of unnecessary sources from the stock. Collection management aims to apply all the above activities of collection development in a planned and logical manner to build and maintain its collection.

Paul Mosher(1982) traced out the stages of development of collection management from collection development. He addressed librarians to move from traditional “collection development’ perspective that emphasized only on acquisition, selection and collection building toward a new vision of “collection management” that encompassed a much broader range of policy, planning, analysis and cooperative activities. It includes the theory and practice of collection policy development, material budget allocation, selection, collection analysis, collection use and user studies, training and organization of collection development staff, preservation and cooperative collection development.

In the opinion of Hendrik Edelman(1979) collection management is efficient in a number of ways. It seeks to separate the important from the trivial and the real from the legendary or methodological. A similar line of thought was opined by A Lawrence Mary, etal (2008) that CM goes beyond the relative or absolute value of the collection and looks at how its availability may be enhanced through informed decisions about binding, microfilming, duplication, replacement, discarding, storage, security and preservation. While Frances C. Wilkinson and Linda K.Lewis (2003) described in his paper that “Collection Management handles the identification and selection of materials for the library’s collection, may be located in either technical or public service divisions.”

Hence it is obvious that collection development is necessary to identify the needs of the user rather than to build abstract collection. Ross Atkinson (1994) emphasized that
CD is a separate library operation probably and will not survive the eventual disappearance of paper but will have nevertheless a critical role to play in the transition from paper to online access. CD has lost its importance with the advent of the virtual library.

Coming to the current collection development activity Grizly Meneses and Barbara Susana Sanchez Vignau (2005) expressed factors that contributed for the importance of collection development that include advances in information technology, the variety in the formats for the presentation of information, increase in the number of scientific publications and the economic crises on a world scale that affected the publishing world directly.

Ileana Lourdes Presno Quesada & Barbara Susana Sanchez Vignau (2006) expressed that changes in economic developments, advances in the science and development information technologies transformed collection development to collection management as a solution to guarantee the information needed by the user under standards of quality.

Academic libraries are under great pressure to ensure effectiveness, efficiency and value for money through collection management policies. Hence libraries have clear cut collection management strategies. One such strategy is collection assessment. It measures the extent to which the collection, both on-site and accessed remotely meets the goals, needs and missions of the library and its parent organization. These techniques used may be quantitative or qualitative so that collection management activities can be most efficiently and effectively planned, designed and operated if performed systematically. Some studies in this area are noted below.

Collection assessment is very essential for large academic libraries. Perkins(1979) has elaborately described collection assessment techniques that range from descriptive assessment to complex statistical analysis which seek to provide organized, pertinent, specific and accurate information about the collection. S.Mc Kinzie (1994) discussed efforts at a small liberal arts college to increase diversity related collection development
through focus groups. Similarly B.Keough (2002) outlines assessment methods taken to examine and increase diversity related archival collections.

Collection evaluation and management is a challenging assignment. User analysis is a part of collection evaluation. Stuart A.Stiffler (1983) presents a study on the circulation of core titles in a small liberal arts college library where he has laid adequate emphasis and stress on non core titles also.

Giving stress on collection assessment and collection evaluation Blaine H.Hall (1984) stated that a regular, systematic collection assessment program is essential for a well managed collection development operation. This provides not only the practical techniques and procedures necessary to conduct, analyze and report the assessment activities and results but also identifies the broader rationale needed to develop tailor made evaluation programmes to meet a variety of assessment objectives.

Webster Duane (1978) described that collection assessment is an ongoing process through specific analysis methodologies and a continuous monitoring of information about the current collection and its progress towards the achievement of its goals while providing a snapshot of information about the existing collection. Further Dennis(1996) opined that collection assessment serves as an internal control mechanism to measure internal performances in addition it intends to measure the collection’s utility, utilization of financial resources and the management of investments.

The increased use of electronic resources in all types and sizes of libraries should be considered as a part of collection assessment. Another important aspect of collection assessment of electronic resources is to gather information about the accountability of the electronic document and the effective use of financial resources. White Gary &Crawford (1997) concentrated on the cost effectiveness of electronic resources and their success in meeting user needs. Smith and Rowland (1997) suggested the use of statistics to deliver useful information on cost performance of e-resources in libraries. Transaction log measures the use of information held locally and delivered through a local server on the use of statistics in e-resources. It determines the percentage of users accessing the site
from a specific domain, number of hits in a particular hour, hits for pages within the site and user navigation within the site (Convey, 2002).

Mathew Pciszek (2010) explained that collection assessments is useful for determining the diversity of collection and are not applicable for large libraries with diverse collections. He insisted that additional tools are to be developed to facilitate assessment of collections in large institutions. His paper illustrated several tools for diversity related collection development. He emphasized that librarians should rethink and examine diversity related collection assessment useful for large academic libraries. Further C. Maxey Harris (2010) explored the fact that very little has been written about large scale diversity collection assessment.

Ohio LINK has been recognized worldwide by librarians and scholars as the most successful cooperative collection building tool. Richard Wisneski (2008) paper on collection development assessment for new collection development librarians defined the role of collection development within the Ohio LINK consortia. He focused his attention towards the creation of subject collection statements, faculty networking and collaboration with fellow bibliographers on resource sharing. He advised those who are new to collection development to make use of collection development tools. He emphasized on the necessity for collection development librarians to stay abreast of the latest trends in the use of communication technology and participate in Ohio LINK meetings, online discussions and list serves related to collection development and management.


S. J. Slote (1997) includes helpful observations about the importance of weeding and stated that emphasized the negligence of weeding would hamper the value of current collection important for users.

Libraries commonly identify and share materials by discussing about common collection issues. Johannah Sherrer (1998) discussed about the effects of technological
revolution on resource sharing. He stressed the need for protocols that facilitate resource sharing. His paper has identified some of the implications of active and continuous growth of resource sharing on collections and collection management practices.

Jane Goodwin & Lydia Patrick (1990) observed that the traditional method of individual selection for building the collection was no longer working due to significant increase in the volume of information request and increased use of circulation statistics on collection use has paved the way for materials selection officers. They have taken advantage of using the mechanism that vendors have applied to speed identification and acquisition of available items. They framed statements for the scope and profiles of the collection that helped library staff and vendors. Likewise Ellis Mount (1989) provided a summary on the basic aspects of managing the collection of scientific and technical materials and also discussed collection policy statements, costs incurred for scientific technical literature, selection criteria for using published materials for listing unpublished publications and policies for weeding collections.

John Picco (1983) insisted in his paper that community college library staff should give great importance to collection management programs. This should be an ongoing examination of the existing materials for continued usefulness. The library system should develop a methodical collection evaluation process for balancing the needs of printed and non printed collections.

From the above opinions, it has been observed that planned and efficient implementation of collection management through print and electronic media can help the user community to have access to large body of information and documents in least possible time through the use of collection evaluation and assessment techniques, use analysis and application of computers.

2.2.5 Case Studies and User Studies

Access to electronic information resources is on the rise in all types of libraries. Great importance is given on how to balance new electronic acquisitions with traditional print formats. Gary W. White (1997) addressed the formulation of collection development statement for electronic resources at Penn State Harrisbury Libraries. He suggested more
specific guidelines to be incorporated in collection development policy for the selection of electronic information resources. Some of the parameters for the selection of electronic information resources are relevance, redundancy, potential use of information, demand for the information, ease of use of the product, availability of information to multiple users, longevity of the information, cost of the product, predictability of pricing, equipment needed to provide access to the information, technical support and availability of physical space needed to house and store the equipment.

Linda M. Teel (2008) described an inventory project conducted in the East Carolina University Teaching Resource Center, North Carolina, USA to review the relevancy, accuracy, reliability and circulation of curriculum collection. This case study discussed significant outcomes that were accomplished and implemented for long range strategic planning.

Kichuk Diana (2010) presents a case study for describing the remarkable growth of electronic resources in an academic library collection undertaken at the University of Saskatchewan, Canada for a period of twelve years from 1996-2008. Data was collected from library’s database, compiled statistics and growth rate for both net holdings and new acquisitions. Findings revealed that growth rate of e-resources doubled in the last four years of time. This had significant impact on reference librarians and researchers. It also discussed briefly the related historical evolution of electronic resources and its frequent structural changes.

Suzanne D Gyesley (2001) reported that the escalating price and rapid growth in electronic journal databases along with traditional print subscriptions and monographs forced library administrators and collection development librarians to make decisions between printed products or electronic formats in the new millennium. A separate study was conducted at A&M University libraries, Texas, USA in the disciplines of political science and economics to compare the annual subscription prices and percentage increase of 203 core printed journals with their electronic counterparts during 1998-2000 academic years. The electronic use statistics were examined for the expensive serials based on the number of hits by the users. Based on this study he reported that libraries were forced to pay for dual subscriptions both for paper and in electronic form. It also
revealed that faculty and students were satisfied with the use of e-journals. It also indicated a trend that libraries would switch to electronic format if the price of electronic journals dropped.

Considering the question of what the present collection of libraries mean to the user in the current information environment Hur Li Lee (2005) gave a detailed account of the concept and functions of library collection from the perspective of the user. She conducted an in depth interviews with professors from social science disciplines and natural science departments from Mid Western Public Research University, USA. The studies revealed that library and information centers do not have a clear understanding on how collections helped users in their search for information. However from this analysis it can be inferred that collections in the library saved time, money and narrowed the scope to search in order to increase precision and convenience.

Collection analysis techniques educate and support the new library staff about collection and provide better data to determine collection development priorities for budget planning. It helps librarians to assist their patron’s search for information. Henry Elizabeth etal (2008) presents a case study in which collection analysis is carried out in Saint Leo University Cannon Memorial Library, Florida, USA. The collection was evaluated using online analysis tools. Topics covered are about the importance of e-book collections, faculty participation in the selection for more balanced and comprehensive collection management plan. Their article lists out the benefits of conducting collection analysis. It revealed that collection analysis has a positive impact on collection development and management. Findings inferred from this study suggest that access to the collection were improved and some problems encountered with a particular collection were identified.

Wittenbach (2005) proposed the restructuring of collection development at the University of California Riverside University Libraries. He described a new system that is more accountable to the material budget. As a result of the new system faculty members are more aware of the budgeted amount for monographs in their own area.
The paper by Vagnau (2005) is based on both research about collection development policies and data compiled as a result of a survey of 16 centers on higher and technical education in Cuba. The results have indicated that although the Directors of University libraries and managers of collection development were aware of the process of collection development but only a few actually adopted and implemented the policy.

With the passage of time collection management must contend with all the archival and library materials that have aged. Lawrence J. Mc Crank (1984) regrets that lack of an appropriate technology and inadequate education of libraries on conservation and collection management techniques as the root cause for deterioration of library’s collection. He considers the impact of conservation education, conservation program and their implementation in collection management activities. He proposed an experimental workshop at the University of Maryland’s College Library and Information services at College Park. The purpose of this workshop was to bridge the gap in the methods and thinking of the archivists and the librarians to achieve a holistic perspective in conservation and collection management. He commented that conservation management is in its infancy stage and collection management is not fully matured without conservation management.

Compiling Circulation statistics is one way of assessing user needs. Debbi Dinkins (2003) described a project undertaken at Stetson University, to review and assess the current collection development practices with respect to the circulation of books purchased to support the selected department curricula. Circulation statistics for books selected for five academic departments over a period of five years is compared with those of librarian selections in corresponding subject areas. The hypothesis of this study stated that circulation percentages of books selected by departmental faculty will be higher than those preferred by librarians in similar subject areas but this hypothesis was not accepted. This study revealed that better communication between the librarians and the faculty of all departments will enable and enhance the selection accuracy.

Victoria Elliott (1998) studied the efforts of training the staff for improving the collection management in the rapidly changed technological environment. He focused his attention on the Nashville Public Library collection development staff to adjust and excel
in the use of basic and advanced levels of internet techniques for multicultural selections, centralization of materials selection and review and resource their strengths and weakness. He shared the staff development program with particular emphasis to collection development.

Linda Mc Nair Cohen (1988) studied the collection development practices in five Alabama’s academic libraries. He identified various methods of collection building and management that have emerged as a result of different traditions. He inferred that changing patterns of collection development activities differ as institutions and their associated libraries have different and diverse missions and varying user needs. His study concentrated mainly on the differences in collection development techniques followed among these five libraries.

Building library collections in university libraries is probably the most important and one of the most complicated and difficult activities of library administration. G.T. Onadiran (1983) investigated the number of books per student, the annual growth of library materials, selection policy, acquisition procedures, the relationship between book dealers and university libraries in Nigeria.

Collection development through donations, gifts and exchange is a worthwhile venture if properly managed and monitored. A. B. Oshinaike(2006) analyzed the contribution of philanthropic organizations to collection development in libraries in south western Nigeria. His study revealed that book donations from philanthropic organizations had a positive impact on collection development. It increased the volumes of books in their collections. It was discovered that Book Aid International was the major donor to these libraries. He reported that acquisition of books was not affected through these donations. He suggested that these donors should consult the collection development librarians before so that the concerned area of weak collection is developed. They should be encouraged to contribute materials in other format.

C.O. Omagbemi etal (2004) assessed the collections of Olabisi Onabanjo University Library. He reported that the library collection was not able to meet the needs of the users of Nigerian Universities. He identified the major problem was due to
inadequate funding and geometrical increase in the growth of students. He opined that this problem was faced by other Nigerian Universities.

Quality education is impossible without quality library collection. The essential component of the university library is the information housed in it. G.T. Onadiran & R.W. Onadiran (1983) attempted to study the process involved in collection building of library materials in eleven university libraries in Nigeria. They have examined the library collections and their infrastructures of the concerned university libraries. Specifically it investigated on the number of books allocated per student, annual growth of library materials, type of selection policy, acquisition procedures, the relationship between book dealers and university libraries in Nigeria. Data gathered from the discussions with acquisition librarians, teaching staff, visits and inquiry forms. They recommended an annual growth in book collection of 50% for each new universities and 25% for the old universities.

University libraries operate in a complex macro environment. Richard Olorunsola (1995) discussed the political, economic and social crisis and their divesting effects on Nigerian Universities. His paper revealed that government fiscal policies had some effect on the free flow of books in Nigeria. He advocated that inadequate funds as the sole problem for the university libraries in Nigeria. He has undertaken a study to determine the problems faced at the University of Ilorin Library for acquisition of books during the period 1976-1990. Information was collected through acquisition statistics. His study made it clear that through resource sharing, library cooperation and external assistance as a means to survive when funds were inadequate. At the same time he advocated prompt payment of invoices by the library administration. He emphasized on the need for adequate fund to purchase UNESCO coupons to meet university library book acquisition fund.

O. I. Amisa & S.R. Adekunmisi (2003) reported the study profiles and collection development practices of Olabisi Onabanjo University, Ago Iwoye. The chief source for collection of data for the study was through interviews conducted with the acquisition librarian. Their paper provided deep insight into the collection development process of the University library. Their study further revealed the impediments to library collection
development practices. Identified major stumbling blocks like inadequate funds, absence of communication technologies, erratic power supply, inadequate staffing, paucity of space and equipment required for collection building. Implications for good and adequate funding for the proper functioning of the library are also discussed.

Yasar Tonta (2001) has briefly reviewed the collections of the Turkish University Libraries. He summarized the efforts of the university librarians to establish a university library consortium. He further discussed some of the factors like lack of commitment, human and monetary resources delayed the provision of providing consortia access to electronic information resources.

Serwar Hossain etal (1990) in his paper entitled problems and prospects of library collection in Bangladesh. He examined their university library stock. He suggested ways to overcome the problems of book selection and library stock in Bangladesh University Library. He identified some suggestions for improving stock position. He said that efforts were being made to increase the number of Bangladeshi publications, integrate library services with educational and cultural program of the community, introduce computers in libraries and prepare the union catalogues of books and periodicals of university library holdings. He stressed on the need for new acquisition policy and its revision from time to time. His paper listed specific suggestions to meet the problem of scarcity.

Hsieh & Runner (2005) surveyed the academic collection development and acquisitions librarians and an analysis of academic collection development policies. The study describes the treatment of materials, library policies reasoning, impact of faculty and students on policy changes and other related factors.

Thus as computer usage continues to grow exponentially, the desire of users to use electronic resources has also increased tremendously. This has led to the publication of materials in electronic form as e-publications on both CD-ROMs and web along with printed books. Owing to the steady growth of e-resources in the academic university libraries for the past decade efforts are made in different university libraries to combat this changing scenario. It is impossible to predict the future of libraries with regard to the
practice of collection management techniques, the changing role of print in the digital world and the growing need for resource sharing and consortia.

2.3 Related Literature from India.

There is vast difference in the academic library environment between western countries and India, though the basic functions are same. Owing to the differences in terms of nature of collection, financial support, infrastructure to organize and store collection, the literature on the concept in India is presented separately. In India the concept of collection management in academic university libraries is gaining momentum. As the traditional academic libraries gradually shift towards digitization of information sources and access to electronic resources in the library premises poses new challenges in the orbit of collection management activities of academic libraries. Literature published in this field by different authors from different regions is grouped under as follows.

2.3.1 Collection Management Concepts and Characteristics.

The emphasis has been shifted from collection development to collection management. Collection development is now a part of collection management. Collection management comprises of selection, order and collection building. The problems of collection management require serious, continuous and systematic study and research by practitioners with a view to put forth better and alternative solutions. Some of the studies identified in this context are listed below.

S. Seetharama(1997) remarked that collection management is a more demanding concept which goes beyond a policy of acquiring materials, to policies on housing, preservation, storage, weeding, and discard of stock. It emphasized on systematic management of library’s existing collection. Wajiti A Alvi(1997) also explained the changing phase of collection management. He emphasized the need for cooperative collection development program. He identified its advantages which are apt to the current library circumstances. However Naina Pandita(2007) views Collection development as a universal, dynamic and continuous activity. It involves the users, the library staff and
subject experts. Collection management is implied as one of the managerial function in the administration of the library management.

Keeping in view of the contemporary information environment that is characterized by print and electronic media R.S.R. Varalakshmi(2004) has suggested a functional model. According to this model the library operates in a hybrid information environment by taking part in consortia and inter/intra library relations. This created an impact on the need for new pricing policies and acquisition policies. The input for the library is in the form of user demands for more resources. The output achieved is enhanced information access, more coordination, increased performance and cost benefits. The procedures adopted to achieve this output were through technical organization, enhanced budget allocation for e-resources, proper selection process and establishment of networks for accessing information. So the models act as a guideline for individual libraries.

Pragyan Das etal (2007) stated that “collection management can also be defined as the organization and maintenance of library resources, starting from collection development principle”. P.K.Mahapatra(1999) defined the concepts more precisely and stated that “the concept of collection management signifies the theoretical aspects of collection building as well as the managerial aspects of the use of collection, storage, organization, circulation, information service resource allocation access to information and documents and other related matters. The review of collections for preservation, storage and deselecting is a critical component of a library’s collection management program.”

As Internet browsing and downloading consumes a large amount of time A.Amudha (2006) has described a model called Push Technology to access relevant collections from the web. It is also called as webcaster or netcaster. It prevents aimless browsing. She reported some of the advantages of this technology like automatic delivery of important news to clientele through email/ voice mail and customize information to the user.
Collection management is a tool that provides a means to cope up effectively with limited funds, staff and space. Collection development is considered as a part and parcel of collection management. It is well noted in the present era that collection development is now viewed as a part of the wider activity of collection management. It is a continuous process in the life cycle of the library management. It is an acceptable fact that it is responsible for the makeup of collections.

2.3.2 Impact of Electronic Resources on Collection Management.

Information communication technology made dramatic changes in the services offered by libraries. This growing impact of information communication technology compelled librarians to modify their services to serve effectively and efficiently. It has indirectly made a greater impact on collection management policy that formed the backbone for the existence of library collection. Studies have been carried out in this field to observe the changes that have occurred.

Collection management policy has to incorporate some changes due to the changed environment in academic libraries. Kumbar and Gururaj (2007) raised some issues like formulating new selection procedures, budget allocation, license agreements problems and evaluation criteria for electronic information resources. They have also suggested the advantages of using electronic publishing as a complementary technology but not as a replacement technology.

S. Seetharama (1997) pointed out that collection development and collection management was influenced by the impact of information technology. His paper explained in detail issues like collection development policy, resource sharing, networking, collection evaluation in the present technology driven environment. While Sarbinder Kaur & M.P. Satija (2007) have described in detail the changes that have occurred in an academic library collection management due to the impact of digital environment.

The impact of CD-ROM, Internet and digital libraries on collection management is quite significant. I.K. Ravichandra Rao (1997) discussed in his paper the significance of electronic resources and impact of various networks on collection development policy.
He writes about the various challenges faced by libraries in the present digital environment. His paper suggests effective techniques necessary to search and store the downloaded data. He recommended that collection management policy should take in its preview the recent advances in information technology and its impact. While Nishat Fatima (2000) expressed that changes occurred in the collection development owing to the impact of CD-ROM & Internet. Stressing on the need for redesigning of appropriate strategies for collection management R.Kavitha (2009) described about the various trends and the impact of e-resource collection on collection management in the digital environment. Her paper discussed in detail about the changes that have occurred in acquisition process, retrieval and storage of information due to technological developments especially e-resources and the problems faced by librarians along with the limitations and restrictions of electronic resources collections.

The advent of internet has completely revolutionized the entire gamut of activities of collection development. Devika V.Aptagiri (1997) contends the internet as a store house of documents. It is used to generate information services. Confirmed that knowledge of what is available and how to access the document is only required to make optimum use of the Internet. Likewise Chaudhury(1996) has listed out the main uses of networks for collection development work. Libraries and information centers have risen to the occasion and are trying to adopt and adapt information technology in their operations. Echoing similar views Abhijeet Sudhakar Wakhare etal (1997) discussed about collection development in the internet era with the help of sources available on the internet in the field of pharmacology. Their paper provided detailed background sources of information in pharmacology available on the internet.

Giving a glimpse to the revolution in technology J. Sheila (2001) described how the Internet has changed the work of bibliographers in the collection of electronic resources. Her paper suggested that libraries are in the early stages of shift from traditional collections of owned offline collections in printed form such as books, copies of journals, videos to online access products that originated outside the library. She confirmed that this shift to electronic resources is now well established and is proceeding inexorably. She listed several factors like reliability of vendors/distributors in the delivery
of electronic products, the reliability of the products themselves not only for current documents but also for continuing access to older ones, fair pricing practices of electronic resources as reasons that hampered the libraries to purchase electronic resources. She concludes that libraries experience an evolution not a revolution to utilize electronic resources. Whereas Swapan Deoghuria (2004) discussed about the organizational cultures of the libraries like lack of interest to interact with the users, lack of technology standards, legal restrictions, poor quality of telecommunication services and lack of coordination and skilled computer professionals within and outside the library as the root cause that hampered electronic collection development.

Much importance is paid to libraries and librarians as they have to adopt and adapt information technology in their library operations especially in collection development activities and in information generation services. Seetharama and R. Ambuja(2001) puts forward that information technology has made the management of information a relatively easier task. It helped the librarians to have an easy access to information. Even in this digital era librarians continued to play an important role in handling digital resources. They have also listed out the use of networks for collection development activities that made the drudgery work of the librarians easy faster and simple. In addition various aspects of collection development, collection development policy and collection evaluation are studied by the authors in the light of integrating new emerging information technologies in library collections.

Thus internet has proved to be a single major platform for the performance of all the activities of collection management. It has reduced the time span with its instantaneous access to information at global level. Hence its impact on CM is tremendous.

2.3.3 Collection Development Policies.

Creating an integrated collection development policy that covers all media is an important issue. A written collection development policy statement is essential to guide the library professionals in collection development and management activities. The following paragraphs present an overview of the opinions expressed by different authors.
M. Parameswaran (1997) stated that collection development in University libraries should be based on proper planning. His article defines the parameters of collection development in university libraries. Discussed about collection development policy and insisted the active participation of all the staff members of the library to develop a balanced collection.

The major problems of collection development from the point of view of a librarian was dealt by M.S. Sridhar (1995). He stressed the importance of a collection development policy manual and presented a peculiar circumstances and background problems for book acquisition transactions in libraries. The other problems related to document selection, document procurement process, technical reports, microforms, vendor controlled order plans and journal subscription have been mentioned. Discussed about various vendor controlled order plans with their merits and demerits.

T.D. Kemparaju et al. (2003) stressed the importance of managing the transition from traditional libraries to electronic libraries by focusing on collection development policy, training of information professionals and library users. It provided general views on how library and information centers should approach issues on electronic information resource acquisition in order to acquire them by taking collection development policy into consideration. A similar line of thinking was expressed by Naina Pandita (2004) about the importance of collection development in building library collection. She highlighted the modifications to be made on collection development policy on account of the costs, distribution and access to digital content in collections. She discussed about the open access initiative where digital material is available freely.

Om Kumari Chowdhry (2003) opined that collection management policy is required to provide guidelines for consistently developing collection, evaluation and maintenance of resources for easy access to quality information. He suggested that collection management policy links the objectives of collection development and the information gateways in social sciences.

R.S.R. Varalakshmi (2004) is of the opinion that the policy statement should specify the short and long term objectives, define the levels of collections, state clearly
the specific selection criteria for core subject collections, address acquisition procedures for print and electronic format, include licensing/ private agreement issues, security, authentication, authorization of collections, resource sharing, regular policy revision, collection evaluation and assessment.

B.D. Kumbar & Gururaj S. Hadagali (2007) discussed the scenario of collection development policies in the present electronic revolution. They have examined issues like formulation of collection development policies to suit electronic resources, budget, selection procedures, evaluation criteria for electronic information sources, license agreements problems and prospects. While A. Amudha & A. Lawrence Mary (2007) keeping track of the problems faced by the present libraries suggested a sensible approach to face these ongoing hurdles by redefining the collection development policies.

P.V. Konnur and A.N.Joshi (2008) in their paper considered the evaluation of collection in academic libraries, the benefits of collection evaluation and suggested guidelines for framing collection evaluation policy suitable for print and electronic resources.

Several collection development models have been suggested and implemented by library and information science professionals from time to time. They serve as guidelines for the functioning of the activities in the preview of library collection management. A written collection development policy intends to state the objectives as clearly as possible. It should explain the past, present and future acquisition and collection management practices of the library. It should be a fairly straight forward reflection of the teaching and research priorities of the University Libraries.

Owing to the importance to collection development policies it can be inferred that e-collection development policy plays an important role in university libraries. Different activities are involved to develop need based up to date balanced collection. Further an appropriate collection development policy works wonders to the present ailing digital library environments.
Some important observations and case studies carried out at different academic libraries are illustrated below.

K. Veeranjaneyulu (2012) has described the collection development process in Archarya N. G. Ranga Agricultural University Library, Hyderabad. Similarly Rubinandhini (2012) has conducted a survey on collection development in Periyar University Library, Tamil Nadu. Her findings have revealed that their university library provides many printed and e-resource facilities to its users. The university library is playing a vital role in innovations of exploring new concepts to help the society at large. Similarly K. Palanivel (2012) has programmed a cooperative collection development model for libraries in Puducherry. Its main objective was to share information by way of resource sharing and networking through proposed Puducherry Library Network (PUDULIBNET) using National Knowledge Network/ National Mission on Education through Information and Communication Technology. It would enable the user to access resources amongst the libraries in Puducherry. He also discussed the e-resource collection in Pondicherry University Library, Pondicherry University, Pondicherry.

T Rama Lakshmi (2012) has done a case study of the collection development of e-resource collections especially the trends in the growth of digital library in S.V. University, Tirupati, Andhra Pradesh. A brief description is presented on the issues and challenges faced during the digitization process. Similarly S. Dhanavardhan (2012) analyzed the print and electronic resources amongst self financing engineering colleges in Tamil Nadu. His paper also suggested that there is a dire need for self financing engineering colleges to exploit the information products and services by laying emphasis to user education programs.

S.Mathurajothi (2012) has surveyed the collection development in Gandhigram Rural Institute Library, Gandhigram, . Likewise Lakshman Sarkar (2012) has surveyed the management and use of library resources of Central Library of Krishnagar Government College, West Bengal. He suggested that librarians should automate their
housekeeping operations, improve book and period collection and provide user education programs.

T.Y. Malliah & M.Purushothama Gowda (2009) made a survey on the collection development in Mangalore University Library, Karnataka. Their study identified the pitfalls of the existing collection. It also attempted to know if the UGC INFONET E-journals met the user requirements. His paper provided suggestions for the improvement of collection strength.

Collection evaluation is concerned with how good the collection is in terms of the kinds of materials in it and the value of each item in relation to items not in the collection. A. Lawrence Mary & A. Sankar (2008) in his paper reports the results of a survey undertaken to assess and evaluate the collection of PSN and PET Engineering College Library, Tirunivelli, India. The survey results indicated that these two college libraries were unable to meet the challenging demands of their users. It recommended the building of collection by anticipating the demands of their users.

Pragyan Das (2007) et al conducted a survey on the state of e-collection management and development in the engineering college libraries of Bhubaneswar city. Respondents were asked to indicate if their libraries provided the various types of e-resources, their mode of accessing e-resources, resources sharing, networking and library automation in their concerned libraries. Nearly one fourth of the libraries in the city subscribed to online journals through INDEST consortium. It is astonishing to note 83.34% of the libraries do not have adequate facilities to access e-resources. They suggested that libraries should subscribe to consortia based resources available in India. They emphasized that a comprehensive collection management policy of e-resources should be maintained by the libraries.

The advent of CD ROM technology has made profound impact on library services due to its unique features like large storage capacity and interactive search facility. R. Mishra et al (2008) carried out a study on CD ROM and other multimedia resources at Indian Institute of Technology, Kanpur. The focus of the paper is to describe the process
involved in managing CD ROM collection on its shelves. It proposed the development of user interface open source software like WINISIS and GENISIS WEB for data exchange.

Neeraja, Verma etal (2007) made a brief overview of the services provided by the Defence Research & Development establishment and the services of Technical Information Research Centre (TIRC). They attempted to study the use of collections and services of TIRC. He identified the gaps in the collections and services of TIRC and suggested that users required more online journals and new books on basic sciences and new subjects like nano sciences, nano chemistry. Regarding the services majority of the users are satisfied but provision should be made for more terminals for online access.

Mandal &Panda (2005) have described different dimensions of collection development with specific reference to 17 major Engineering College Libraries of West Bengal. They enumerated the activities of seven major library consortiums of the world engaged in sharing resources among the Engineering college libraries.

Maharana(2004) made a study of the collection development of electronic information resources in the R&D libraries of Kolkata city. The main objectives of the study were to reveal the present status of the collections, to explore current practices of collections and collection development policies of e-resources, to recommend practicable guidelines for an improved collection development program.

Suresh Kumar (2003) has critically discussed collection development activities in the State Central Library, Trivandrum. He discussed collection development parameters like subject specialists, budget allocation, collection development policies, collaboration and resource sharing, liaison with reader’s forum and staff representation in the committee in accordance to this library.

S.P.Singh (1999) in her paper entitled an evaluation of collection development and reader’s services at IIT Library, Mumbai described the acquisition use and adequacy of its library collection. The author emphasized the need for photocopying facility for students and staff.
Anita Bali (1997) suggested an appropriate collection development plan for National Institute of Science, Technology and Development Studies Library (NISTADS). Her paper mainly focused on ways to balance the available budget and provide access to relevant information to users without much delay.

Sumati Sharma, Anil Kumar Singh et al (1994) examined in detailed about the collection Development of Defense Science Library, New Delhi, India. Data presented in their paper reflected a steep fall in the number of titles subscribed during the period from 1988-1993. It came to their notice that the reference collection in their library became richer during that period. They suggested that through resource sharing their library could face the problem of increased cost of publications and financial crunch.

### 2.4 Conclusion

The world of knowledge must be accessible to any particular end user of any library. This trend is most acceptable and preferred by the academic community. It necessarily implies a change in collection management practices followed by university libraries. There are many studies which reveal that for a considerable span of years, the pace and development of collection management was an unshared domain of the librarian. Collection Development policy is a largely neglected area of research in librarianship. Clark(1976) examined that simple surveys and reporting of statistics of libraries are not enough. He insisted on a well designed experimental research on many of the collection development problems faced by practitioners in decision making.

Now academic librarians feel the pressure of adapting as they have to develop and expand e-resources along with their print collections. E-resources have an impact on collection management policies and collection management functions. They have drawn attention in these two important areas that have been neglected for a lengthy period in many university libraries.

A growing body of literature on collection management indicates that university libraries are on the move to make the important changes to their existing collection management practices and CDP statements. Many issues faced by traditional collection development remain relevant and critical despite new challenges. It is the need of the
hour to develop general theory and principles in collection management that are applicable to any particular formats. Collection development librarians should struggle to adapt themselves to the implications of technology. They should be capable of tracking data and meticulously handle important issues such as costs, titles used, delivery time, error rates, user satisfaction and library collection management of electronic information resources.
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