

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

---

September 2021

## Application of ICT Tools and Techniques in Collection Building and Development

Madhabilata Mallick  
mallickmadhabilata@gmail.com

Krushna Chandra Panda Prof.  
Sambalpur University, krushna52@yahoo.co.in

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#)

---

Mallick, Madhabilata and Panda, Krushna Chandra Prof., "Application of ICT Tools and Techniques in Collection Building and Development" (2021). *Library Philosophy and Practice (e-journal)*. 6161.  
<https://digitalcommons.unl.edu/libphilprac/6161>

# **Application of ICT Tools and Techniques in Collection Building and Development**

By

**Mrs. Madhabilata Mallick**  
**Librarian, K.C. Public School, Berhampur- 760004**  
&  
**Prof (Dr.) Krushna C. Panda**  
**Former Professor & Dean, Sambpur University**  
**Sambalpur- 768019**

***Abstract:** Examines the application of varied ICT tools and techniques in the domain of collection building, development and management. Discusses how ICT has substantially impacted every sphere of academic library activity and more so in collection building and management. Explains the impact of IT on different stages of collection development process-right from the identification and selection of items to weed out obsolete documents. Enumerate sources for selection of recommended items; varied information Channels to identify the needed documents and discusses some popular selection tools and their functions. Explains some of the helpful LIS software and their modules that support collection development activities.*

**Keywords:** ICT, Collection Building; Collection Development; Collection Growth; Academic libraries; College Libraries; Collection Policy

## **Introduction**

The procedure of Collection development in academic library systems, in recent times, is going through technology-driven changes. In almost every field or domain, 'information and communication technologies' have inspired a large number of academic libraries in India for application of technology in diverse library practices to address to emerging demands of their library clientele. Application of hi-end technology in library practice no longer remains as a status symbol of the concerned library system; rather it has become a necessity. The contemporary librarians of large academic library systems in particular are quite enthusiastic to introduce the new technologies and tools like Web 2.0, RFID technology, Automated circulation control, Book ordering in real-time mode, resource sharing and several such tools and techniques as well as area of service, not merely to save time, but also to take advantage of the emerging technologies in their day to day library practices which is hassle free, does the work at a faster pace, save most precious times of the library staff and proves cost effective in the long run.

One of the core areas of library practice in which new technologies and tools have brought sea changes and performs the task at a faster pace is 'collection building and its management'. No doubt, technology brought tremendous improvements in this area of library practice. More significantly, the new computer and communication technologies, though have not impacted the

basic library practices of '*Collection Building and Development*', but its' ambit seem to have altered to a considerable extent.

The contemporary libraries have witnessed metamorphosis changes beyond expectations with the rise in alterations of remote access in the very nature of library's collection of learning resources based on the changing of most popular philosophy of library practice from '*ownership to access*'. The entailments or significances of introducing these varied technologies are currently visible in almost all the domains of library practices-ranging from planning to policy making, budgeting and delivering services to the end users. Hence, the contemporary libraries seem to have successfully applied the new hi-end computer and communication technologies and tools in their acquisition building, their further growth, and directional activities, ranging from selection of items to their procurement, assessment, participation in consortiums and inventory control of their library's stock. The technology has facilitated a faster and hassle-free access to varied e-resources of the entire globe at ease.

Advancement in information and communication technologies (ICT) has a profound influence on each and every arena of academic activities. Libraries and learning resource centers, as an inherent part of the educational process, are not an exception to this dictum. ICT has created an ambience where uninterrupted changes have become the norms. Due to emerging advancement of information and communication technology, the contemporary information and learning resource centers have undergone a significant transmutation in recent years, both in terms of their collection development and services to their patterns at a much faster pace. The conventional functions of libraries have had undergone myriad alterations during the last century and what looks a myth a few years back has become a reality today.

The prime objective of any library, therefore, is to acquire, organize, conserve and diffuse information to its clientele and for which utmost care and caution need to be taken while building and further growth of the library collection. Hence, collection development can be termed as a "process of acquiring a more balanced and user-friendly collection of library materials over a period of years, based on an ongoing assessment of the information needs of the library's clientele, analysis of usage statistics, and demographic projections" (Reitz, 2007). It is a continuous process which adds in its scope- selection, collection of selected items, their technical processing, evaluation and weeding out of reading materials. The Acquisition Librarian or the Collection Development Manager should carefully consider all of these elements in order to achieve the collection that is consistent and balanced one enabling the parent library system to serve its users meaningfully. It has been universally accepted that, the task of collection building and its growth can hardly be carried out in a hit-or-miss method, but must be cautiously and meticulously planned and should constantly be evaluated and monitored so as to make the exercise more productive.

The emergence of ICT, in fact, has substantially impacted every sphere of academic library activity and more in collection building and management. ICT presents an opportunity to provide more value-added information services and access to a wide variety of modern information resources to their users. Application of ICT can have a significant impact in the process of collection development. Selection, duplication checking, price checking, order placing, collection evaluation, etc. can be done very effectively using varying ICT tools and techniques.

For example, librarian may explore online bookshops and publisher's websites while book selection. For purchase of needed library resources, supply order can be issued in the preordained format to the publishers using library's e-mail account. Likewise, invoices can be downloaded from the email or websites that makes service faster and save postal delay. Librarian through E-mail can send reminder to the publishers, vendors and even to the library borrowers to return books in time. ICT offers new possibilities and potentialities for the improvement of collection development in libraries. Detailed analysis of major impacts of IT on different stages of collection development process is discussed more elaborately in succeeding sections.

### **Application of ICT in Identification & Selection of Items**

This is the first and founding step in the process of Collection development. There are a number of LIS software which the contemporary Librarians can take advantage of its application in identification or selection of recommended items to be procured for the library. There are four ways/sources through which this exercise can be successfully completed by an Acquisition Librarian. The Collection Development Manager of an academic library, for instance, either can take the help of one or combination thereof or can explore all the four sources for selection of recommended items for procurement.

- a. Publisher's website
- b. Through z39.50 server such as [www.loc.gov](http://www.loc.gov)
- c. Open Source Koha ILMS
- d. Physical Catalog

In addition to these, there are also a number of other tools or sources which can be used or practiced in the selection of books and serials. These are:

- i. [Amazon.com](http://Amazon.com)
- ii. [Barnes and Noble](http://Barnes and Noble)
- iii. [Big Words](http://Big Words) (Textbooks only)
- iv. [Blackwell's Online Bookshop](http://Blackwell's Online Bookshop)
- v. [Book Searching and Price Comparison](http://Book Searching and Price Comparison) (Wichita Univ.)

Learning resources on any required discipline can be found using any one or of the following information channels:

- (a) Special Bibliographies;
- (b) Bibliographies that reflect primary documents;
- (c) Credible subject experts/specialized on a particular subject;
- (d) Publishers' Catalog;
- (e) Catalogs and Acquisition lists of other libraries (Humanity Dev Lib 2.0.<http://www.nzdl.org/cgi-bin/library?e=d-...> Visited on 8.7.21.

Selection no longer remains an unknown jargon to an Acquisition Librarian as they have been performing this task right from the inception of the libraries started acquiring printed materials. A library cannot fulfill its aims and objectives unless it has nascent learning resources at its stock. Hence, selection of library resources is a skill that requires diverse expertise, experience and intuition. Therefore, the Acquisition librarian should have adequate knowledge on different learning resources being published on diverse subject domains covering the various branches of knowledge. As all selection process begins and ends with the library patrons and the long term goal and priority of the concerned library including its parent organization, many libraries have formed collection development policies for developing and managing their diverse learning resources in various forms including e-resources. However, some libraries, in the absence of any written document, adhere to the established process and norms or well tested precedents which become as informal guidelines for their day to day document selection task. For conventional learning resources, the Collection Development Manager or the Acquisition Librarian-as the case may be, usually determines to select print resources with following established selection tools:

- (i) Books reviews
- (ii) Publishers Websites
- (iii) Newsletters
- (iv) Printed catalogues of University libraries
- (v) National bibliographies
- (vi) Subject Bibliographies
- (vii) Books in print and similar publication
- (viii) Booksellers and publisher catalogue and trade lists.

Over the last couple of decades, the process of selection of library's learning resources has undergone sea changes with the change in scholarly communication and advancement of web technologies as well as publishing formats. With the advent of electronic resources in diverse disciplines, a decision on selecting e-resources is an intimidating task as electronic information resources possesses an array of challenges not confronted with the conventional learning resources. However, some of the conventional selection tools are still found valid for selecting e-resources, but some additional issues mentioned below need to be considered and introspected threadbare while selecting e-resources either for purchase or for subscription. These important issues include: (i) Publishers' Catalogue; (ii) Reviews in Periodicals or Journals; (iii) Vendor Websites; (iv) a minute observation on other college library resources; (vi) Publishers'

demonstrations in seminars/conferences/workshops; (vii) Opinion from experts and faculty members; (viii) Train access by Publishers and Vendors; (ix) and Consortiums respectively. The above list of issues however, is not exhaustive, but simply a snapshot that portrays some of the best practices at this point of time.

The task of choice of learning resources by the help of traditional methods usually keeps the whole process of collecting diverse learning resources more fastidiously slack and irksome. On the other hand, the newly emerged ICT tools and techniques ensure the selection of library's resources quicker and meaningful. Choice of specific learning resources currently can be carried out by visiting publishers' and vendors' websites (eg. <https://www.amazon.in>, <https://www.sapnaonline.com/>, <https://www.indiabookstore.net/>, etc.). The new computer and communication technology too enabled the library administrators to amass list of documents or reading materials on diverse disciplines from different websites and send them to academic community via email for selection. According to Chisenga (2006), now the publishing houses as well as suppliers of books/vendors have become more prone to online marketing of their publications through www removing geographical barrier and taking advantage of the internet they communicate with their customers instantly in real-time. Most of the vendors and publication houses have now their respective websites and e-mail accounts including accounts in social networking platforms like WhatsApp through which they share their newly arrived as well as upcoming titles, abstracts, hassle-free ordering procedure, permissible discounts, and mode of delivery in least possible time. Such information is brought up-to-date in real-time which are of great help to the Collection Development Manager for selection and procurement of varied learning resources. Learning Resource Centers having better technological infrastructure can, therefore, use these facilities to an optimal extent for communication, selection, and ordering of information resources ensuring to speed up the whole process of collection development at a much faster pace. Hence, the Collection Development Manager need not worry about how to and where from a needed item can be found and procured.

### **Application of ICT for Procurement/Ordering or Acquisition of Selected items**

Use of modern computer and communication technologies and tools in Pre-ordering and Ordering process including establishing contact with the Suppliers, book sellers and vendors which constitute a part of Library's Acquisition task, has gained considerable impulse in recent times. This is the second important step in the process of collection development. At this stage, the Collection Development Manager or the Acquisition Librarian can explore the possibility of using available technology to expedite the process of procurement. Currently, most of the LIS software have a module specifically dedicated to ordering /or placing indent with the firm to supply the items so selected. For instance, Koha ILMs for purchase process in Acquisition module is the best option to avail its advantages.

#### **(a) KOHA ILMs Acquisition Model**

(b) ERP Software (for generating purchasing indent)

A Purchase order/or indent is an internal record of the library concerned for procurement of documents/reading materials or such other learning resources required by a particular library. It is ordinarily prepared in the prescribed format followed by the parent organization/or parent library system for enrichment of library collection for the benefit of the library patrons who are the end-users. Such order contains detail information about the specific resource or title, publisher, author, price and such other description like edition, no of copies to be supplied, discount allowed or as agreed upon and so on (Force Intellect: Posted on Dec 11,2020).

Acquisition usually denotes a procedure or task of procurement of diverse learning resources or reading materials to be accomplished for a given library system or a learning resource center in conformity with the preordained mission of the parent organization. The Acquisition Librarian, according to *Evans and Saponaro (2005)* first has to make a thorough scrutiny of the requisitions or requests received from the relevant stack holders of the library concerned showing the necessity of the items and conduct efficient bibliographic verifications *that need to be passed through two different stages.*

i) **Checking/Confirmation-** primarily concerned with identifying the accurate title, author, publisher, and other relevant ordering data; and

ii) **Searching** – find out whether the items requisitioned/requested is owned by library, and if so, whether the library needs to procure a second copy or multiple copies, etc. which in traditional library system was a herculean task.

However, with the help of internet and integrated library system, these process i.e. verification and searching can be done much faster and accurately as the Acquisition Librarian can visit to different online tools and websites of the different publishers and book vendors to easily ascertain the new arrivals in their respective area of subject interest, verify their prices and can issue procurement order in real-time. Similarly, discrepancies if any, in the invoices or bills, edition of books, printing, can also be verified within minutes through e-mail, thus reducing the volume of paper work associated with acquisition activities. Additionally, LMS software makes it easier to manage invoices, track payment details, etc. In this way, ICT improves the efficiency as well as reduce human stress, thereby indirectly improving human recourses too.

### **Application of ICT for Evaluation of learning Resources**

Use of new and advanced computer and communication technologies and tools in the process of assessment or evaluation of learning resources in a functional library plays a significant role and delivers good results. Replacing the time consuming and tedious method of conventional manual

evaluation system of the collection, the new and emerging technologies have made the process of assessment of circulation records or statistics including the scrutiny of budget statement, usage of e-resources, review of online users and many such functions more easier, faster, less time consuming and cost effective in the long run. Technology delivers more accurate and reliable information pertaining to the appraisal of the status of real-time users and analysis of transactional log to unfold the usage of e-journals and e-databases and several such e-resources. This helps the Evaluation or Assessment Committee/experts to complete the task of evaluation and status of each item much faster.

The contemporary libraries use an array criterion to evaluate their learning resources –be it print or electronic or web-based resources which may differ substantially in regard to their authority, accuracy, objectivity, nascence, and coverage, and credibility of authors.

Collection assessment is one of the most vital tasks in procurement process of learning resources since it is difficult to establish an equilibrated, need-based, and customer-friendly library collection without ascertaining the effectiveness or intensities and failings of the existing collection of the library. Acquisition Librarians, therefore, should know both merits and pitfalls of the current stock of learning resources before being jumped into a conclusion of their procurement. This exercise will certainly enable Librarians to arrive at an appropriate and judicious decision in the matter.

For conventional learning resources, the Acquisition Librarian who performs the tasks of assessment determines to evaluate print resources with an array of evaluation techniques as have been evolved in recent times which include: checklist approach, comparative holdings statistics, availability studies, standards, formulas, etc. On the other hand, e-resources pose an array of troubles not encountered with conventional library materials. In addition to the criteria that apply to printed resources, electronic resources raise a band of complex issues around access, pricing, licensing, ownership, networking, and changing standards and technology at a faster pace.

ICTs have substantially impacted the task of collection assessment- both for print and e-resources in terms of ease and efficiency with the application of different library management software currently available in market. A number of contemporary libraries automation software collects circulation data to facilitate data on the prevalence of usage of individual titles, the breadth of the collection, and pertinence of the existing collection to users' needs. Additionally, ERMS (E-Resources Management System) also facilitates many useful input and statistical data on the usage of electronic resources using log analysis to ease decision-making.

### **Application of ICT in Inventory Control**



Inventory control is one of the important areas of the library management to ascertain undue loss or pilferage of valuable learned resources of a library collection. Currently, there are many ICT tools and techniques that facilitate inventory control or stock taking activity of the library without any hassle and at ease. The technology not only allows convoluted and complex searching of the library stock, but also helps to establish a link to the circulation transaction system. This feature enables a library patron to find out the current status of a particular needed item, whether the same is in issue to someone or ascertaining the loan status. This technology fulfills the spirit of the fourth law of library science '*save the time of the users*' propounded by Dr. Ranganathan i.e. *by facilitating meaningful and effective information services at a more faster pace* (Ranganathan, 1931). Koha ILMs is, for example, can address this function very well.

### **Application of ICT in Weeding out Documents**

Weeding out or removal of unused, least used, obsolete, and mutilated titles from the collection of the library periodically is an important exercise that prevents misuse of library's valuable space by unwanted titles and makes the spaces free for nascent and useful editions. There is many LIS software that helps the librarian in discharging this function both at ease and at a faster pace. For instance, Koha ILMs by generating the reports of obsolete items may prove wonder.

Removal of obsolete and least used items from the library's collection is one of the most indispensable elements of collection development process that ensures the collections' health and viability. It can be termed as the systematic removal of resources from a library based on a band of selected parameters like, outdated, unused or damaged, etc. According to Gorman and Howe's (1989), weeding is "the process of removing materials from the open shelves of a library by reassessing their value in terms of the current needs". Hence, weeding is necessary to forestall a library collection from becoming obsolete. Gorman and Howe's (1989) further affirmed that, patrons encounter more constraints in locating their reading materials on the shelves in those libraries that do not remove unwanted and obsolete titles at frequent intervals and coherently. According to them, weeding of obsolete, least used and mutilated items, thereby empowers the library collection not only more visually alluring but also more tempting to the library clientele. This exercise enables the library to disseminate more nascent information. Following are some of the most popular and the established reasons for weeding:

- to improve the quality of collection;
- to save the valuable space and money;
- to save time; and
- to make the Library more appealing

In this regard, **Rosanne** (1991) rightly opined that "effective management of a library collection requires a well-planned and most judicious weeding program whose motivation is the need for periodic or continuous assessment of learning resources with the sole objective of removing

those items that are no longer useful from the collection and ensuring that what is kept in the collection is useful and accessible”.

In the traditional library environment, the librarian, however, visits the shelves, picks up the item, reviews the title and its contents, and examines its physical condition for possible withdrawal from the library’s stock, thereby making the whole exercise irksome. Librarian also sometimes consults book issue register, issue slips in order to determine the utility of the book before weeding out a document from the shelf. The materials those are removed the library stock usually are placed in a designated location anticipating their future use or perpetually weeded out by way of donation or sale.

However, the process of such removal using conventional techniques makes the entire process fastidiously and draggy. New computer and advanced communication technologies pave the way for the weeding process comparatively more faster and accurate. Computerized circulation transactions can facilitate more elaborate information about given title or learning resource such as commonness of use, category of library patron, age of the item, etc. This information would be of great help to discard such titles which are no more required and irrelevant to users, but consuming most valuable space on the shelves.

### **Application of ICT in Sharing of Learning Resources**

The concept of ‘Resource sharing’ is nothing but sharing of library’ varied learning resources and services among the participating libraries as mutually agreed upon. Resource sharing, therefore, entails reciprocity between ‘haves’ and ‘have-nots’. Issues like, optimal use of learning resources and services, benefits of membership to avail other library’s resources not available in parent library; sky-hi demands of library patrons; budget curtailment; surge in strength of library’s users; escalating cost of publications; publication deluge; emergence of more interdisciplinary subjects; unprecedented growth in digital documents and e-publications are only few examples that makes the resource sharing venture in a functional academic library of 21<sup>st</sup> century imminent. This function, however, can easily be addressed by a number of newly emerged ICT tools and techniques and many LIS software currently available in the library market. Resource sharing activities can effectively be managed by using Koha Google Drive having a number of favorable features.

### **Application of ICT in Circulation of Resources**

Circulation control or alternatively known as ‘lending’ is one of the most basic and at the same time most important functions of an academic library. Circulation function of a library performs an array of activities like: charging and discharging of a document; generating reminders to users to return the issued document in time; calculation of overdue charges; recall and reservation; unfolding the status of a document –be it circulation, or on the shelve or has gone for binding;

providing circulation statistics useful for periodical evaluation of learning resources and several such functions now can be better addressed using Koha ILMS Software. Moreover, ICT is not new to Circulation Control since mechanized circulation control started in the 1930's when edge-notched cards were used.

Now open source software are available free of cost which can be used to address the concerns of the Circulation desk or function. The code of software is open to modification, improvement and redistribution and can be used without any restriction. Such OSS is more qualitative, more reliable, and more flexible, besides cost effective and an end to predatory vendor lock-in. Many academic libraries use this software as it is more secured than the proprietary software (Himanish Roy, et.al.). The circulation module feature of three popularly used LIS software is given in the following table to understand their utilitarian value better:

**Table-1: CIRCULATION MODULE AND ITS SUB-DIVNS**

S.No.	Specific task/function	Koha	NewGenLib	OpenBiblio
1	Check-in and Check-out	Y	Y	Y
2	Renewal of Items	Y	Y	Y
3	Reservation of items	Y	Y	Y
4	Transfer	Y	Y	Y
5	Alerting System	Y	N	N
6	Offline Circulation Interface	Y	N	Y
7	Use of Bar code	Y	Y	Y
8	Use of RFID Tech	Y	Y	N
9	Weed out or Process of removal of obsolete titles	N	Y	N
10	Auto Report Generation	Y	Y	Y
11	Binding Management	N	Y	N
12	Reported loss of item	Y	Y	N

(Source: <http://eprints.rclis.org/40771/1/LIS%20Circulation%20Module.pdf> visited on 6.7.21)

### **Collection Development Policy for Digital/E-Resources**

Most of the 21<sup>st</sup> century Libraries and Information Centers are gradually metamorphosing their services in digital platforms so also revamping their library's collection building and development policy more technology dependent, more particularly the internet and the cloud. The digital resources are primarily technology driven. The contemporary library patrons are more prone to internet and an array of new IT-based retrieval tools and techniques, thereby forcing the libraries to adapt changes from conventional platform to virtual and paperless one. Now, the question arises, why at all the academic libraries require digital collections? In response to this question, Rajinder Kaur and Rupesh Gaur (2017) in their study outline the following **eleven reasons** for a library to have digital learning resources in their collection:

- (i) Saves the valuable time of the library patrons;
- (ii) It increases efficiency;
- (ii) Provides a much faster access to information at ease;
- (iii) Ensures Quality of information resources ;
- (iv) Not volatile;
- (iv) Helps to attract the users with a positive psychological impact;
- (v) Facilitate remote access ;
- (vi) It enables round the clock access to users (24x7);
- (vii) Capable of providing unlimited information from diverse sources;
- (viii) Information are usually more nascent and updated;
- (ix) Patrons feel more flexible;
- (x) Capable of acquiring and compiling data from diverse sources; and
- (xi) Minimizes the workload of the library staff.

In addition to the foregoing reasons, digital learning resources also helps in several other numerous ways such as ease in migration and transmission; smooth integration; reduced manual acquisitions and its high convergence capability.

The reasons to have of learning resources in digital form in a library' collection, no doubt, bring an array of vantages which include digital resources ability to provide access at multiple points and varied search options; its retrieval ability at a faster pace; making content analysis at ease; available through consortiums; interactivity; facilitate virtual mode; more resilient; tremendous storage ability; easily reproducible; facilitate hypertext and multimedia format; more functional; elimination of printing and postage cost; and facilitate remote access. They can include in the institutional collection policy to acquire some of the most useful learning resources in digital form such: (a) e-books; (b) e-Journals; (c) e-Databases; and (d) subscribe to e-Consortia (eg. UGC-Info net, INDEST, AICTE Consortium, and so on) or any resource sharing networks for sharing of resources which would be cost effective.

In view of these inherent benefits, the 21<sup>st</sup> century Librarians needs to redefine and revisit their existing stock of learning resources in order to re-develop and formulate their collection development policy not only to cope with the emerging changes, but also to meet the sky-high expectations of the contemporary library patrons. However, the digital learning resources, in spite of their inherent advantages are not free from perils which includes (a) highly complex Procurement and preservation mechanisms; (b) technological moribund; (c) lack of institutional culture and unwillingness to cope with the digital ambience; (d) paucity of fund; (e) stubborn opposition to adapt emerging changes; (f) lack of infrastructure in-house to access or download open access articles; (g) inability to counter virus attacks on computer and copyright violation posing threat ; (h) inability to check the authenticity, credibility and accuracy or truthfulness of information in digital format; (i) fear of declining of Librarian's image are some of the threats

and psychological that impacts the Librarians not to add digital information resources in their collection( Kavitha; 2009; p. 69-70)

The different areas of Circulation Control in an academic library to which the ICT tools and techniques can address their functions are reflected in Table-4.2 below for a quick view and to understand the concept better.

**TABLE-2.**  
**USE OF ICT IN COLLECTION DEVELOPMENT AND MANAGEMENT ACTIVITIES**

S. No	Specific domain of Collection Dev & Management Activities in which ICT is applied	Area of application	Name of the Software/SE /Hardware particulars
1	Identification & <b>Selection of items</b>	Selection of items	(i) Publisher's website (ii) Through z39.50 server such as <a href="http://www.loc.gov">www.loc.gov</a> (iii) Open Source Koha ILMS (iv) Physical Catalog  vi. <a href="http://Amazon.com">Amazon.com</a> vii. <a href="http://Barnes and Noble">Barnes and Noble</a> viii. <a href="http://Big Words">Big Words</a> (Textbooks only) ix. <a href="http://Blackwell's Online Bookshop">Blackwell's Online Bookshop</a> x. <a href="http://Book Searching and Price Comparison">Book Searching and Price Comparison</a> (Wichita Univ.)
2	Use of ICT in <b>checking duplication</b> of titles	Checking duplication titles	Koha ILMS for duplicate checking
3	<b>Placing orders</b> with the firm/Vendor/issue of online Indent (Acquisition)	Placing orders with the firms	Koha ILMS for purchase process in Acquisition module
4	ICT for <b>Online Processing</b> of newly arrived documents, eg. Classification and Preparation of Cat. Cards	Tech. Processing of newly arrived titles.	Classification: a. <a href="http://classify.oclc.org">http://classify.oclc.org</a> Cataloguing: b. <a href="http://www.oclc.gov">http://www.oclc.gov</a>
5	ICT for online <b>circulation control</b> in real-time mode	Circulation control	Koha ILMS Software
6	Use of ICT in <b>Collection</b>	Collection evaluation or	a. Collection assessment through Google Form

	<b>Evaluation</b> or Assessment	assessment	b. Through report generated through Koha IMLS
7	Use of ICT in <b>identifying obsolete documents for weeding</b> ( for example, analysis of circulation statistics)	Ascertaining least used and obsolete items	Koha ILMS by generating the reports of obsolete items
8	Use of ICT in <b>inventory control of the collection</b>	Inventory control/Stock verification	Koha ILMS
9	ICT to <b>check the pilferage</b> of learning resources (i.e. Security of collection)eg. Security software's	Prevention of theft & security measures for the collection	Implementation of RFID and Biometrics for enabling security to stop theft cases in library.
10	ICT for <b>overall management of library collection</b>	Housekeeping operations	Koha ILMS for all housekeeping operations in library
11	ICT for Current Awareness Services	CAS	a. OPAC b. Online user awareness programs
12	ICT for Alert Mechanism for circulated items	Alert mechanisms for titles on circulation	Koha ILMS
13	ICT for retrieval of the documents through search portal i.e. OPAC	Retrieval function	Koha ILMS
14	ICT for metadata harvesting	Metadata harvesting	Koha ILMS – z39.50 protocol
15	ICT for Resource Sharing such as Inter Library Loan	Resource <b>sharing</b> activities	a. Koha b. Google Drive
16	Management of online resources such as e-journals, e-books, e-cases, e-databases etc.	Online resources	Koha ILMS
17	Report generation of different library activities such as circulation, acquisition etc.	Report generation Activities	Koha ILMS

The advent of the modern computer and telecommunication technologies have substantially increased the capabilities of the libraries and information centers to provide all types of services using the new tools and techniques. Some of the services that are being currently disseminated to library patrons using new ICT techniques and tools portrayed in tabular form to understand their implications better:

**TABLE-3**  
**SOME NEW ICT TOOLS THAT ASSIST LIBRARIES TO FULFILL INFO NEEDS OF**  
**USERS USING LIBRARY'S COLLECTION**

S.No	Type of Communication	Type of Services	Implications & Areas
1	Instant Messaging	Online contact between two or more people.	1)A patron can synchronously communicate with the librarian.  2) Used for “Chat-reference” or “real-time reference”
2	RSS Feed (Really Simple Syndication Or Rich Site Summary)	Use XML	1) Summarizes Info. Items and links to Info. Sources;  2) Informs users about updates of libraries blogs or websites. 3)Librarian can notify the list of new additions/arrivals
3	Streaming Media	Consecutive or back to back livery encompassing several media message or text over a computer network displayed to the end user, eg.YTube	1) Facilitates to deliver online library' day to day instructions and User Orientation Programs.
4	Podcasting	A succession volumes of audio or video digital-media files diffused over Internet	1) It is syndicated download to Portable Media Players & PCs; 2)Library can create Podcasts to market its services &

			highlight new resources
5	Vodcasting	‘Video-on-demand’ similar to Podcasting. Vodcasts files can be played either on a laptop or on Personal Media Assistants (PMA).	1)Used to deliver video files; 2)Used in user-orientation programs & Video Lectures and so on.
6	SMS Enquiry Service	Delivers short messages over mobile network	1) Users can inquire about any information sources through SMS pertaining to library’s collection. A particular reference Desk/Ref Asst. can be dedicated to such service
7.	Blogs (or Web log)	A website maintained by an individual with entry of commentaries, a statement or events including graphics or videos on day to day basis. New resources, services, and events of the library can be announced using blog	1)Two way based powerful communication tool; 2) contains text, images or links to other blogs and web pages; 3) Helps Librarians to receive suggestions on library services & activities
8	Wikis	Open web pages to which anyone can register and can publish, amend, add or review any content	Library users can share their information, ask questions and answer questions
9	Social Networks	It has several communication tools including chat, messaging, email, video, voice chat, file sharing, blogging, and discussion groups to	1) A web based software facilitate to create a virtual social network of peoples 2)Helps people to share their interests



		discuss with others; MySpace, Facebook, Del.icio.us, Frappr, and Flickr are the few well known social Networking services.	and activities with others.
--	--	--	-----------------------------

(Source: Shukla, Akhandanand(2018) at: <https://www.researchgate.net/publication/327231604> visited on 12.7.21)

The literature on the subject indicates that, different authors and professional librarians have cited different LIS software with which they are acquainted and unfolded the role and implications each of these software that meaningfully address the myriad functions of collection building, development, and collection management. Though there is a number of LIS software and tools are currently available in the market, only three such software are addressing the collection development functions given in the following table to understand their implications better:

**TABLE-4**  
**KEY LIS SOFTWARE USED IN COLLECTION DEVELOPMENT AND MANAGEMENT ACTIVITIES**

<b>S. No.</b>	<b>Specific domain of Collection Dev &amp; Management Activities in which ICT is applied</b>	<b>Area of application</b>	<b>Name of the Software/SE /Hardware particulars</b>	<b>Library where it is used / implications</b>
1	Identification & Selection of items	Purchase suggestions received through Integrated Library System (ILS), etc.	Amazon, Flipkart, Publisher's site, Integrated Library System (ILS) used	Online shopping website or ILS used in the library makes the tasks of selection of items more easier and hassel-free
2	Use of ICT in checking duplication of titles	Integrated Library Management System (ILMS) Software used by the Library	Koha ILMS LibSys ILMS Virtua ILMS	Checking of duplication of titles through ILS becomes smoother.
3	Placing orders with the firm/Vendor/issue	Acquisition Module of the concerned ILMS Software	Koha ILMS LibSys ILMS Virtua ILMS	Placing orders through ILS not only becomes easier, but also less time

	of online Indent (Acquisition)			consuming
4	ICT for <b>Online Processing</b> of newly arrived documents, e.g. Classification and Preparation of Cat. Cards	Cataloging Module of the concerned ILMS Software	Koha ILMS LibSys ILMS Virtua ILMS	Receiving/processing orders and cataloging the newly arrived titles through ILS becomes now becoming easier.
5	ICT for online <b>circulation control</b> in real-time mode	Circulation Module of the concerned ILMS Software	Koha ILMS LibSys ILMS Virtua ILMS	Circulation Job becomes easier through ILS which enables the staff to track the status of a item.
6	Use of ICT in <b>Collection Evaluation</b> or Assessment	Report Module of the concerned ILMS Software	Koha ILMS LibSys ILMS Virtua ILMS	Report module of ILS helps the Librarian for analysis or evaluation of items/resources.
7	Use of ICT in <b>identifying obsolete documents for weeding</b> (for example, analysis of circulation statistics)	Circulation statistics of the report module of the concerned ILMS Software	Koha ILMS LibSys ILMS Virtua ILMS	Circulation statistics through ILS may enable the Librarian to identify the obsolete and out-dated and least used documents
8	Use of ICT in <b>inventory control of the collection</b>	Cataloging and Report Module of the concerned ILMS Software	Koha ILMS LibSys ILMS Virtua ILMS	Cataloging module of ILS
9	ICT to <b>check the pilferage</b> of learning resources (i.e. Security of collection) e.g. Security software	Firewall/Anti-Virus, Security of the ILS Server	Firewall/Anti-Virus, SSL certificate need to be installed in the ILS Server	For better security, SSL certificate need to be installed in the ILS Server in order to convert HTTP to HTTPS
10	ICT for <b>overall management of library collection</b>	Library Automation (LA), Institutional Repository (IR), Library Website (LW), etc.	LA – Koha IR – DSpace LW – Drupal/Joomla/WordPress CMS	

### **Application of ICT in Collection Development: Challenges**

Every new system has some merits and pitfalls and has its own limitations. ICT e-resources are no different to this. The following are some of the limitations of ICTs in collection development process commonly encountered by some academic libraries.

- (a) Stupid internet speed strangled and makes difficult to download publishers' catalogues and book reviews, invoices at a faster pace;
- (b) Non availability of online selection tools for local publishers and suppliers. For books published or available locally, one has to move from one bookshop to another to ascertain whether the needed titles are available;
- (c) Credence of e-documents by the Management. For instance, invoice sent through e-mail often are not entertained to effect payment.

According to a survey, the library collection development trend of e-resources in seven older IITs of the country unfolds the extent to which the e-resources could capture space in the Collection development policy of the concerned libraries, in addition to traditional materials to cope with the emerging digital age.

**TABLE-5**  
**THE COLLECTION DEVELOPMENT TREND OF E-RESOURCES IN SEVEN OLDER IITs OF INDIA**

		IR	Total e resources	Newly added	e books
IIT Bomby	AR 19-20	25278	2000000	3568	
	AR 18-19	22257	2000000	1739	747
	AR 17-18	20780	2000000	1388	78
	AR 16-17				
	AR 15-16	18107		1468	414
IIT Delhi	AR 19-20	6176	60000		436
	AR 18-19	5882	60000		190
	AR 17-18	5494	20000		92
	AR 16-17	5176	20000		610
	AR 15-16	4934	20000		238
IIT Guwahati	AR 19 - 20	1313	27557		2,03,640
	AR 18-19	819	27492		1,88,516
	AR 17-18	1666	25143		1,80,559
	AR 16 -17	1565	24264		1,53,089
	AR 15-16	1471	24012		1,47,463
IIT Kanpur	AR 19-20	17622	13200		901
	AR 18-19	16927	12000		NA
	AR 17-18	16300	10234		NA
	AR 16-17	15364	10550		

	AR 15-16	NA	10646	
IIT Madras	AR 19-20	8707		12561
	AR 18-19	8312		8684
	AR 17-18	7773		7964
	AR 16-17	7173		6681
	AR 15-16	7150		6115
IIT Roorkee	AR 19-20	828	NA	1665
	AR 18-19	1178	NA	1442
	AR 17-18	1051	NA	0
	AR 16-17	1546	NA	0
	AR 15-16	37	NA	800
IIT Kharagpur	AR 19-20	359		
	AR 18-19	315		
	AR 17-18	302		
	AR 16-17			
	AR 15-16			

Now, the Library Planners and Collection Development Managers/Acquisition Librarians, therefore, need to introspect on the aforesaid limitations and address these constraints in the planning of their collection development policy so that these challenges which appear to be vestigial can be avoided to make the collection development function of their respective libraries much smoother and hassle-free.

## REFERENCES

**Kaur, Rajinder** and **Gaur, Rupesh** (2017). Collection Development in Academic Libraries with Special Reference to Digital Era. *International JI. of Digital Library Services*; 7 (2): 2017; April-June; p.110.

**Kavitha, R** (2009). "Collection development in digital libraries: trends and Problems". In. *Indian Journal of Science and Technology*; 2(12) Dec 2009; pp.69-70.

**Ranganathan, S. R.** (1931). *The Five Laws of Library Science*. Madras Association (Madras, India) and Edward Goldston (London, UK). Retrieved from <http://arizona.openrepository.com/arizona/handle/10150/105454>

**Roy, Himanish**; Sarkar, Sangita; and Mazumder, Sourav. A Comparative Study of Circulation Module of Some Open Source Management Software. *IndKoha*. <http://eprints.rclis.org/40771/1/LIS%20Circulation%20Module.pdf> visited on 6.7.21.

**Withita State University.** Collection Development: Tools for Selecting and Purchasing of library materials (<https://libraries.wichita.edu/c.php?g=464279&p=3218667>; visited on 8.7.21)

**Humanity Development Library 2.0** (<http://www.nzdl.org/cgi-bin/library?e=d-...> Visited on 8.7.21.

**Force Intellect** (<https://forceintellect.com/2020/12/11/purchase-indent/> visited on 8.7.21) Posted on Dec 11,2020.

**Shukla,Akhandanand(2018)** at: <https://www.researchgate.net/publication/327231604> visited on 12.7.21) Research Gate.

**Evans, G. E., & Saponaro, M. Z. (2005).** *Developing Library and Information Center Collections.* Westport: Libraries Unlimited.

**Kasalu, S., & Ojiambo, J. B. (2012).** Application of ICTs in collection development in private university libraries in Kenya. *Collection Building* , 31 (1), 23-31.

**Krubu, D. E., & Osawaru, K. E. (2011).** The Impact of Information and Communication Technology (ICT) in Nigerian University Libraries. *Library Philosophy and Practice (e-journal)* .

**Okogwu, F. I. (2018).** Challenges of Collection Development of Electronic Resources in University Libraries in South East Nigeria. *Library Philosophy and Practice (e-journal)* .

**Seetharama, S. S. (1997).** Collection Development/Management in an Information Technology-Based Environment: Current Initiatives and Issues. *DESIDOC Bulletin of Information Technology* , 17 (1), 11-20.