

Library Practices and Digital Technology: A Case Study of Dr. M. D. Patel Regional e-Library - Anand Agricultural University

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***Abstract** - The emerging digital technology also known as information and communication technologies have been transforming all kinds of library and information centers. The rapid changing and economically viable digital technologies are user friendly, durable, time saving and accurate in different library operations. Many libraries adopting digital technologies to revamp traditional practices of library management exist today. This paper highlights different digital technology implementations took place in last few years in the Dr. M D Patel Regional e-Library (MDPL, Central Library) of Anand Agricultural University (AAU) to transform it from traditional to digital in all spheres of library practices.*

Keywords: Digital Library, Digital Technology, Library Practices, KOHA, RFID

1. Introduction

The first and foremost motto of library is providing the right Information to the right users at the right time in right manner. The digital technology particularly the Internet and the Web, have brought massive changes in the ways of information preservation, dissemination, access, and use [1]. Traditional libraries are adapting new applications of digital technology for learning, research, and information dissemination [2]. Digital technologies and globalization has changed the libraries from traditional to digital libraries in which every work is done by computer [3]. Digital libraries promote digital technology enabled library practices in which library management and library services are offer using different digital technology interventions.

2. Digital Technology and Library Practices

Dr. M D Patel Regional e-Library(Central Library) of Anand Agricultural University has been using digital technologies for different library practices. The important digital practices with their advantages and disadvantages are discussed in length for librarians.

2.1. Library Entry with Selfi Kiosk

In tradition library, the movement entry of the member is recorded in the register. The process flow is depicted in the following figure 1.

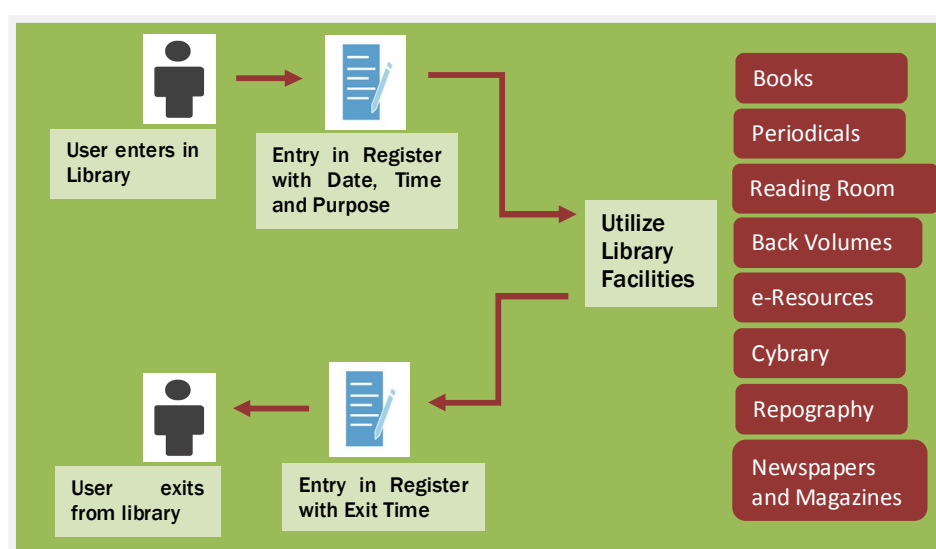


Figure 1: Movement Entry in Traditional Library

The above method has following disadvantages.

1. Requirement of Physical Register: Physical register is required for daily entry. Entry made by library visitor is manual.
2. Manual Calculation: Manual calculation is to be carried out to generate reports for users/day, users/week, users/month etc.
3. Problem in Search: Particular record searching is cumbersome.
4. Outdated Method for Attendance: Users consider it as tedious practice in digital era.

Library has introduced an innovative digital kiosk entry point. The kiosk requires selfi photo to register his/her entry. The process flow is given in figure 2.

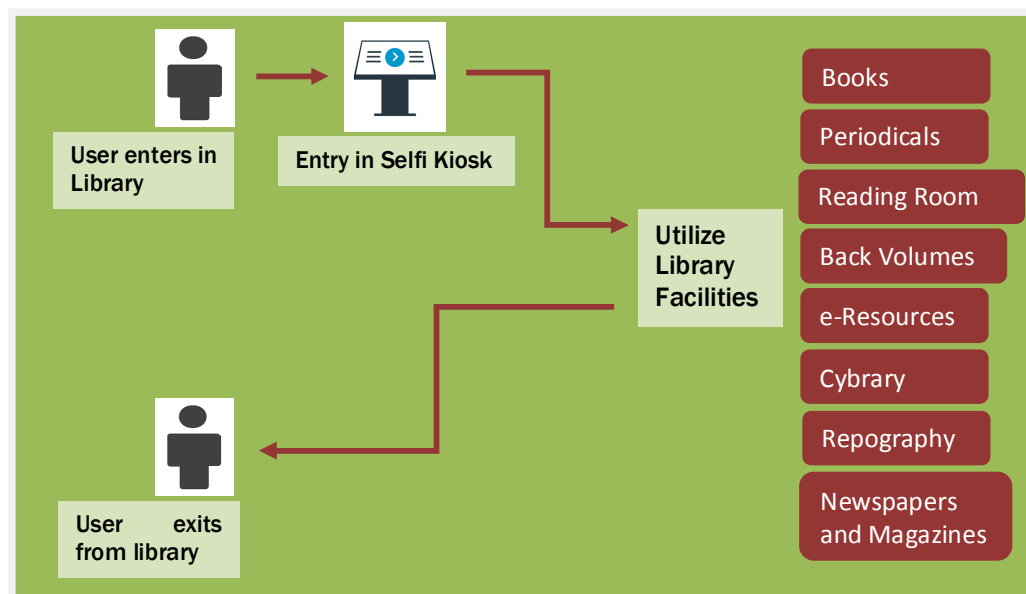


Figure 2: Movement Entry in Digital Library

The above method has following advantages.

1. No Register: Using selfi kiosk, user entry is register using a selfi click, photo is taken and stored in the software. Physical register is not required.
2. Customized Reports: The software developed for selfi kiosk can generated different reports. Reports like number of users/day, users/week, users/month etc. can be generated as and when required. This will save lot of time and increases productivity of library staff.
3. Searching of Record: Searching of a particular entry is possible. Identification of member is also possible because photo based entry is saved in the computer software.
4. Modern Approach: Users consider it as modern practice in digital era.

2.2. Library Management with KOHA

Library has been using KOHA Open Source Library Management System for its different library operations like acquisition, serials, book issue return, membership, fine and WebOPAC. KOHA has been access under SAAS (Software As A Service) cloud model. Hence, Library does not require any Server infrastructure to run this Library Management System and software is available using internet and browser software. The implementation of Cloud based KOHA is depicted in figure 3.

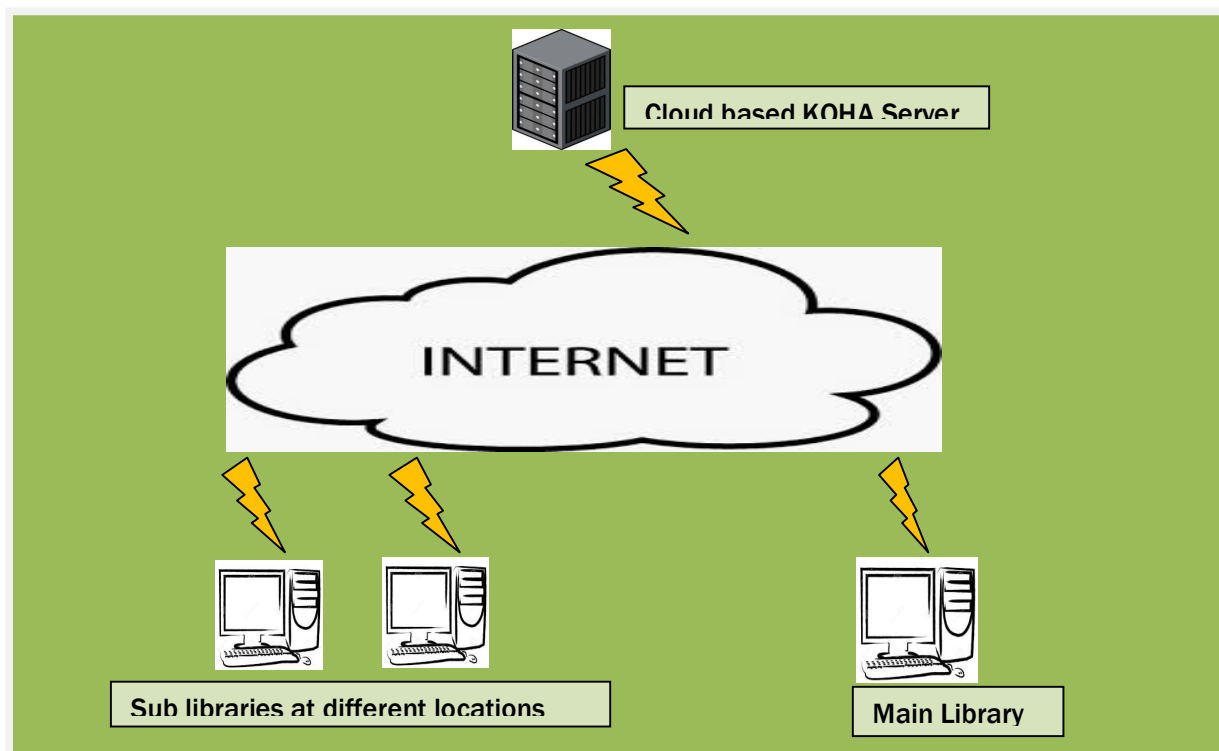


Figure 3: Implementation of Cloud based KOHA

This library practice gives following advantages.

1. Free and Open Source KOHA: KOHA is free and open source software for library management system. Using KOHA, saves recurring purchase cost of software.
2. Cost saving in IT infrastructure: KOHA as SAAS cloud model offers to run KOHA software in cloud server. Our cloud server located outside the premise of library. It can be access easily using internet based computer. This will give great cost saving in IT infrastructure because no library space is required for Server and network connectivity, 24X7 power backup, Air conditioning and other arrangements required for server room set up.
3. Computerized Library Management: KOHA gives computerization of library management activities like acquisition, serials, book issue return, membership, fine etc.
4. Integration of Sub Libraries: KOHA software has a facility to create sub libraries under Main library. This feature allows Integration of other university sub libraries at different locations. Two sub libraries at different locations then main library are integrated in KOHA software to carry out library operations in computerized way.
5. Accurate and Hassle free management: All library operations are carried out accurately with computerized entry of day to day library activities. Use of barcode readers to read barcoded books for issue-return, automatic fine calculation, return date calculation, fine collection using Debit Card etc. makes library operations hassle free.

6. WebOPAC: WebOPAC(Web based Open Access Catalogue) is a single point for library users to access entire library catalogue from anywhere. WebOPAC searches library learning resources from library repository and display results to the user.
7. Report Generation: KOHA generates all types of customize reports required by higher management time to time.

2.3 Electronic Resources and its Access

Electronic Resources consist of contents that is stored and displayed digitally and accessed through computers and other electronic devices. These resources are mostly referred to as online or offline or database or digital content or media. The main aim to procure/store electronic resources is to extend access to library resources regardless physical location[4]. The library disseminates electronic resources using campus wide intranet facility. This is shown in the figure 4.

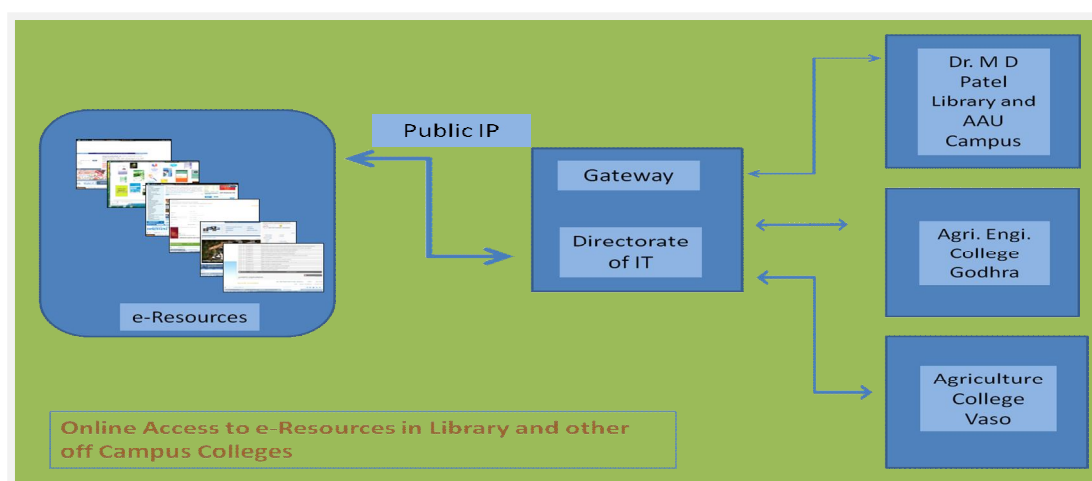


Figure 4: Online Access to electronic resources in main campus and other off campus colleges

This library practice gives following advantages.

1. Electronic resources are accessible with internet connected computer without visiting library in entire campus as well as few outside stations.
2. Electronic resources have no restriction of time and quantity. Hence, user can view/download any number of electronic resources at any time. Library timings are out of consideration for accessing electronic resources.
3. Multiple users can view/download same electronic resource as single copy of print resource cannot be shared in this manner.

2.4 Food For Thought and News Clipping Service

The main goal of Food For Thought service of library is to update library user with fresh, innovative, thought provoking library material. News Clipping Service of the library provides different university matters published in different local and national level print media especially in news papers and magazines. Few years back, library provide these services using regular

method of delivery, printing number of copies for the respective stack holders, and manually distribute in different departments. The practice has following major disadvantages.

1. Requirement of Human Resource: To circulate Food For Thought and News Clippings, one staff member is required. Library is already facing staff shortage and recruitment of new staff is nearly impossible in near future. In this situation, staff involvement in more productive activity is desirable.
2. Print out and Paper Wastage: The above mentioned practice requires print out of Food For Thought and News Clippings. Sometimes, information is sufficient for stack holder and print out is of no use.
3. Long Delivery Time: It use to happen that Food For Thought and News Clipping services may take 3-4 days to reach to different stack holders of university departments.

Library has introduced new innovative practice to deliver Food For Thought and News Clipping Service using available digital infrastructure in the university. The process flow is depicted in figure 5.

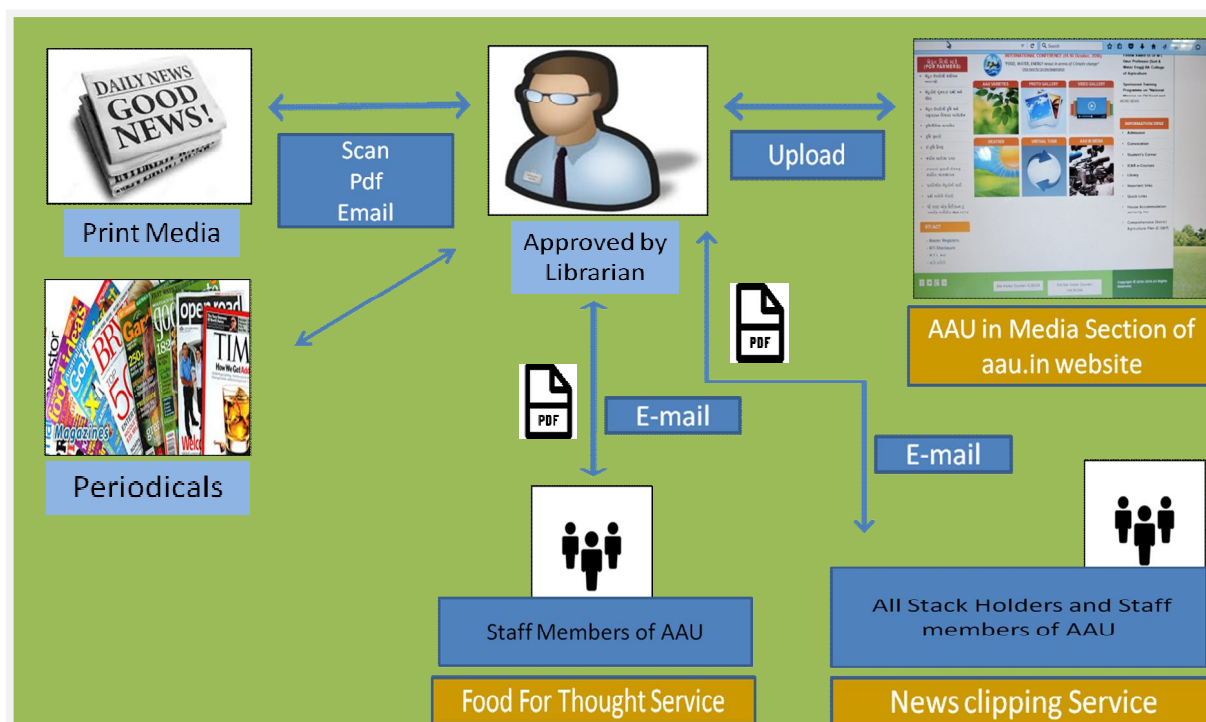


Figure 5: Food For Thought and News Clipping Service using Digital Technology

This innovative library practice has following advantages.

1. No Requirement of Human Resource: Food For Thought and News Clippings are circulated in stack holders or staff member’s official e-mail. No staff member is required to deliver it office to office.
2. No Print out and Paper Wastage: Food For Thought and News Clippings are circulated in stack holders or staff member’s official e-mail. User can take print out

later on if he/she desired to do so because copy is available in mailbox for long time. It stops unnecessary print out practices as well.

3. Instant Delivery: Both services are faster compare to old practice as mail delivery is instant to the users.

2.5 RFID(Radio Frequency Identification) Library Management System

Dr. M D Patel Regional e-Library has been using barcoding system for text books / reference books and other issuable library materials. Issue Return of library material is carried out by barcode reader and recorded in KOHA library management system. There were no library theft detection system exist in the library. RFID is the latest technology to be used in library theft detection systems. Unlike EM (Electro-Mechanical) and RF (Radio Frequency) systems, which have been used in libraries for decades, RFID-based systems move beyond security to become tracking systems that combine security with more efficient tracking of materials throughout the library, including easier and faster charge and discharge, inventorying, and materials handling. The process flow is depicted in figure 6.

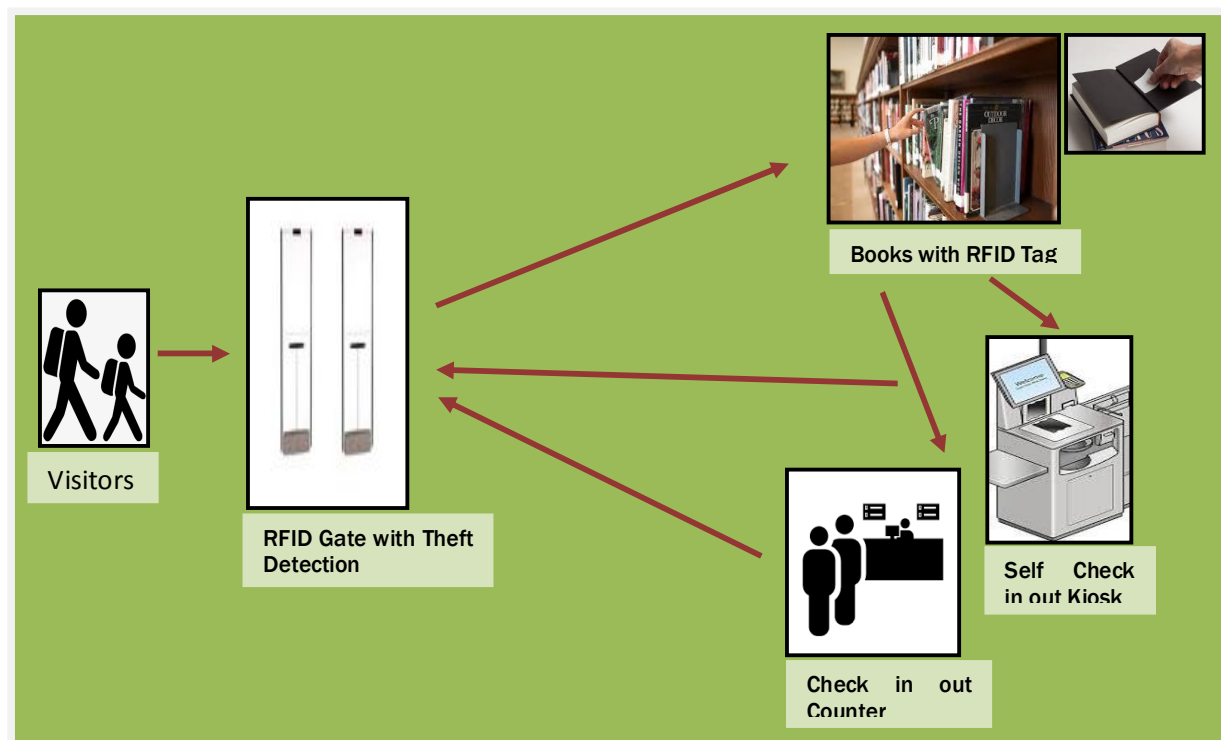


Figure 6: RFID Library Management System

RFID based library management system has following advantages.

1. Rapid check-out / check-in: RFID reduces the amount of time required to perform circulation operations. Multiple books / reference materials can be check-out / check-in in no time.
2. Patron self check-out / check-in: Using self check-in / check-out kiosk, patrons can perform circulation operations on their own without help of library staff. RFID

system's back end integration with KOHA will take care of renewal, fine charges and other patron policy related issues.

3. High reliability: RFID systems claim an almost 100 percent detection rate using RFID tags. There is no false alarm if system is properly tuned.
4. Long tag life: RFID tags last longer than barcodes because nothing comes into contact with them. Most RFID vendors claim a minimum of 1,00,000 transactions before a tag may need to be replaced.

2.6 Institutional Repository

Anand Agricultural University carried out education, research and extension activities in various frontier areas of agriculture. During these activities, lot of knowledge is generated in the form of Dissertation, Theses, Research Publications, Research Recommendations, Policy Papers, Seminar Publications, Annual Reports etc. The need has been felt by the library to create Institutional Repository a digital archive where a university community's intellectual work is made accessible and preserved. A university-based institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. Anand Agricultural University has become active member of Krishikosh, an Institutional Repository set up by ICAR (Indian Council of Agricultural Research). The Krishikosh repository accumulates knowledge in agriculture and allied sciences, having collection of old and valuable books, old journals, thesis, research articles, popular articles, monographs, catalogues, conference proceedings, success stories, case studies, annual reports, newsletters, pamphlets, brochures, bulletins and other grey literatures spread all over the country in different ICAR Research Institutions and State Agricultural Universities (SAUs). The process flow of enriching institutional repository is depicted in figure 7.

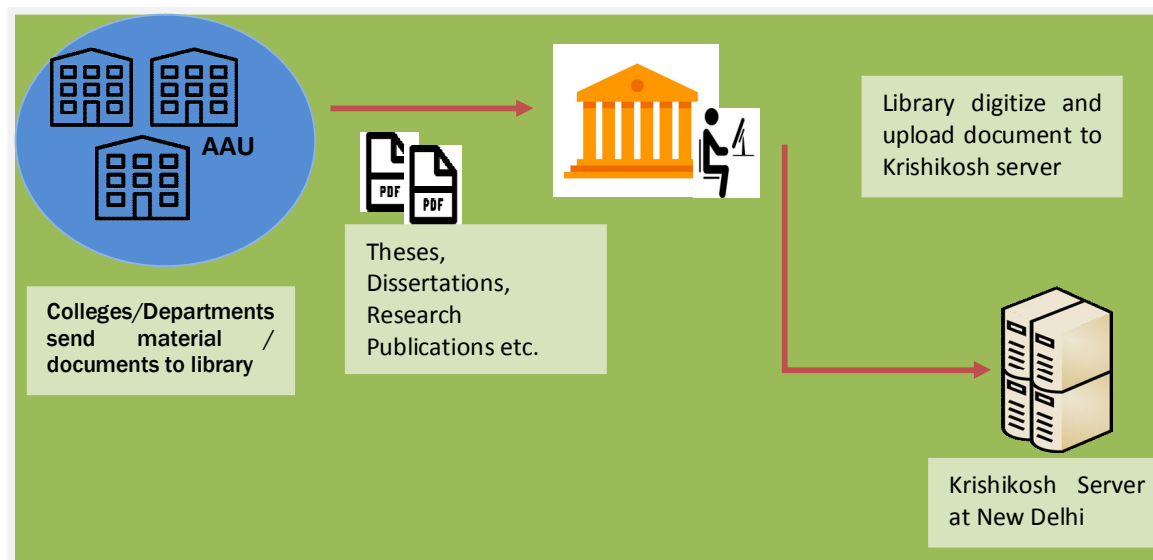


Figure 7: Institutional Repository Service at Anand Agricultural University

Krishikosh Institutional Repository has following advantages.

1. It has develop a national research repository infrastructure where all scholarly material from all over the India is available from anywhere at anytime.
2. It will simulate development of services that draw on research information made available through the repository.
3. It will improve visibility and status of the University/Institute.
4. All available material can be access free of cost.

Conclusion

Digital Technology is transforming practices in different business areas. It is becoming user friendly, affordable, reliable and accurate. Digital technologies like Printers, Scanners, Internet Connectivity, Mail facility, library management software like KOHA, RFID System, Barcode readers etc. are gaining popularity in library practices. This paper discusses different library practices transformed with digital technologies in Dr. M D Patel Regional e-Library at Anand Agricultural University and its impact on overall productivity of library operations.

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