
A Snapshot of Traditional Library to Modern Library Using Bar Code Technology: An Experience of Central Library GNDEC, Ludhiana

Manpreet Singh

Lib. Assistant

Guru Nanak Dev Engineering College, Ludhiana

E-mail: lib.msc@gmail.com

Abstract

This paper tries to highlight the transformation of central library of GNDEC, Ludhiana into a modern library using (ICT Technology) bar code technology. The utility of bar coding for faster library transactions is time-saved, and more and more computerized libraries in our country are using this technology. The bar code technology operations of circulation section have become efficient and error free.

Keywords

Bar code, ICT libraries, GNDEC, Modern Libraries.

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INTRODUCTION

The advent of Information and Communication Technology (ICT) has brought about transformation in different aspects of human endeavour including education. Many libraries today have transformed their manual operations to new ways by using technology. Information and Communication Technology (ICT) comprises a diverse set of technological tools to identify, collect, organize, create and disseminate data and information. The ICT encompasses a wide range of technologies including telecommunication technologies, such as telephony, cable, satellite, TV and radio, Computer-mediated conferencing and video-conferencing, as well as digital technologies, such as computers, information networks (internet, World Wide Web and Intranet) and software application.

In India the information and communication technologies (computer technology) have boomed in the field of library and information/ documentation centres in 1990s. Now use of information technology in library and information centres has become common. Computer technology is the most popular and widely used technology in library and information centres. Computers are used for collection, organization, storage, analysis and dissemination of information. [1]

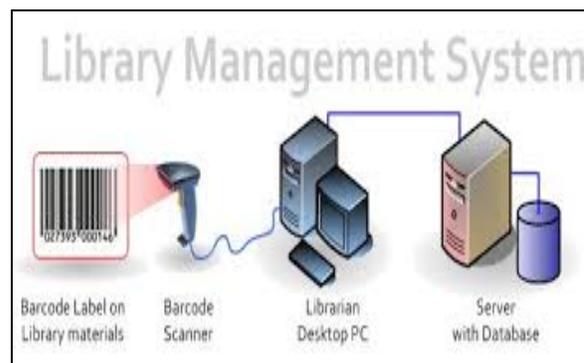


Illustration 1: Bar code of Library materials

Bar code technology is one such technology being implemented in the libraries at an accelerated pace. Bar codes are self-contained machine-readable identification labels with information encoded in a series of black bars and white spaces of varying widths that represent digits and other punctuation symbols. These are readable only through a reader or a scanner. A basic bar code scanner consists of a decoder and a scanner. The basic operation of a scanner is to scan a bar code symbol and provide an

electrical output that corresponds to the bars and spaces of a bar code. The bar code technology originated out of the need of retail stores and big industries to track down their inventory errors in a faster way. Due to the cheap human labour available in our country, the estimated bar coding market was a mere 12 cores in 1995-96', out of which libraries and miscellaneous services accounted for only 1 corer. Libraries need to adopt this technology as it helps retrieve and collect data quickly and efficiently. [2]

WHAT IS A BAR CODE

Bar code is a code in a printed form, which can be easily read by a machine connected to the computer and the codes in the labels can be stored in the computer database. In others words, Bar codes are simple machine readable codes that the computer can reproduce directly into the bit streams of zeros and ones, which is the machine language of all computers also known as the digital language. The information or data is encoded using the width of printed bars, the width of spaces between bars and the relative positions of wide or narrow bars and spaces.

A bar code is a machine readable code consisting of a series of bars and spaces printed in defined ratios. Bar code symbologies are essentially alphabets in which different widths of bars and spaces are combined to form characters and ultimately a message. [3]



Illustration 2: general bar code arrangement

REVIEW OF LITERATURE

The review of literature is the study of which have been done others researchers. A number of relevant studies have been carried out on various aspects of Bar Code use in libraries. Only a small number of studies have been reviewed here.

Munro, Suzanne (2013) the project took place during the university long vacation of 1992- 93. The SMART bar code label had to match the bar- code with the book, by linking the call number and the OCR

number on the book with that on the bar code label. No other tool, such as a printout, was to be used. At the same time, the information on the bar- code label had to be kept to a minimum to reduce production costs. Vasishta, Seema & Dhanda, M. K. (2010) in her study the appraise the transformation of a traditional library into a modern library with the help of bar code technology. Appraisal has been made by comparing the per-requisites and practices of the method used earlier in the Central Library, PEC University of Technology. Manjunath, G. K. (2002) in his study discuss the benefits of bar code technology and gives guidelines for selecting the hardware/software highlighting' the. Features of scanners and printers. Author also given some tips on necessary for purchase of software. The objectives of the study is to find out the achieve accuracy of work and reduce the overall cost. Jeevan, V. K. J. (2000) discuss the utility of bar coding for faster library transactions are time-saved and more computerised libraries using this technology. The circulation work in an automated library involves keying in a large amount of data. Sometimes, the library staffs at the counter have to retype the same information due to error in data entry.

STATEMENT OF THE PROBLEM

The problems selected for the present study is entitled "A Snapshot of Traditional Library to Modern Library using Bar code Technology: An Experience of Central Library GNDEC, Ludhiana".

PURPOSE OF STUDY

The study aim was to find out the use of different ICT products in GNDEC library. Bar code is one of such ICT product which is improving the operational efficiency and save the time of users on lending services.

OBJECTIVE OF STUDY

- To identify the ICT based services.
- To find out the improve operational efficiency.
- To find out the work efficiency.
- To find out make stock verification an easy carry out.

TRADITIONAL METHOD

Pre-requisites:

The most important pre-requisites is to prepare a book under the technical section for the issue for use.

Earlier received the new books first of all order is verified by the competent authority and tally by order and after accession the books in accession register. The technical section also classified and cataloguing the all books. After technical processing books forward for pasting, preparing book card and stamping for each etc. All the circulation activities done manually, including the registration of new library users and given new library tickets. The issue and return the books use the brownie system for lending the books. Four tickets are issued to each library users expect employed. Users can borrower's four books at a time. For staff members there are separate borrowers register are maintained.

Bar coding at Central Library, GNDEC, Ludhiana

The central library of GNDEC had started the bar coding system in 2012. Initially the computerized issue and return of books was done by keying in the accession number of books and through roll number of users. Through this mechanism some errors are faced by staff members. Special emphasis on the bar coding of all library books by respected Director of college, the amount was sanctioned for the purchase of Bar code printer and others stationery. The two TSC bar coder and two scanners (manufactured by TSC Auto ID Technology CO. Ltd. Taiwan) are purchased. After the installation of Bar code on HP system by BM InfoTech. Ludhiana. The system generates two labels for each book to be pasted on the front cover page and last page with laminated with cello tape. For bar coding side by side, new books processed by the technical processing section were also bar coded before release.

The central library using the E-Granthalaya Library Management Software, the product of NIC, New Delhi. E-Granthalaya covers all the housekeeping functions and Web enabled search facility. It is continuous updated and presently 3.0 (26) version is available. It is easy to operate with user-friendly. It has also a set user defined security and multi client users. Bar code printer connected with PC and print out bar code with the help of E-Granthalaya. Yet the students were not given bar coded library identity card. Books issued only entered students' membership number and books are issue and return through scanner. The bar code facility will be further extended on ID card for students and staff in future. This practice not only resulted in saving the time of students but also a total saving the time of staff.

Bar code labels:

Bar code labels are printed on self adhesive labels. The system generates two labels for each book to be pasted on the front cover page and second paste last page with laminated with cello tape. For bar coding side by side, new books processed by the technical processing section were also bar coded before release.



Illustration 3: Bar code machine

PLANNING AND PROCEDURES

To carry out the project in the limited time, so the required a great deal of planning in advance.

- Before the commenced the bar coding the basic training given to the staff member to how to operate the printer, How to change the paper roll etc.
- Mostly all staff members are assigns the duty to carry out this project.
- The process for attaching the bar code labels each book was taken off the shelf and checked their call number etc. Those books are not found exact matches were placed on bottom of the table and correction was done day by day by senior library staff member. After bar coding book was returned to the shelf.
- Senior library staff members would be available to assist with problems related bar coding.
- The bar coding stated during the college summer vacation in 2012 and near about 50% general section covered. Till date general has covered the bar code and welfare section under the processing.

HANS-HELD BAR CODE SCANNER

Central library operate a hand-held bar code scanner (TSC Model no. HCS-200) for scanning the bar code of Books. It is optical system 2048 pixels CCD and multi-interface based on HCS-200-U: USB.



Illustration 4: Bar code Scanner

It is also referred as a LED scanner. For scan the document the nozzle of the scanner is simply placed on the bar code and press the button of scanner.

ISSUE/RETURN SYSTEM

After the bar coding of books the circulation section their perform duty with very efficiently and faster. The library management software supports all front desk operations like Membership of new users, renewals, Issue return books and also generate reminders overdue. when the bar codes are scanned, the details of book are displayed on the screen. This reduces the error percentage at the circulation counter and circulation transactions done very fast and time saving. The details of students are display through enter the Roll number of students. In future

BENEFITS OF BAR CODE TECHNOLOGY

Bar code is a well established technology and all industries have reaped the benefits of this innovation. Bar code technology is most accurate and least. Expensive way to identify and get data from the computer very fast. The role of bar code technology in the library is quite high. The following benefits of Bar code technology are.

- Operational efficiency: - Operational efficiency has improved a lot after using the bar code technology as bar codes permit faster recording of information form computer and bar code labels.

- Time saving: - Bar code technology is faster to capture the data.
- Accuracy: - Bar code technology is accurate in data input and error free.
- Represent unique identity of product.
- With the help of bar code technology issue/return of documents can be done faster, which helps in saving the time of both the user as well as library staff.

DIFFICULTIES DURING BAR CODE

- ⤴ Difficulties experienced during the bar coding work are the books are take off from shelf and after bar coding the arrangement of books according to classified is time consuming.
- ⤴ Ensure work flows where collections were being moved at the same time as the bar coding project was taking place smoothly.
- ⤴ Books without bar coding are not issued to students at the same time.

CONCLUSION

Bar code technology become particularly useful for export units, where detailed information on individual components have to be maintained not only for their own use, but for the excise department, customs, but also bar code technology operations of circulation section have become efficient and error free.

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