

# Collection Development and Management in Digital Era based on Circulation Data of Library Management System

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**ABSTRACT:** Evaluation of existing collection and identification of circulation behavior of users help for decision-making related to library collection development and management. The circulation data recorded by Integrated Library Management Systems are very useful in identifying user behavior. Hence, this study extracted data about most circulated items within the year 2017. Library, Faculty of Agriculture, University of Ruhuna, Sri Lanka was selected as the target library. A report of top 100 circulated items was generated using Information System of University of Ruhuna (ISURu). The results of this study revealed that users of Agriculture library preferred to read item written in Sinhala than English. Users preferred to read Agriculture related materials, Sinhala literature and Sinhala translations of English literature. Library management should identify items with high demand and user borrowing pattern using circulation data. Library management can make decisions for collection development and management based on circulation data.

**Keywords:** Automation, Borrowing Pattern, Circulation, Library Management, Sri Lanka

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## 1. Introduction

Introduction of Integrated Library Management Systems (ILMS) into library management sector is one of the greater innovation of Digital Era. ILMS is the key behind effective and efficient library management with overcoming lack of staff in most of the libraries. The features in ILMS helps libraries in several ways. Online Public Access Catalogue, user accounts, fine calculation and circulation are some of the direct services provided by ILMS. Furthermore, it keeps in-depth records of circulation data such as book issued, return, date and time of circulation, user details, number of checkouts etc. These records are very useful in decision-making. Manual collection of circulation data is very time incentive work. Moreover, human behavior changed when they realize that, their behavior is observing. Hence, circulation data saved in ILMS help to get a correct clear image about users borrowing pattern. Library management can use these data for library collection development and management.

Agriculture Library is one of the oldest branch libraries in University of Ruhuna. It is catering to around 1600 patrons including undergraduate and postgraduate students; academic staff and non-academic staff of the faculty. It consists of around 23,000 items. Agriculture library is maintaining several sections within the library such as; lending section, reference section and permanent reference section. Lending books (around 14000 items) are issued for a period of two weeks for students and for one month for staff. If needed users can extend borrowing period of lending books for another two weeks using ILMS. Materials available in the reference section (around 1000 items) are issued for overnight use for students and for seven days for staff. Reference materials are issued after 3.00 p.m. and must return before 10.00 a.m. on the following date. Permanent reference materials (around 7000 items) are intended strictly for reference within the library. Users cannot borrow permanent reference books. The identification of effectiveness of existing collection to fulfill users' requirement is an essential activity. Hence, this research is focused on identification of effectiveness of existing collections in the Agriculture Library to full fill users' borrowing requirements.

## 2. Objectives

Objectives of this study are;

1. To identify patrons information requirements using their borrowing pattern.
2. To identify patrons language preference.

## 3. Literature Review

Collection development and management are essential activities behind effective and efficient library service. Collection development is

*“a process of systematically building library collections to serve study, teaching, research, recreational, and other needs of library users. The process includes selection and deselection of current and retrospective materials, the planning of strategies for continuing acquisition, preservation and evaluation of collections to determine how well they serve user needs” (Pandita 2005, p.108).*

Simply, the main purpose of collection development is fulfilling user requirements.

Library automation allows several facilities that can be utilized for library collection development and management (N.A. 2016). Librarians can generate reports about the current collections such as a number of items, collection type, location, purchased date, edition etc using ILMS. Furthermore, it facilitates features that can be used for weeding of library materials. Conversion of lending materials to reference material or vice versa using ILMS is a very easy task. Library network of the University of Ruhuna consists of the Main library at main university premises and five branch libraries in faculties situated outside the main university premises. Agriculture Library situated in Faculty of Agriculture is one of the oldest branch libraries of University of Ruhuna (University of Ruhuna Library 2017). The collection development policy of considered library, specifically focused on degree programs offered by Faculty of Agriculture, University of Ruhuna.

## 4. Methodology

The data of this study was collected using the statistical data related to circulation recorded in the Library Management System of the University of Ruhuna. Following search strategy was used to collect the necessary data.

Most-circulated items; Checkout date from (01/01/2017); To (31/12/2017); Library (Agriculture Library); Item type (Lending and Reference); Collection (Lending Collection and Reference Collection); Patron category (Staff and Students); Limited to (100 titles).

## 5. Results and Discussion

The figure 1 illustrates the distribution of checkout count of the top 100 most circulated item in Agriculture library.

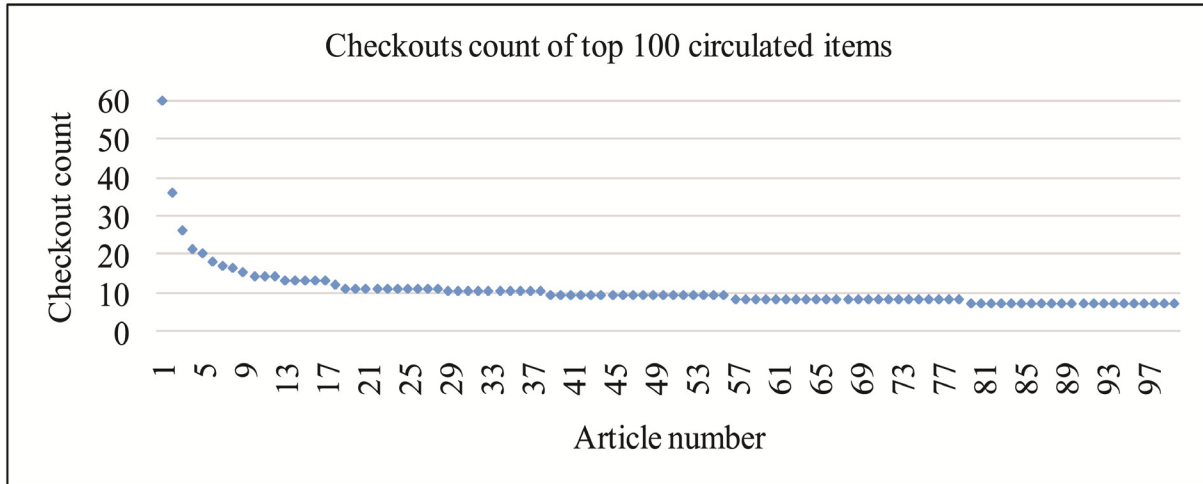


Figure 1. Checkouts count of top 100 most circulated items

The checkouts counts of considered items were varied within 60 to seven. A book about animal production written in Sinhala by a senior professor in Faculty of Agriculture was the top most circulated item with 60 checkouts within the considered year. The second most circulated item was a book written in Sinhala about scientific poultry management also authored by a senior professor in the Faculty of Agriculture. It was checked out 36 times within the considered time period. Which, shows that patrons preference to read subject related books written in Sinhala and written by academic staff members of the faculty. The top seven article with highest circulation count are related with subjects taught in the Faculty of Agriculture.

The most of the library materials in Agriculture library of the University of Ruhuna are written English or Sinhala. The Figure 2 illustrates the language of top circulated items. According to the Figure 2, three-quarter of (77%) of most circulated items were written in the Sinhala language. Only 23% items were in the English language.

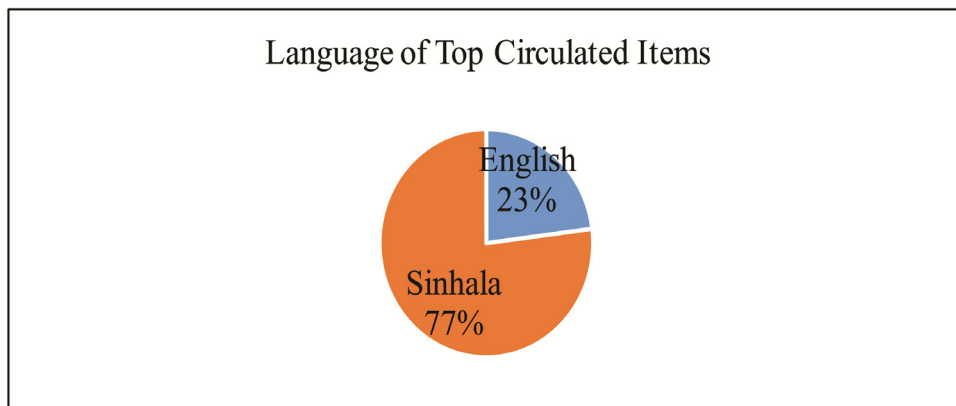


Figure 2. Language of top most circulated items

The degree programs offered by Faculty of Agriculture, University of Ruhuna are conducting in English medium. However, patrons preferred to read library materials written in Sinhala medium. Further research must conduct to identify the reasons behind patrons language preference of reading materials.

Table 1 shows the subject areas covered by the top most circulated items. According to the Table 1, Agriculture related items (23) and Sinhala literature related items (23) were the most borrowed items by patrons of Agriculture library. The third most circulated category is English literature (21). A large majority of items coming under Sinhala literature and English literature are novels. All the English literature items borrowed by patrons are Sinhala translation of English novels. Hence, novels written in Sinhala or

Related Subject Area	Frequency
Agriculture	23
Sinhala literature	23
English literature	21
English language	7
Economics	6
Mathematics	6
Psychology	5
Biological Science	5
Medicine	1
Management	1
Production	1
History	1

Table 1. Related subject areas of top most circulated items

translated into Sinhala are the most popular items borrowed by patrons of Agriculture library.

Agriculture library of the University of Ruhuna is maintaining several collections within the library; Lending collection, Reference collection and Permanent Reference collection. Each collection has different policies related with the circulation. Figure 3, demonstrate the collection wise distribution of top 20 most circulated items.

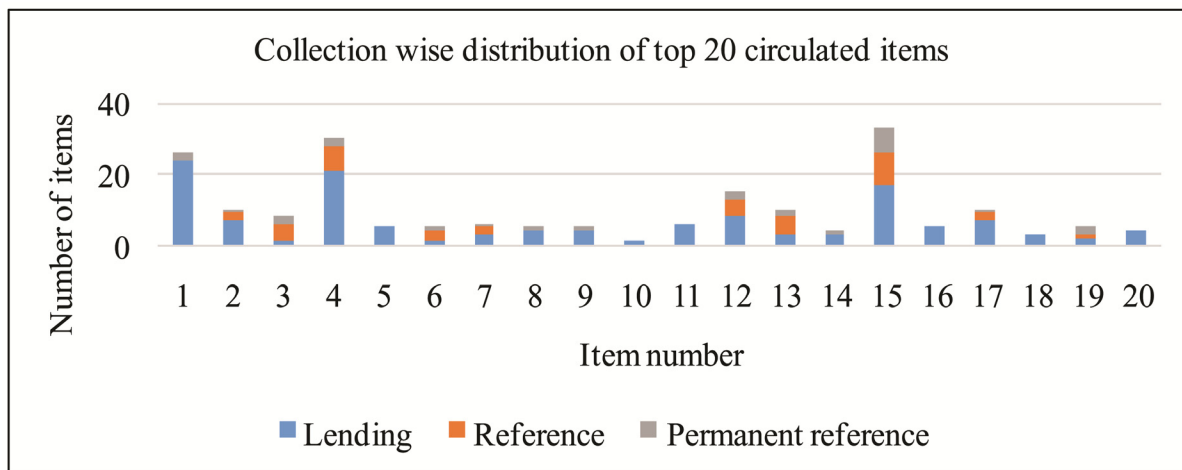


Figure 3. Collection wise distribution of top 20 most circulated items

As illustrated in Figure 3, the top most circulated item has 24 lending books and two permanent reference books. The second most circulated item has seven lending books, two reference books and one permanent reference book. Interestingly, the third most circulated item has only one lending book, five reference books and two permanent reference books. However, item number 3 has 26 checkout counts within one year period (Figure 1). The highest number of the checkout counts for an item with only one lending books was an interesting incident. Hence, researchers did an in-depth analysis of the circulation history of items with low lending books and high circulation count. It reveals that patrons who had to borrow reference books tend to renew the

borrowed item several times by physically visiting the library to avoid fine calculation. Which is a burden on the patron side. Hence, library management should convert some reference items of high demand books to lending items.

## 6. Conclusion

As revealed by the results of this study, top two items with most checkouts are written by the academic staff member of the Faculty. The most preferred language is Sinhala. Which, shows that patrons preference to read subject related books written in Sinhala and written by academic staff members of the faculty. Hence, library management can purchase more subject related items written in the Sinhala language. Furthermore, they can encourage academic staff of the faculty to donate copies of their publications.

Users prefer to read agriculture-related and Sinhala literature related resources. Sinhala translations of English novels are another famous genre among users. Further research must conduct to identify the reasons behind users language preference of reading materials.

The library management must take actions to increase the number of lending books with high demand. Using circulation data library management can identify items with high demand and users circulation behavior, which will helpful in collection management. To maintain a balance between collections, they must keep one permanent reference item and few reference items for books with high demand.

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