

Identification of Circulation Behavior of Patrons: A Study Based on Main Library, University of Ruhuna

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ABSTRACT

The circulation desk is one of the most important places in the library, which should manage to provide an effective and efficient service to the patron. The management decisions that affect library circulation desk must make with a logical foundation. Hence, the objectives of this study are to identify the variations of circulation rate throughout the year; to identify the demanding days within a week of circulation and to identify the busiest hours within a day in circulation desk. The data of this study were collected using the statistical data related to circulation, recorded in the Library Management System of the University of Ruhuna. Only the circulation data of the Main Library were considered. Data were collected from 1st January 2018 to 31st December 2018. Data were analyzed using SPSS 20 software and Microsoft Excel. According to the results, there were 47743 number of check-out and 47824 no of check-in within the considered period. According to the results, Monday was identified as the day with the highest number of check-in and check-out. From 11.30 am to 12.30 pm was identified as the busiest hours in check-out counter of the circulation desk. From 9.30 am to 10.00 am and 12.30 pm to 1.00 pm was identified as the busiest hours in the check-in counter of the circulation desk. Based on these findings, librarian can make decisions in staff allocation for counter services in peak periods, counter opening hours and circulation loan period.

Keywords: Circulation Desk, Staff Management, Library Management, Reader Service" University Library

INTRODUCTION

The library network of the University of Ruhuna consisted of the main library in main university premises and five branch libraries located in remote faculties. The main library, located in Wellamadama university premises is mainly catering for the five faculties; Faculty of Humanities and Social Sciences, Faculty of Management and Finance, Faculty of Science, Faculty of Fisheries and Marine Sciences & Technology and Faculty of Graduate Studies (University of Ruhuna Library, 2019). Due to automation, patrons of branch libraries have the ability to borrow library materials from the main library. The patron community is consisting of academic staff, non-academic staff, undergraduate students and postgraduate students of the University of Ruhuna. According to the 2017 annual report of the University of Ruhuna, there are more than 250 academic staff members, 550 non-academic members and 5500 students in the main university premises (University of Ruhuna, 2017). Accordingly, the main library has to cater to all these members in the main university premises.

The main library of University of Ruhuna consists of several sections and collections managed separately to provide better services to their patron. The main sections which contain the majority of the library materials are in lending and reference sections. In the lending section, there are approximately 84,000 numbers of library materials available. The reference section has around 17,000 numbers of library materials. These two sections mainly have subject-related textbooks, general reading materials and leisure reading materials. Furthermore, there is a special collection within the reference section called as 'Staff Reference'. Items in staff reference collection issued only for academic staff members of the university. Students can borrow materials available in lending and reference sections respectively for two weeks and overnight use (Faculty of Fisheries & Marine Sciences and Technology, 2018). The staff of the university can borrow lending items for one month and reference items for 15 days. Moreover, the ISURu is providing facilities that user can extend the lending period of materials in the lending section without physically visiting the library.

The other sections and collections, namely; permanent reference section, periodical section, Sri Lanka collection, legal deposit collection and color plate collation are not providing borrowing facilities. These sections and collections were specifically designed to provide special collections for students to fulfill their specific research needs. Students can refer these materials within the collections.

The aforesaid sections and collections are managed by senior assistant librarians under the supervision of the librarian. To manage these collections, sections there are several library assistants and library attendants working under the supervision of senior assistant librarian in charge of the section and/or collection. Hence, to

provide a better service to library patrons, librarian has to manage these workers very carefully.

Library circulation services can be defined as “the full cycle of a patron borrowing library material and subsequently returning that same materials within a designated time frame” (Morris & Bullard, 2010, p. 1005). The circulation desk is the place where circulation services are provided to the patron within a library. The input-output process taking place at the library circulation desk known as check-in (also known as returning) and check-out (also known as borrowing).

Currently, in the main library, there is only one circulation desk. The circulation desk includes separate check-in and check-out counters. There are three library assistants allocated for the circulation desk fulltime. Two library assistants have to engage with check-in and check-out process meanwhile the other one engaged with user queries and directing them to academic staff members of the library. The circulation is taking place from Monday to Saturday. Generally, on Sundays and public holidays library is closed. The opening hours of the circulation desk of the main library are 8.30 am to 5.30 pm. The number of items can borrow by different patron categories of the main library are shown in Table 1.

Table 1: Number of items can borrow by patrons of the main library

Level of the patron	Lending items	Reference items	Electronic media
Academic staff	15	05	01
Non-academic staff	05	01	01
Undergraduate students 1st year	03	01	01
Undergraduate students 2nd year	04	02	01
Undergraduate students 3rd year	05	02	01
Undergraduate students 4th year	06	02	01

Source : Author creation based on the circulation policy of library, University of Ruhuna

RESEARCH PROBLEM AND OBJECTIVES

Due to the automation of circulation, issuing and returning of a book is taking a few seconds in the main library of University of Ruhuna. However, the researchers observed in some days and some specific time periods there is a long queue of patrons at the circulation desk.

Identification of circulation behavior of patrons is one of the key elements that librarians can use in decision making for management of library circulation. Hence, the objectives of this study are;

- To identify the variations of circulation rate throughout the year
- To identify the demanding days within a week of circulation and
- To identify the busiest hours within a day in circulation desk.

METHODOLOGY

The data of this study were collected using the Library Management System of University of Ruhuna which is called as “Information Management System of University of Ruhuna” (ISURu). The statistical data related to circulation such as date, time, working hours in each day and working hours in each month were extracted from the information system. Only the circulation data of the Main Library were considered. Data were collected throughout one year period; from 1st January 2018 to 31st December 2018. Data were analyzed using SPSS 20 software and Microsoft Excel.

Number of circulation directly depends on the library opening hours. Circulation rate, simply number of circulated items per day or per hour, is a major criterion that librarians can use in decision-making (Moore, 1993). Accordingly, the average monthly circulation provides a clear picture than the number of circulation. It is a good indicator to compare the circulation between different months. Hence, in this study following formula was used to calculate the average monthly check-in/ check-out.

$$\text{Average Monthly Check in} = \frac{\text{Total items checked in within month}}{\text{Days open during month}}$$

RESULT AND DISCUSSION

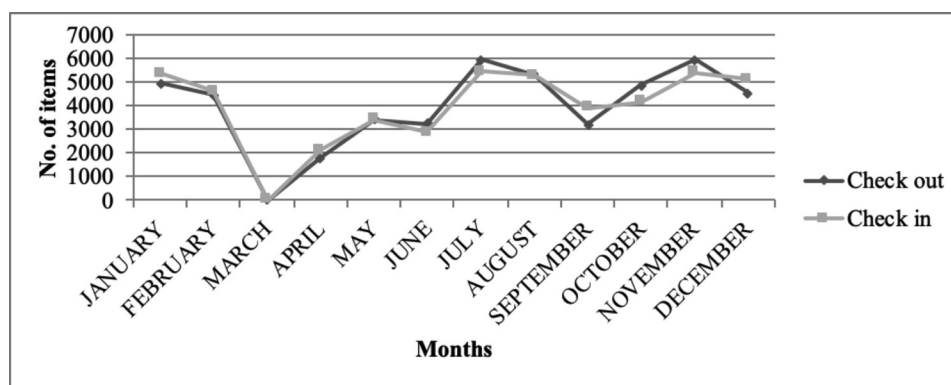
According to the ‘Information Management System of University of Ruhuna’ during the year 2018, there were 47743 number of materials borrowed from the main library and 47824 number of materials returned to the main library. These results show a higher number of returned items than borrowed items within 2018. It is because some items which were borrowed before the considered period returned in 2018.

Figure 1 illustrates the monthly distribution of number of items circulated within the

year 2018. According to Figure 1, the highest number of check-out were reported in July (5969) followed by November (5960) and August (5312).

The same pattern can be observed also in check-in too. The highest number of check-in were reported in July (5449) followed by November (5431) and January (5387).

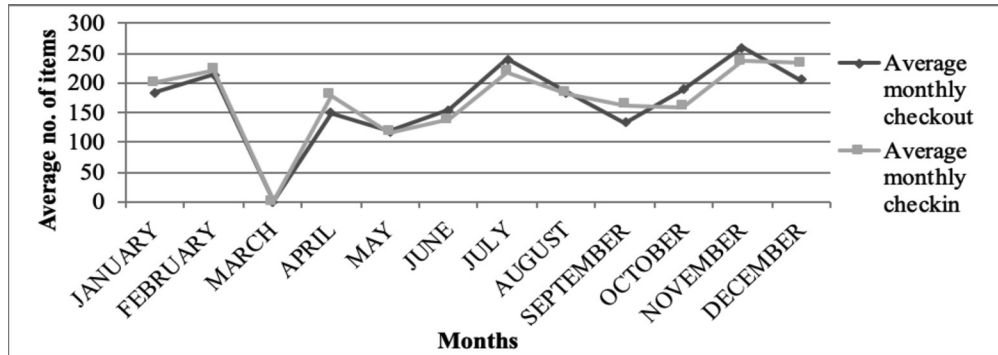
Figure 1 :Monthly distribution of the number of items circulated within 2018



As illustrated in Figure 1, in March there was not any circulation reported. The lowest check-in and check-out taken place in April was 2149 and 1784 respectively. This is due to the non-academic strike took place during March and April. The library was closed during the month of March due to the strike. In April library was open only for 12 working days. Consequently, less opening hours caused less circulation.

Figure 2 demonstrates the average monthly circulation throughout the year 2018. The highest average monthly check-out were reported in November (259.1) followed by July (238.8) and February (212.6). Further, the highest average monthly check-in was reported in November (236.1) followed by December (232.3) and February (221.1). As shown in Figure 2, the lowest average monthly check-in and check-out were reported in May.

Figure 2: Average monthly circulation



Source: Author creation based on Information System of University of Ruhuna

According to the academic calendar of Faculty of Humanities and Social Sciences, From July to August their students had study leave and end semester examination. Similarly, in the Faculty of Fisheries and Marine Sciences & Technology students had study leave in July and November. Furthermore, they had their mid-semester break in November. Their end semester examination was in July and vacation in August. Students of Faculty of Management and Finance had mid-semester examination in July and August. Hence, there is some relationship visible between the student's study leave, examination period and vacation time. Further studies will be useful in the identification of the relationship between library circulation and academic calendar.

Figure 3: Date vs. Check-in

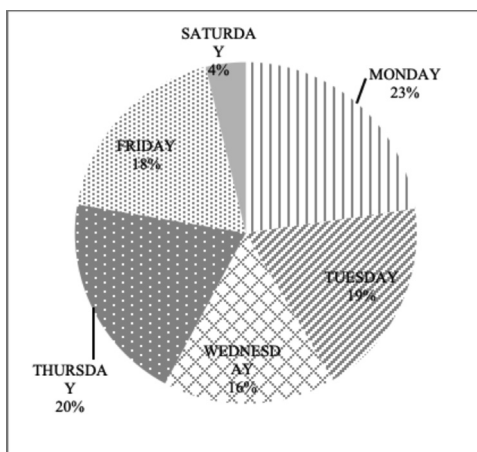
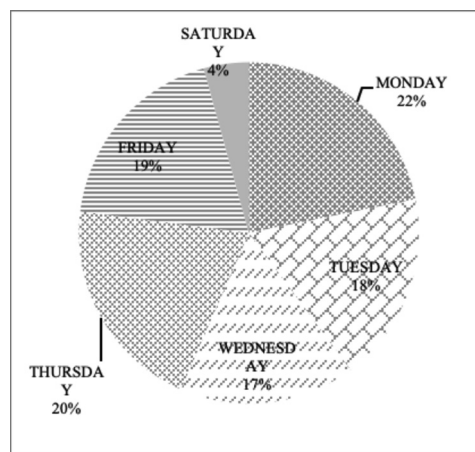


Figure 4: Date vs. Check-out

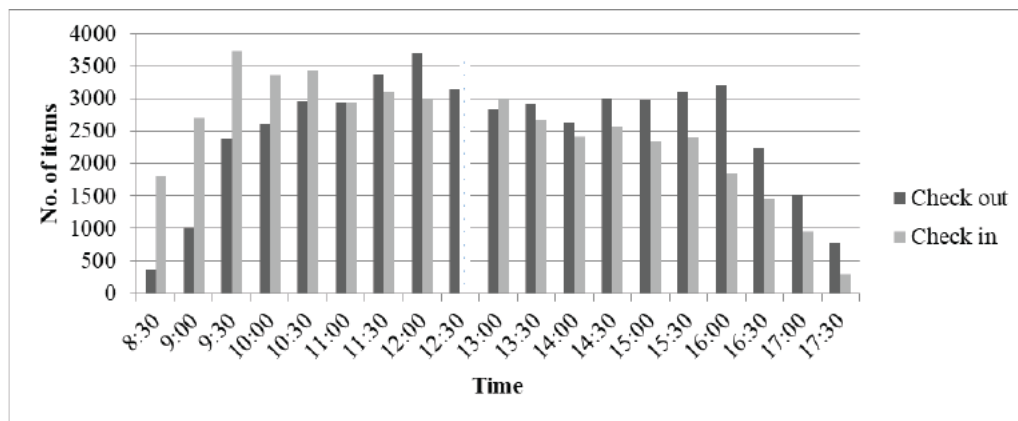


Source : Author creation based on Information System of University of Ruhuna

Figure 3 and 4 demonstrates the variation of check-out and check-in pattern with the days in a week. The highest number of check-out and check-in were reported on Monday followed by Thursday. Students can borrow reference materials for overnight use. However, if they borrow a reference book on Friday, they can keep it until Monday morning without paying any fines. Hence, most students used to do this to keep reference books a little more time with them.

Figure 5 shows the distribution of circulation within a 24 hrs time frame. For illustration purposes and easy interpretation, time was rounded up for the nearest 30 minutes. From 12.00 pm to 12.30 pm was the busiest hour in check-out counter of the circulation desk. However, the rush in check-out counter starts at 11.30 am and stopped at 1.00 pm. The lowest number of check-in were reported from 8.30 am to 9.00 am. Normally, the lunch time of students and 4 staff of the University of Ruhuna is from 12.00 to 13.00 pm. Hence, it is one of the most convenient time periods for them to visit the library.

Figure 5 : Distribution of Circulation vs. time



Source : Author creation based on Information System of University of Ruhuna

As demonstrated in Figure 5, from 9.30 am to 10.00 am followed by from 12.30 pm to 13.00 pm was reported as the busiest hour in the check-in counter. However, in the morning the rush started at 9.30 am finished at 10.30 am. The lowest number of check-in reported after 15.30 pm.

Students can borrow reference books after 3.00 pm and have to return them before 10.00 am next day. Hence, this peak time is due to the return of reference books before 10 am to avoid fines. As explained earlier 12.00 to 13.00 is lunchtime and it is convenient to visit the library without disturbing other work.

CONCLUSION

According to the results of this study, during the year 2018, there were 47743 number of materials borrowed from the main library and 47824 number of materials returned to the main library. The highest number of check-out and check-in were reported in July and November. The highest average monthly check-out and check-in were reported in November. The highest number of check-out and check-in were reported on Monday followed by Thursday. From 12.00 pm to 12.30 pm was the busiest hour in the check-out counter of the circulation desk. From 9.30 am to 10.00 am followed by from 12.30 pm to 13.00 pm was reported as the busiest hour in the check-in counter.

RECOMMENDATION

Based on these results librarians can take decisions related to circulation to minimize the queue in the circulation desk. If they have enough infrastructure and human resources they can open a special counter in the circulation desk during rush hours to reduce the queue in the circulation desk and save patrons' time.

Furthermore, researchers can conduct further studies to identify the factors affecting circulation behavior of patrons, such as the impact of the academic calendar; vacation, examination period, academic work, and free time.

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