

## **Library Circulation Patterns among Social Sciences and Humanities Students: A Case Study at Rajarata University of Sri Lanka**

**Illangarathne, S.K.<sup>1</sup>, Wanasinghe, W.M.P.G.K.T.<sup>2</sup>**

### **Abstract**

This study aims to explore the Circulation Patterns within the Faculty of Social Sciences and Humanities (SSH) at Rajarata University in Sri Lanka. The problem identified is the lack of knowledge about the circulation patterns and user demand for different subjects within the library. It seeks to address the existing research gap about the Library user circulation pattern among students associated with the above faculty level. The study specifically investigates the period from 2015 to 2019, taking into account the progressive growth and diversity of the Library collections. The rest of the objectives of the study are to determine the user demand for different subject disciplines and to assess the circulation trends. To achieve these objectives, the primary data was gathered from the Report Module of the Integrated KOHA Library Management System of Rajarata University of Sri Lanka, and the retrieved data was then analyzed statistically by Microsoft Excel. The findings of the study offer valuable insights into Library circulation and the book usage patterns of students. The research reveals a significant demand for Textbooks in the field of Social Sciences among students, retrieving huge hits for the main subject disciplines such as Religion, Philosophy, and Psychology instead of the disciplines such as Computer Science, Information Technology, and General Works. It is recommended that the Library allocate additional resources and prioritize budget allocation toward the Social Sciences field. This would involve acquiring popular books that cater to the diverse needs of students and faculties across various disciplines, ultimately contributing to the development of a comprehensive collection that effectively addresses the requirements of individuals from diverse backgrounds.

**Keywords:** Library circulation, Reading patterns, RUSL, Social sciences, User demand

---

<sup>1</sup>Senior Assistant Librarian, Rajarata University of Sri Lanka

Email: [skillangarathne@gmail.com](mailto:skillangarathne@gmail.com),  <https://orcid.org/0000-0001-5331-2073>

<sup>2</sup>Senior Assistant Librarian, Rajarata University of Sri Lanka

Email: [thusharafmas@gmail.com](mailto:thusharafmas@gmail.com),  <https://orcid.org/0000-0002-9584-2221>



Received: 05 September 2023, Accepted revised version: 30 December 2023  
This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

## **Introduction**

Analyzing the circulation patterns of Library users is important in effectively managing a Library setting. This data plays a critical role in adapting the collection to meet the needs of users, optimizing resource allocation, and ultimately fostering a culture of lifelong learning.

In an academic Library setup, undergraduate students, whether internal or external, are considered key stakeholders in the user profile. The library management focuses on meeting the needs of these user categories and takes responsibility for providing sufficient resources to support their academic programs at the faculty level. Maughan (1999) emphasizes the importance of conducting surveys among different Library user categories and using the outcomes in decision-making by academic planners. Furthermore, Manurung and Sayekti (2022) discuss how users' reading patterns can change suddenly in response to environmental factors such as the pandemic, highlighting the need to analyze the situation before making significant decisions or policy changes.

Recognizing Library users' circulation patterns and information-seeking behaviour at various levels is important. Major open-source Library integrated platforms have made significant progress in generating more reliable reports on user circulation patterns. This advancement allows comprehensive and practical analysis of the situation, surpassing the limitations of alternative approaches. One notable platform in this regard is KOHA, which stands out by offering advanced reporting modules and customizable features that facilitate the evaluation of Library users' circulation patterns across multiple dimensions.

The Library system of Rajarata University of Sri Lanka (RUSL) has played a significant role in the information services industry since 1996, with a strong focus on user satisfaction and collections. The Main Library, located in the Mihintale premises, primarily serves the faculties of Management Studies and Social Sciences and Humanities. Additionally, it oversees the operations of other faculty libraries, including Agriculture, Applied Sciences, Medicine, and Allied Sciences and Technology. Acting as a central hub for these faculties, the Main Library is manned by the Librarian, Cataloguing Librarians, and IT

services Librarians. Since 2009, the RUSL Library system has been utilizing KOHA: Library Integrated Automation System, latest version 22.05.09.000.

Therefore, conducting studies on Library usage and information-seeking behaviour using data generated from KOHA Time Series Reports make valuable contributions to the expansion of knowledge, enable evidence-based decision-making, foster a user-centered perspective, enhance collection development practices, and advance Library automation systems. Furthermore, analyzing Library user circulation patterns specifically at the faculty level emphasizes the potential to enhance user satisfaction, optimize resource allocation, and promote evidence-based practices in collection development. Consequently, these endeavours drive the field of Library and Information Science in a forward direction with promising prospects for growth and improvement.

### **Literature Review**

A recent study examines the Library book borrower patterns using the Apriori Association Data Mining Techniques and the authors concluded that a 2-item set with the highest value is a combination of the Religion book and Physical Education book with 8% support and 100% confidence, whereas the association rule with 3-item set reference resulted in 4 rules with 6% support and 100% confidence. The result is an application that can generate association rules for book recommendations and book placement recommendations (Zamzami et al., 2021).

In Jansen's (2021) study, a comprehensive analysis was conducted regarding the popularity of titles in circulation at a regional campus undergraduate library. The findings of the study showcased the advantages associated with implementing a rental plan for leasing titles. Specifically, the rental plan was found to offer superior capabilities in meeting specific needs on campus and among student groups, surpassing the effectiveness of traditional acquisition processes. This investigation conducted by Jansen sheds light on the potential benefits of adopting a rental plan for title acquisition in Library collections, thereby contributing to the scholarly discourse in formulating Library management strategies.

Collins and Stone (2014) examined the patterns of Library usage among undergraduate students from different disciplines, shedding light on the variations in how students utilize Library resources. Their study not only explored disciplinary differences in Library use but also utilized large-scale routinely generated data to gain insights of user patterns. By connecting these two strands of research, Collins and Stone demonstrated the value of understanding distinctive usage patterns at an individual institution, highlighting the potential for collaboration and standardization in benchmarking the Library performance and usage across multiple universities.

Onuoha, et al. (2013) investigated the reading habits and Library use patterns of students in the Department of Information Resources Management at Babcock University, Nigeria. The study included 210 students in their 2nd and 3rd years and utilized frequency and percentage counts for data analysis. Findings revealed that most respondents spent over an hour reading daily for entertainment, newspapers, and general interest magazines being the most popular materials. While students utilized various Library resources, visiting the Library was not a popular activity. The study recommends increased use of the university Library for practical experience and encourages students to explore e-books to access to a wider range of materials.

Akabuiké & Asika (2012) investigated the reading habits and academic performance of 200 undergraduates from Nnamdi Azikiwe University Awka and Anambra State University. The study revealed poor reading habits, a negative attitude toward reading, and a focus on passing exams rather than acquiring knowledge. The findings highlight the need to address these issues and recommend strategies for enhancing reading skills and efficiency among undergraduates.

Wijetunge (2019) examined the information-seeking behaviour (ISB) of Humanities and Social Science (HSS) undergraduates at the University of Colombo. The study aimed to understand their information resource usage, barriers encountered, and information-seeking process. Data was collected through a questionnaire and Focus Group Meetings (FGMs), with an 82% response rate for questionnaires and 95 attendees at the FGMs. The findings revealed that there is a preference for the Internet over Library resources,

inadequate evaluation criteria for information, and reliance on peers for assistance. The undergraduates faced difficulties with Library resources, facilities, services, and training. Recommendations include further research to address the issue and collaboration between librarians and faculty to enhance ISB. Findings on the undergraduates' reading patterns and ISB provide avenues to conduct novel research in numerous unexplored areas.

The utilization of the Library by undergraduate students did not consistently follow a common pattern; instead, it exhibited variations across different disciplines (Jara et al., 2017). Therefore, employing appropriate analytical methods to comprehend the circulation patterns of readers becomes crucial.

### **Problem Statement**

Although several decades have passed since the establishment of the Rajarata University Library system, studies focusing on Library usage and information-seeking behaviour are lacking. However, Wanasinghe, Illangaratne, and Dilrukshi (2022) explored the patterns of co-curricular information source usage among Health Science undergraduates. Further, Wanasinghe, Illangaratne, and Dilrukshi (2021) investigated the reading needs of medical and agriculture students. Previous research has not been conducted on the Library user circulation patterns of students affiliated with the Faculty of Social Sciences and Humanities. Furthermore, the extent to which the library's book development policymakers have incorporated the recommendations and conclusions from various research studies on this topic remains unexplored. To address these existing knowledge gaps, it is of paramount significance to conduct a study on the undergraduate circulation patterns of students in the Faculty of Social Sciences and Humanities. Therefore, the primary objective of this research is to bridge these gaps and fulfill the following key and specific research objectives by investigating the students enrolled in the Faculty of Social Sciences and Humanities at the Rajarata University of Sri Lanka.

### **Objectives**

The main objective of this study is to analyze the circulation patterns of printed books and identify variations in user demand across different subjects over five years (2015-2019).

Other objectives include:

1. To determine the demand for books in different subjects within the Faculty of Social Sciences and Humanities and;
2. To assess the circulation rates of books in subjects like Religion, Philosophy and Psychology, Computer Science, Information and General Works, and Science.

## **Methodology**

The study employed the case study method to investigate the Library usage patterns of Social Science and Humanities (SSH) students. The researchers compiled the time series data on Library usage by accessing the report module of the KOHA Library Integrated Database, which is maintained by the Library system of the Rajarata University of Sri Lanka (RUSL). The data covered the years from 2015 to 2019.

However, the search codes provided by the database were not sufficient for the study's requirements. Therefore, the authors also introduced additional codes to the MySQL database. The collected data were first purified and then analyzed using MS Excel. Various statistical measures, such as sums and percentages, were calculated to gain insights into the data. Additionally, tables and figures were utilized to present relevant information and trends.

To ensure accuracy and minimize any potential structural problems or errors in the analyses, the conclusions were drawn based on the researchers' professional knowledge and expertise.

## **Results**

### **Distribution of the Study Area**

To provide a comprehensive analysis, it is crucial to understand the study area. Hence, the distribution of students enrolled in the Faculty of Social Sciences and Humanities was tabulated on their academic yearly basis up to the year 2023. Table 1 presents the academic year-wise distribution of the study area (SSH), specifically focusing on the number of current users registered with the KOHA Library System and corresponding percentages.

**Table 1: Academic Year-Wise Distribution of the Study Area (SSH)**

<b>Academic Year</b>	<b>Current users registered with the KOHA Library System</b>	<b>Percentage from the Total (%)</b>
1 <sup>st</sup> Year	467	28%
2 <sup>nd</sup> Year	519	31%
3 <sup>rd</sup> Year	405	24%
4 <sup>th</sup> Year	271	16%
<b>Total</b>	<b>1662</b>	

Source: Koha Time Series Data from RUSL Library report module, 2023

According to Table 1, there are 467 first-year students registered with the KOHA Library System, which accounts for 28% of the total. In the 2<sup>nd</sup> year, there are 519 students, representing 31% of the total. The 3<sup>rd</sup> year consists of 405 students, making up 24% of the total. Finally, the 4<sup>th</sup> year has 271 students, accounting for 16% of the total. In total, there are 1662 students registered with the KOHA Library System across all academic years.

### **Reading Patterns**

The primary objective of this study was to analyze the circulation patterns of printed books and identify variations in user demand across different subjects over a span of five years, from 2015 to 2019. Hence, the circulation history of students' printed books was investigated and analyzed, focusing on both their textbooks and general reading books. The following results were obtained from the analysis (Table 2 & Figure 1).

Table 2 and Fig. 1 present the proportion of Circulation Proportion of Printed Books among Social Sciences and Humanities Students from 2015 to 2019, categorizing them into two main categories: General Reading books and Subject Related Textbooks. According to Table 2, the number of General Reading books is 18,598, accounting for 16% of the total books.

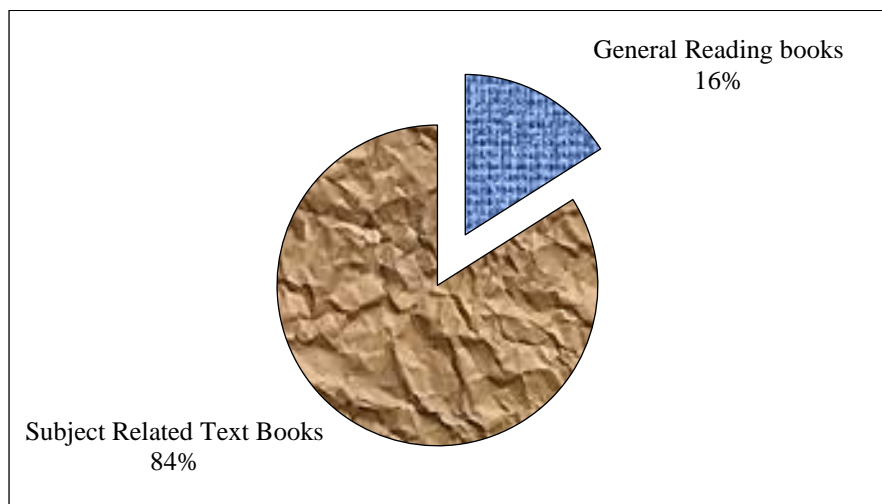
On the other hand, the number of Subject Related Textbooks is 97,640, making up 84% of the total books. This table provides an overview of the distribution of books based on their reading patterns, indicating the

significance of both General Reading books and Subject Related Textbooks in the library’s collection.

**Table 2: Circulation Patterns of Printed Books among Social Sciences & Humanities Students from 2015 to 2019**

Year	General Reading books	Subject Related Textbooks	Total
2015	924	4854	5778
2016	5133	26949	32082
2017	4907	25760	30667
2018	3664	19237	22901
2019	3970	20840	24810
<b>Total</b>	<b>18598</b>	<b>97640</b>	<b>116238</b>

Source: Koha Time Series Data from RUSL Library report module, 2023



**Figure 1: Circulation Proportion of Printed Books among Social Sciences & Humanities Students from 2015 to 2019**

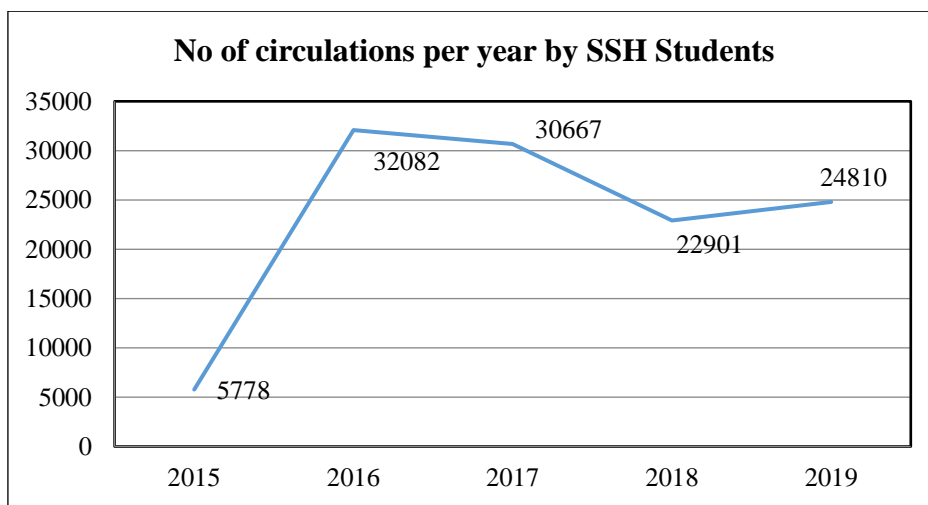
Source: Koha Time Series Data from RUSL Library report module, 2023

### Students’ Year-wise Circulation Patterns

Students' Year-wise circulation trends are very important to forecast the actual situation. Therefore, an analysis was conducted to examine the circulation



patterns of students' books on a year-by-year basis. By studying the trends in book circulation across different academic years, valuable insights can be derived regarding the changing reading habits, preferences, and demands of students over time. This analysis provides a comprehensive understanding of how the circulation of books has evolved and helps in predicting future scenarios related to Library resource utilization and collection development.



**Figure 2: Year-wise Circulation Trends of SSH Students**

Source: Koha Time Series Data from RUSL Library report module, 2023

Fig. 2 presents the year-wise circulation trends of books among students. It showcases the number of book circulations per year for the years 2015 to 2019. According to Fig. 2 in 2015, there were 5,778 book circulations among students, in 2016, the number of book circulations increased significantly to 32,082, in 2017, book circulations remained high at 30,667, in 2018, there was a decrease in the number of circulations, with 22,901 books being borrowed and in 2019, the circulation numbers increased again, reaching 24,810.

This result provides insights into the year-wise circulation trends, allowing for an understanding of how the demand for books among students has varied over the years. By analyzing these trends, researchers and library administrators can identify patterns, anticipate fluctuations in book usage, and make informed decisions regarding resource allocation and collection development.

## **Students' Subject-wise Circulation Patterns**

Understanding the disciplinary-wise circulation trends among Library users is crucial for making informed decisions at the administrative level. Therefore, an analysis of students' subject-wise circulation trends was conducted as part of this study. By examining the circulation patterns of books across different subjects, valuable insights can be gained that aid in resource allocation, collection development, and decision-making processes. This analysis provides a comprehensive understanding of the demand and usage patterns associated with various disciplinary areas, enabling administrators to make data-driven decisions to optimize library services and resources.

Table 3 presents comprehensive data regarding book borrowing among students enrolled in the Faculty of Social Sciences and Humanities (SSH), covering the years 2015 to 2019 and categorized by subject. The table highlights different borrowing patterns across disciplines within the SSH Faculty. Some subjects show stable borrowing trends, while others show fluctuations over the years. These borrowing patterns can provide insight into subjects in high demand among SSH students and can be used to inform Library resource allocation and collection development decisions.

### **Major Circulation Trends**

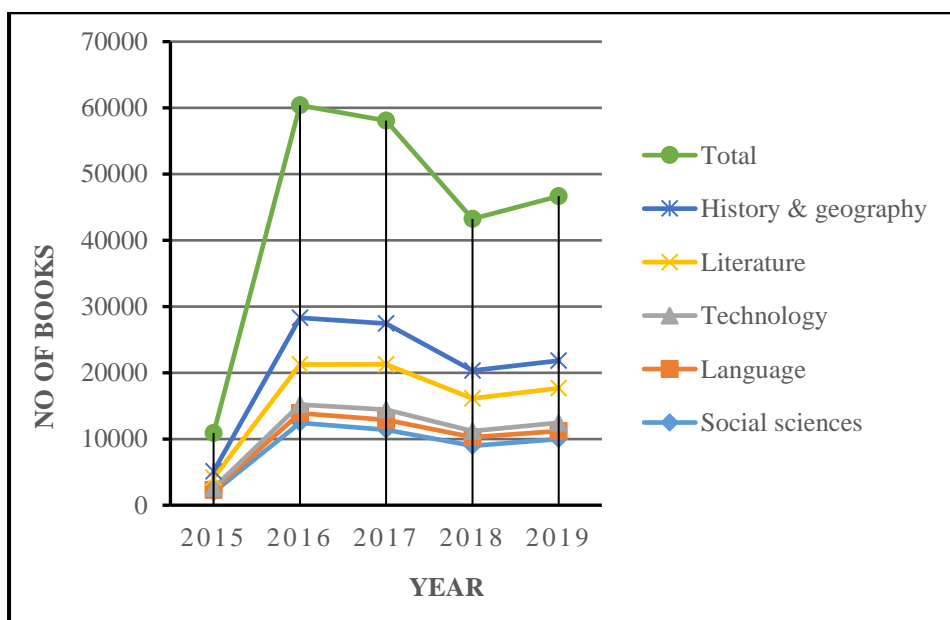
Major Circulation Trends of SSH students were analyzed and the following observations were made (Fig. 3). In Fig. 3, it is evident that the Social Sciences subject was the most in-demand among SSH students, making it the top choice for book borrowing. This subject received the highest number of book borrowings compared to other subjects within the SSH faculty in the period of 2015-2019.

Following Social Sciences, the second most in-demand books among SSH students were in the subjects of History & Geography, and Literature. Although these subjects ranked lower in terms of borrowing compared to Social Sciences, they still garnered a significant number of book borrowings, indicating their popularity among SSH students.

**Table 3: Subject-wise Circulation Patterns by SSH Students**

Subject Discipline	2015	2016	2017	2018	2019
Computer science, information & general works	60	663	592	424	650
Philosophy & psychology	110	340	240	152	291
Religion	66	455	350	478	315
Social sciences	1959	12428	11391	8970	9997
Language	337	1461	1505	1294	1193
Science	300	1105	847	830	717
Technology	292	1307	1553	941	1275
Arts & Recreation	131	1221	1219	680	990
Literature	1532	6045	6813	4939	5198
History & geography	991	7057	6157	4193	4184
<b>Total</b>	<b>5778</b>	<b>32082</b>	<b>30667</b>	<b>22901</b>	<b>24810</b>

Source: Koha Time Series Data from RUSL Library report module, 2023



**Figure 3: Major Circulation Trends by Subject-wise**

Source: Koha Time Series Data from RUSL Library report module, 2023

## **Discussion**

The obtained results uncover several intriguing findings. A majority of SSH students preferred borrowing subject-related books, indicating their focus on academic resources relevant to their studies. This emphasizes the importance of having a strong collection of subject-specific materials to cater to the needs and interests of the students effectively. Furthermore, when considering the borrowing trends across the years, it is crucial to further explore the factors contributing to the recent increase in book borrowing activity. Understanding these factors will help libraries to adapt and tailor their resources and services to meet the evolving needs of the students effectively.

Overall, the results indicated that the majority of SSH students borrowed books that were directly related to their subjects of study, emphasizing the importance of subject-specific resources in catering to their academic needs. Among the borrowed books, the subject area with the highest utilization was Social Sciences, indicating a strong demand for resources in this field. Another significant finding of this study was the identification of the most and least circulated items, which allows for a better understanding of the subjects in high demand and those with lower demand. Among the SSH students, it was found that the most in-demand books belonging to the social sciences subjects are the most demanding books among the SSH students and History and Geography books are the second most demanding books. Religion, Philosophy and Psychology, Computer Science, Information and general works, and Science categories of books are the least demanding books among SSH students.

This information is crucial for making informed decisions regarding Library operations, such as new acquisitions, preservation efforts, discarding of items, and overall collection development. By aligning Library resources with the subjects in highest demand, Library administrators can ensure that the collection caters effectively to the needs of the SSH students and fosters a conducive learning environment. This is important in making effective decisions on some of the Library operations such as new acquisitions, preservations, discarding of items, and finally collection development.

### **Limitations of the study**

It is important to highlight the limitations of the study on undergraduate circulation patterns. This study is only able to utilize circulation data from the Koha Library Automation system spanning the years 2015-2019. The unprecedented impact of the Covid-19 pandemic severely constrained our facility to include data from 2020-2022 due to the closure of libraries and the disruption of normal circulation patterns during this period.

Also, it is crucial to recognize that relying solely on book borrowing statistics may not provide a comprehensive understanding of library resource utilization. It should be noted that library book borrowings might not fully represent the usage of library print resources, as books utilized within the library premises are not accounted for in these statistics. Moreover, there is a possibility that some borrowed books are returned without being read. Such data were excluded from the study and regarded as having no impact on the findings.

### **Conclusions and Recommendations**

Based on the results presented, the following conclusions can be drawn:

1. Preference for subject-related books: The majority of SSH students prefer borrowing books that are directly related to their subjects of study, indicating their focus on academic resources relevant to their studies. This highlights the importance of having a strong collection of subject-specific materials in the library to effectively cater to the needs and interests of the students.
2. Factors influencing book borrowing trends: Further exploration is necessary to understand the factors contributing to the recent increase in book borrowing activity. Identifying these factors will help libraries adapt and tailor their resources and services to meet the evolving needs of the students effectively.
3. Subject areas with high demand: Social sciences emerged as the subject category with the highest demand among SSH students, followed by history and geography. Conversely, religion, philosophy

and psychology, computer science, information and general works, and science categories showed lower demand among SSH students.

4. **Informed decision-making:** The identification of most and least circulated items provides valuable insights for making informed decisions regarding library operations, including new acquisitions, preservation efforts, discarding of items, and overall collection development. Aligning library resources with subjects in highest demand ensures an effective collection that caters to the needs of SSH students and fosters a conducive learning environment.
5. **Declining book borrowing trends:** The analysis indicates a decline in annual book borrowing across most subjects over the past five years. This finding calls for attention and further investigation into the reasons behind this decline.
6. **Emphasis on social sciences:** Given the high demand for social sciences resources among SSH students, it is recommended that the library places greater emphasis and allocates more resources towards this field. This includes prioritizing budget allocation and the acquisition of books relevant to the social sciences, which will help in developing a well-rounded collection that caters to the needs of students and faculties across various disciplines.

Based on the above conclusions drawn from the analysis, the following recommendations can be proposed to the authorities:

1. **Strengthen the collection in social sciences:** Given the high demand for social sciences resources among SSH students, it is recommended that the library allocates more resources and focuses on expanding the collection in this field. This could include prioritizing budget allocation for acquiring new social sciences books, journals, and other relevant materials.
2. **Enhance language resources:** Since language books showed lower demand among SSH students, it is advisable to consider increasing the

library's collection of English language resources. This can help enhance language proficiency among social sciences students and support their academic development.

3. Conduct user needs assessments: To further understand the evolving needs and preferences of SSH students, it is recommended to conduct regular user needs assessments. This can involve surveys, focus groups, or interviews with students to gather their input on the types of resources they require and their preferences in accessing and utilizing library materials and services.
4. Collaboration with faculty: Collaborating closely with faculty members can provide valuable insights into the required resources and materials for their courses. This can inform the acquisition of new materials enable the library to stay aligned with the curriculum and support faculty teaching and research needs effectively.
5. Explore digital resources: Given the changing landscape of information access and increasing reliance on digital resources, it is recommended to explore and provide access to a wide range of digital resources relevant to the SSH disciplines. This can include e-books, electronic databases, and online journals, which offer convenience and flexibility to students.
6. Continuous evaluation and improvement: It is crucial to have an ongoing evaluation process to monitor the usage and effectiveness of the library's resources and services. This evaluation will help identify areas for improvement, discard outdated or underutilized materials, and ensure that the library remains responsive to the changing needs of the SSH students.

## **References**

- Akabuike, I. G. & Asika, I. E. (2012). Reading habits of undergraduates and their academic performances: Issues and perspectives. *African Research Review*, 6(2), 246-257.

- Collins, E., & Stone, G. (2014). Understanding Patterns of Library Use among Undergraduate Students from Different Disciplines. *Evidence-Based Library and Information Practice*, 9(3), 51–67. <https://doi.org/10.18438/B8930K>
- Jara, M., Clasing, P., González, C., Montenegro, M., Kelly, N., Alarcón, R., & Saurina, E. (2017). Patterns of Library use by undergraduate students in a Chilean university. *Portal: Libraries and the Academy*, 17(3), 595-615.
- Jansen, A. (2021). A case study of a popular titles collection circulation at a regional campus undergraduate library. *Public Services Quarterly*, 17(3), 166-176.
- Manurung, I. & Sayekti, R. (2022). Patterns of Using Collections of Periodic Issues by Students at UPT Medan State University Library. *International Journal of Cultural and Social Science*, 3(2), 51-59.
- Maughan, P. D. (1999). Library resources and services: a cross-disciplinary survey of faculty and graduate student use and satisfaction. *The Journal of Academic Librarianship*, 25(5), 354-366.
- Onuoha, U.D., Unegbu, E.V., & Umahi, F.O. (2013). Reading Habits and Library Use among Students of Information Resources Management, Babcock University, Nigeria. *Journal of Education and Practice*, 4, 98-103.
- Wanasinghe, W.M.P.G.K.T., Illangarathne, S.K., Dilrukshi, W.P.T. (2022). Analysis of the Health Sciences Undergraduates' subject-oriented Library books circulation patterns: A case study of Rajarata University of Sri Lanka based on the Koha time. *2<sup>nd</sup> Virtual International Conference on Library and Information Science (VICLIS 2022): Libraries as drivers for achieving Sustainable Development Goals 2030*.
- Wanasinghe, W.M.P.G.K.T., Illangarathne, S. K. and Dilrukshi, W.P.T. (2021), Study of extensive reading preferences among the science-based undergraduates in Sri Lanka: A case study of Medicine and



Agriculture faculties at Rajarata University of Sri Lanka. *4<sup>th</sup> International Conference on Library and Information Management*, Department of Library and Information Science, Faculty of Social Sciences, University of Kelaniya, Sri Lanka. 281-285.

Wijetunge, P. (2019). Information seeking behavior of the humanities and social science undergraduates: a case of University of Colombo. *Journal of the University Librarians Association of Sri Lanka*, 22 (1), 1-22.

Zamzami, L., Prastowo, A. A., Rulinawaty, R., & Rahim, R. (2021). Analysis of Library Book Borrower Patterns Using Apriori Association Data Mining Techniques.