

Circulation-Based Evaluation of Library Collections in Aided Colleges of the Mysore Region

Veena M.¹; N.S.Harinarayana²

Research Fellow, Dept. of Studies in Library & Info. Science, University of Mysore¹; Senior Professor, Dept. of Studies in Library & Info. Science, University of Mysore, Manasagangothri Campus, Mysuru, India²

veenam.fgc@mahajana.edu.in, ns.harinarayana@gmail.com

ABSTRACT

This study evaluates the effectiveness of library collections in selected aided colleges in the Mysore region, using a circulation-based approach. While traditional evaluation methods have primarily emphasised quantitative growth, recent perspectives identify usage as a more accurate indicator of collection relevance and performance. Circulation data are employed to assess both the extent and frequency of resource use across institutions with varying collection sizes and ages. The research applies the Annual Discovery Rate (ADR) and Annual Turnover Rate (ATR) to determine the breadth and frequency of material circulation. Subject-wise analysis indicates a user preference for Social Sciences and Languages, whereas Life Science collections experience lower usage in most institutions. The prevalence of underused resources underscores the need for strategies such as demand-driven acquisitions, systematic regular weeding, and enhanced user engagement.

The study underscores the significance of user-centred, data-driven collection evaluation and offers practical insights for librarians and administrators to optimise resources, enhance collection relevance, and improve the effectiveness of academic library services.

KEYWORDS: Circulation Data Analysis, Annual Discovery Rate (ADR), Annual Turnover Rate (ATR), User-Centered Evaluation

INTRODUCTION

Library collection evaluation is essential for determining how effectively library resources support users' academic and informational needs. In budgeting for acquisition and maintenance, it is necessary to assess both the usage and relevance of these resources. Earlier approaches to collection development primarily emphasised growth and size, based on the assumption that larger collections indicated higher quality. However, the expansion of higher education

and the rapid increase in information resources have challenged this assumption, leading to a more user-centered perspective.

In recent years, libraries have shifted their focus from material accumulation to understanding resource usage. Circulation data now serves as a practical and objective measure of collection performance, revealing patterns of user interaction and identifying both popular and underused materials. Analysis of these patterns provides direct insights into user preferences, subject demand, and overall collection effectiveness.

Aided colleges in the Mysore region play a significant role in higher education, with each institution exhibiting distinct collection sizes, academic focuses, and user populations. Although these colleges invest in building their collections, systematic assessment of resource use is infrequent. This gap highlights the need for structured evaluation methods that provide objective and comparable measures of collection use across institutions.

This study addresses the identified need by employing a circulation-based evaluation method to analyse collections in selected aided colleges. Key indicators, including the Annual Discovery Rate (ADR) and Annual Turnover Rate (ATR), measure the extent and frequency of resource use. Given that data are available for varying periods across institutions, normalisation techniques are applied to ensure consistency and comparability. The study also examines subject-wise usage patterns to elucidate and understand demand across academic disciplines.

By prioritizing actual usage over collection size, this study provides a more accurate assessment of collection performance. The findings help librarians and administrators in making evidence-based decisions regarding collection development, resource allocation, and service improvement. The study advocates a more efficient, user-focused approach to library management within academic institutions.

LITERATURE REVIEW

The literature review shows that library collection evaluation has gradually shifted from a quantitative focus on size to a more qualitative, user-centred, usage-based approach. Early studies emphasised the need for systematic evaluation to support institutional goals, policy development, and financial accountability

In this context, usage-based evaluation methods have become more important. They directly show how users utilise library resources. These methods include circulation analysis, in-house use studies, transaction counts, and turnover rate calculations. Each method helps identify high-demand and underutilised materials. Circulation data, in particular, is a practical indicator of user preference and collection performance. (Ravichandra Rao 2009) emphasized the application of quantitative methods such as circulation analysis, statistical modeling, and bibliometric techniques for assessing library collections. He highlighted that circulation data serves as a reliable indicator of collection performance and user engagement, forming the basis for evidence-based collection development decisions. Similarly, (Lancaster, 1988) established that library evaluation must be grounded in measurable criteria, including circulation statistics, user studies, and cost-effectiveness, thereby laying a strong foundation for systematic collection evaluation practices. Earlier, (Bonn, 1974) also underscored the importance of systematic collection evaluation, stressing that continuous assessment is essential to ensure that library collections remain relevant and responsive to user needs.

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Focusing on print collections, (Tindowen, 2019) analyzed the circulation of newly acquired print materials in a university library and found consistently low usage despite continuous acquisition efforts. The study concluded that stronger collaboration between faculty and librarians is necessary to promote effective use of library resources. It further suggested that shifting collection strategies toward digital formats, such as e-books, may better align with the preferences of users in a technology-driven environment.

Recent studies have expanded the scope of circulation analysis by incorporating additional usage metrics. (Rose-Wiles* & , Gerard Shea, Kaitlin Kehnemuyi, 2020) conducted a four-year analysis combining circulation and in-house use of print books, demonstrating that reliance on a single metric may underestimate actual usage patterns.. Further research strongly supports the use of circulation statistics as a key tool for evaluating collection effectiveness and meeting user needs. (Adams & Noel, 2008) identified circulation data as a reliable indicator for assessing strengths and weaknesses within subject areas. (Crawley-Low, 2002) emphasized that combining materials-centered and use-centered evaluation techniques provides a comprehensive assessment of specialized collections, with circulation data emerging as one of the most dependable indicators of usage. In addition, (Day & Revill, 1995) introduced the concept of the “active collection,” highlighting how circulation analysis can be used to measure the dynamic use of library materials and guide collection development decisions.

Studies focusing on broader collection evaluation outcomes further reinforce these findings. (Elizabeth Henry, Rachel Longstaff and Doris Van Kampen, 2008) demonstrated that continuous collection analysis integrating circulation data, user studies, and institutional objectives enhances decision-making and accountability in academic libraries. Their work highlights that systematic evaluation practices contribute to more effective resource allocation and improved collection relevance. Collectively, these studies indicate that while circulation analysis remains one of the most reliable indicators of collection usage, incorporating complementary measures such as in-house use and user behavior analysis leads to a more holistic and accurate evaluation of library resources.

OBJECTIVES

This study evaluates how well library collections in aided colleges across the Mysore region—specifically in Chamarajanagar, Mysore, Hassan, and Mandya—meet user needs using circulation data. A purposive sample of four aided colleges was selected from the list of collegiate institutions in these districts to examine usage patterns across different institutions and subject areas. The specific objectives of the study are:

- To analyse the distribution of library collections across colleges and categories
- To examine the subject-wise and language-wise composition of library resources
- To evaluate the contribution of Indian and international publishers in the library collection
- To assess the utilisation of library collections through circulation data and time-normalised analysis
- To study subject-wise usage patterns of circulated materials across different academic disciplines

METHODOLOGY

This study adopts a quantitative, circulation-based research methodology to examine the utilisation patterns of library collections across selected colleges. The study was conducted in four academic libraries with one college selected from each district to ensure regional representation. The libraries selected for the study are JSS-KG Library,

Chamarajanagar; MMJC College Library, Mysore; NDRK College Library, Hassan; and SHFGC College Library, Mandya. The focus is on analysing the relationship between collection size, circulation transactions, and usage efficiency over a defined period.

DATA COLLECTION

Primary data were collected from the libraries of the selected colleges. The dataset includes:

- Total number of books and reference books available in each library
- Circulation transactions (issue/return records) over multiple years
- Duration of data coverage (number of years for which records are available)
- Subject-wise and language-wise classification of the collection
- Details of publishers (Indian and international)

The data were compiled from library records, circulation registers, and/or automated library management systems to ensure reliability and consistency.

Data Processing and Normalisation

Since the data varied across institutions in terms of time span and collection size, a time-normalisation approach was adopted to ensure comparability. Annual averages were calculated to standardise the data across colleges with different reporting periods.

Analytical Measures

Two key performance indicators were calculated:

- **Average Daily Circulation (ADR):**
Represents the average number of items circulated per day, indicating the intensity of library use.
- **Average Transaction Rate (ATR):**
Reflects the average usage per item in the collection, helping to assess how effectively the collection is utilised.

These measures enable a balanced evaluation of both overall activity and per-item usage efficiency.

Data Analysis

The processed data were analysed using descriptive statistical techniques, including:

- Frequency and percentage distribution
- Comparative analysis across colleges
- Subject-wise and language-wise analysis
- Publisher-wise distribution analysis

Further, circulation transactions were analysed at the item level to understand usage patterns across different subject domains such as Commerce/Management, Languages, Science, and Social Sciences.

Comparative Framework

A comparative framework was employed to:

- Identify variations in usage patterns among different colleges
- Examine subject-wise demand and utilisation trends
- Assess underutilised and high-demand segments of the collection

- Estimate the remaining utilisation potential of library resources

Outcome of Methodology

This methodological approach enables:

- Fair comparison across institutions with differing sizes and durations
- Identification of usage trends, strengths, and gaps in library collections
- Evidence-based insights for improving collection development and circulation policies

ANALYSIS AND INTERPRETATION

The following section presents the analysis and interpretation of data relating to the library collections and their utilization across the selected colleges. The data have been systematically organized into tables to facilitate clear understanding and comparison. The analysis covers distribution of books and reference materials by institution, subject, language, and publisher, along with detailed examination of circulation patterns and usage trends. Time-normalized measures have been applied to ensure uniformity in comparison across institutions with varying data periods. Each table is followed by interpretation to highlight key findings, patterns, and variations in the use of library resources.

Table 1: College-wise Distribution of Books and Reference Books

College	Books	Percentage	Reference Books	Percentage	Total
JSS-KG College Library	14629	96.52%	527	3.48%	15156
MMJC College Library	36085	98.32%	617	1.68%	36702
NDRK College Library	15459	99.45%	85	0.55%	15544
SHFGC College Library	28234	99.70%	86	0.30%	28320
Total	94407	98.63%	1315	1.37%	95722

Table 1 shows the distribution of general and reference books in the selected aided colleges, indicating the share of circulating and non-circulating materials.

The selected colleges have a total of 95,722 books. Of these, 94,407 (98.63%) are general books, and 1,315 (1.37%) are reference books. Overall, collections are mainly general books for circulation, with a few reference materials.

All colleges show this pattern. SHFGC College (99.70%) and NDRK (99.45%) have the highest share of general books. MMJC College (98.32%) and JSS-KG Library (96.52%) also have mostly general books, but JSS-KG Library has a slightly higher proportion of reference materials (3.48%).

In terms of reference collections, JSS-KG Library (3.48%) and MMJC College (1.68%) maintain comparatively higher shares, while NDRK (0.55%) and SHFGC College (0.30%) have minimal reference resources. This suggests that the availability of reference materials varies across institutions, with some libraries maintaining slightly more balanced collections than others.

A key pattern emerging from the table is the consistent dominance of general books across all colleges, with reference books accounting for only a marginal share. This indicates that the collections are primarily designed to support borrowing and regular academic use rather than in-library consultation.

Overall, the table reveals that library collections in the selected colleges are overwhelmingly circulation-oriented, with very limited emphasis on reference resources. The low proportion of reference books may affect access to materials intended for quick consultation, factual verification, and advanced academic support. This highlights the need for a more balanced collection development strategy to adequately support both lending and reference services.

Table 2: Percentage Distribution of Books and Reference Books

College	Books	Book %	Reference Books	Reference Books %
JSS-KG College Library	14629	15.5%	527	40.1%
MMJC College Library	36085	38.2%	617	46.9%
NDRK College Library	15459	16.4%	85	6.5%
SHFGC College Library	28234	29.9%	86	6.5%
Total	94407	100	1315	100

Table 2 presents the percentage distribution of books and reference books across the selected four colleges, indicating each institution’s contribution to the total collection. The percentages are calculated from aggregate totals, thereby reflecting each college's relative share in both general and reference collections.

At the aggregate level, the total collection comprises 94,407 general books and 1,315 reference books, each accounting for 100% of their respective categories. This provides a basis for understanding how individual colleges contribute to the overall holdings.

At the institutional level, MMJC contributes the largest share of both general books (38.2%) and reference books (46.9%), indicating its dominant position in terms of collection size and particularly in reference resources. SHFGC College accounts for 29.9% of the total books, making it the second-largest contributor to the general collection; however, its share of reference books is relatively low (6.5%).

NDRK contributes 16.4% of the total books and 6.5% of the reference books, reflecting a moderate share in general collections but a limited presence in reference materials. In contrast, JSS-KG Library contributes 15.5% of general books but a significantly higher proportion of reference books (40.1%), second only to MMJC College. This indicates a stronger emphasis on reference resources compared to its overall collection size.

A key pattern emerging from the table is the uneven distribution of both general and reference collections across colleges. While MMJC College dominates in both categories, JSS-KG Library shows a disproportionately higher

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contribution to reference materials. On the other hand, NDRK and SHFGC College have relatively lower shares in reference collections despite having substantial general book holdings.

Overall, the table shows that the distribution of library resources is uneven, with some institutions contributing more to the total collection. The variation in reference book distribution suggests differences in collection development priorities and institutional focus.

Table 3: Subject-wise Distribution of Books

	Commerce/ Management	Languages	Science	Social Science	Total
JSS-KG Library	3154 (17.93%)	6365 (17.60%)	622 (4.40%)	4488 (16.93%)	14629
MMJC College Library	4713 (26.80%)	15228 (42.01%)	7454 (52.67%)	8690 (32.78)	36085
NDRK College Library	4073 (23.16%)	4036 (11.06%)	2065 (0.02%)	5285 (19.93)	15459
SHFGC College Library	5647 (32.11%)	10528 (29.12)	4010 (28.34%)	8049 (30.36%)	28234
Total	17587	36157	14151	26512	94407

Table 3 presents the subject-wise distribution of books across the selected colleges, along with their percentage contribution to the total collection. The aggregate collection comprises 94,407 books, of which **Languages constitute the highest share (38.30%)**, followed by **Social Science (28.08%)**, **Commerce/Management (18.63%)**, and **Science (14.99%)**. This clearly indicates that the collections are heavily concentrated in Languages and Social Sciences, while Science remains comparatively underrepresented.

At the institutional level, **MMJC College Library** holds the largest collection (36,085 books) and shows a strong dominance in **Languages (42.01%)** and **Science (52.67%)**, suggesting a relatively diversified and academically balanced collection with a notable emphasis on scientific resources. In contrast, **JSS-KG Library** demonstrates a higher concentration in **Languages (17.60%)** and **Social Science (16.93%)**, while **Science (4.40%)** forms only a minimal portion of its collection, indicating a limited focus on scientific materials.

NDRK College Library presents a comparatively balanced distribution across subjects; however, the percentage of Science appears extremely low (**0.02%**), which may indicate either a data inconsistency or a significantly weak science collection. Social Science (19.93%) and Commerce/Management (23.16%) dominate its holdings. Meanwhile, **SHFGC College Library** shows a strong concentration in **Languages (29.12%)** and **Social Science (30.36%)**, with moderate representation in Commerce/Management (32.11%) and Science (28.34%), reflecting a more proportionate distribution compared to other institutions.

A consistent pattern across all colleges is the dominance of **Languages and Social Science collections**, suggesting institutional priorities aligned towards humanities and social disciplines. The relatively lower share of Science

across most institutions highlights a potential gap in scientific resources, which may impact subject-specific learning and research.

Overall, the table reveals that while collections are substantial in size, their **subject composition is uneven**, with a clear emphasis on Languages and Social Sciences. This imbalance reflects acquisition priorities and may influence both the accessibility and utilisation of subject-specific resources within the colleges.

Table 4: Subject-wise Distribution of Reference Books

	Commerce/ Management	Languages	Science	Social Science	Total
JSS-KG Library	9 (1.71)	43 (8.16)	17 (3.23)	458 (86.91)	527
MMJC College Library	12 (1.94)	33 (5.35)	51 (8.27)	521 (84.44)	617
NDRK College Library	0 (0)	2 (2.35)	1 (1.18)	82 (96.47)	0 (0)
SHFGC College Library	1 (1.16)	10 (11.63)	1 (1.16)	74 (86.05)	1 (1.16)
Total	22	88	70	1135	1315

Table 4 presents the subject-wise distribution of reference books across the selected colleges along with their percentage contribution. At the aggregate level, the total reference collection consists of 1,315 books, of which **Social Science overwhelmingly dominates (86.31%)**, followed by **Languages (6.69%)**, **Science (5.32%)**, and **Commerce/Management (1.67%)**. This clearly indicates that the reference collections are highly concentrated in Social Science, with very limited representation in other subject areas.

At the institutional level, **JSS-KG Library** shows a strong concentration in **Social Science (86.91%)**, with minimal shares in Languages (8.16%), Science (3.23%), and Commerce/Management (1.71%). Similarly, **MMJC College Library** reflects a comparable pattern, where **Social Science (84.44%)** dominates, followed by Science (8.27%), Languages (5.35%), and Commerce/Management (1.94%).

In the case of **NDRK College Library**, the reference collection is almost entirely concentrated in **Social Science (96.47%)**, with negligible contributions from Languages (2.35%) and Science (1.18%), and no representation in Commerce/Management. However, the total value shown appears inconsistent and should be verified for accuracy. Likewise, **SHFGC College Library** demonstrates a similar trend, with **Social Science (86.05%)** forming the major share, while Languages (11.63%), Commerce/Management (1.16%), and Science (1.16%) contribute only marginally; here too, the total value requires correction.

A clear pattern across all institutions is the overwhelming dominance of **Social Science reference books**, indicating a strong institutional emphasis on this discipline. Other subjects, particularly Commerce/Management and Science, are significantly underrepresented, suggesting a lack of balanced development in the reference collections.

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Overall, the table reveals that the reference collections are **highly skewed and lack subject diversity**, with an excessive concentration in Social Science. This imbalance may affect the availability of reference support for other academic disciplines and highlights the need for a more balanced acquisition strategy.

Table 5: Language-wise Distribution of Books

	English	Hindi	Kannada	Sanskrit	Total
JSS-KG Library	5181 (11.51%)	8 (0.91%)	9428 (19.87%)	12 (1.12%)	14629
MMJC College Library	21503 (47.79%)	849 (96.81%)	12670 (2.70%)	1063 (98.79%)	36085
NDRK College Library	8018 (17.82%)	20 (2.28%)	7420 (15.63%)	1 (0.09%)	15459
SHFGC College Library	10292 (22.87%)	0	17942 (37.80%)	0	28234
Total	44994	877	47460	1076	94407

Table 5 presents the language-wise distribution of books across the selected colleges, highlighting the linguistic composition of the overall collection. At the aggregate level, the total collection comprises 94,407 books, of which **Kannada accounts for the largest share (50.27%)**, followed by **English (47.66%)**. In contrast, **Sanskrit (1.14%)** and **Hindi (0.93%)** contribute only a marginal portion of the collection. This indicates a strong dominance of Kannada and English, forming an overwhelmingly bilingual collection.

At the institutional level, **MMJC College Library** shows a significant dominance of **English (47.79%)**, reflecting a strong orientation towards academic and scholarly resources. In contrast, **JSS-KG Library** and **SHFGC College Library** exhibit a higher concentration in **Kannada (19.87% and 37.80% respectively)**, indicating a stronger emphasis on regional language resources. **NDRK College Library** presents a relatively balanced distribution between English (17.82%) and Kannada (15.63%), suggesting a mixed language preference.

A consistent pattern across all institutions is the **minimal representation of Hindi and Sanskrit**, with percentages remaining negligible in comparison to English and Kannada. This suggests limited acquisition or comparatively lower demand for these languages within the academic environment.

Overall, the table reveals that the language composition of the collection is **highly skewed towards English and Kannada**, reflecting both the academic importance of English and the regional relevance of Kannada. The limited presence of other languages highlights a lack of linguistic diversity, which may influence access to multilingual resources and broader cultural or academic perspectives.

Table 6: Language-wise Distribution of Reference Books

	English	Hindi	Kannada	Sanskrit	Total
JSS-KG Library	395 (35.59%)	0	131 (64.9%)	1 (100%)	527
MMJC College Library	563 (50.72%)	2 (100%)	52 (25.74%)	0	617
NDRK College Library	66 (5.95%)	0	19 (9.4%)	0	85
SHFGC College Library	86 (7.75%)	0	0	0	86
Total	1110	2	202	1	1315

Table 6 presents the language-wise distribution of reference books across the selected colleges, highlighting the linguistic composition of the reference collections. At the aggregate level, the total reference collection comprises 1,315 books, of which English constitutes the dominant share (84.41%), followed by Kannada (15.36%). Hindi (0.15%) and Sanskrit (0.08%) contribute only a negligible proportion. This clearly indicates that the reference collections are overwhelmingly oriented towards English-language materials.

At the institutional level, JSS-KG Library shows a distinct pattern where Kannada forms a larger share (64.9%) compared to English (35.59%), suggesting a stronger emphasis on regional language reference resources. In contrast, MMJC College Library is dominated by English (50.72%), with Kannada (25.74%) forming a secondary share and Hindi having only minimal presence. NDRK College Library reflects a relatively smaller contribution to the overall reference collection, with modest representation in English (5.95%) and Kannada (9.4%), and no presence of Hindi or Sanskrit. SHFGC College Library is entirely concentrated in English (7.75%), with no representation of other languages.

A clear trend across the institutions is the dominance of English as the primary language of reference materials, underscoring its importance in academic and research-oriented usage. Kannada holds a secondary but meaningful role in certain institutions, reflecting regional academic needs. However, the near absence of Hindi and Sanskrit indicates very limited linguistic diversity in the reference collections.

Overall, the table reveals that the reference collections are highly skewed towards English, with only partial representation of Kannada and negligible inclusion of other languages. This imbalance suggests a strong preference for English-language reference resources, while also indicating the need for broader linguistic representation to support diverse academic requirements.

Table 7: Distribution of Books by Indian and International Publishers

	Indian	International	Total
JSS-KG Library	14430 (98.64%)	199 (1.36%)	14629
MMJC College Library	33177 (91.94%)	2908 (8.06%)	36085
NDRK College Library	14834 (95.96%)	625 (4.04%)	15459
SHFGC College Library	27299 (96.69%)	935 (3.31%)	28234
Total	89740	4667	94407

Table 7 presents the distribution of books based on publisher origin, distinguishing between Indian and international publications across the selected colleges. At the aggregate level, the total collection consists of 94,407 books, of which **Indian publications account for 95.06%**, while **international publications constitute only 4.94%**. This clearly indicates a strong dominance of Indian publishers in the overall collection.

At the institutional level, **JSS-KG Library** shows an overwhelming reliance on Indian publications (98.64%), with only a minimal share of international books (1.36%). Similarly, **SHFGC College Library** (96.69%) and **NDRK College Library** (95.96%) also demonstrate a very high proportion of Indian publications, reflecting a consistent pattern across these institutions. In contrast, **MMJC College Library** has the highest representation of international publications (8.06%) among the selected colleges, indicating relatively greater inclusion of global resources compared to others.

A clear trend across all institutions is the dominance of Indian publications, suggesting that collection development is largely oriented towards locally available and curriculum-relevant materials. The comparatively low proportion of international publications may be attributed to factors such as cost constraints, accessibility, and alignment with academic requirements.

Overall, the table reveals that the collections are heavily skewed towards Indian publishers, with limited integration of international resources. While this supports regional relevance and affordability, the relatively low share of international publications may restrict exposure to global academic perspectives, indicating a need for a more balanced acquisition strategy.

Table 8: Distribution of Reference Books by Indian and International Publishers

	Indian	International	Total
JSS-KG Library	457 (86.72)	70 (13.28)	527

MMJC College Library	474 (76.82)	143 (23.18)	617
NDRK College Library	76 (89.41)	9 (10.59)	85
SHFGC College Library	32 (37.21)	54 (62.79)	86
Total	1039	276	1315

Table 8 presents the distribution of reference books based on publisher origin across the selected colleges. At the aggregate level, the total reference collection consists of 1,315 books, of which Indian publications account for 79.01%, while international publications contribute 20.99%. This indicates that although Indian publishers dominate the reference collections, the share of international publications is relatively significant compared to the general book collections.

At the institutional level, JSS-KG Library shows a strong preference for Indian publications (86.72%), with a smaller proportion of international books (13.28%). Similarly, NDRK College Library also reflects a high dominance of Indian publications (89.41%) with limited international representation (10.59%). MMJC College Library, however, shows a comparatively higher share of international publications (23.18%), indicating a more balanced inclusion of global reference materials. In contrast, SHFGC College Library exhibits a unique pattern, where international publications (62.79%) exceed Indian publications (37.21%), suggesting a stronger emphasis on globally published reference sources.

A notable trend observed in the table is that the proportion of international publications is higher in reference collections than in the general collection. This suggests that reference materials are more likely to include globally recognized sources, which are essential for academic research and advanced study.

Overall, the table indicates that while Indian publications form the core of the reference collections, there is a meaningful inclusion of international resources, contributing to a more diversified and academically supportive reference collection.

Table 9: Time-Normalized Library Collection Use and Potential

College	Total Books (A)	Qualified Circulated (B)	Qualified Years (C)	Annual Discovery Rate (%) (D)	Annual Turnover Rate (E)	Non-Circulated Books (F)	Remaining Potential (%) (G)
JSS-KG Library	14,629	6,708	7	6.55%	0.066	7,921	54.15%
MMJC College Library	36,085	10,051	6	4.64%	0.046	26,034	72.15%
NDRK College Library	15,459	1,211	7	1.12%	0.011	14,248	92.17%

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SHFGC College Library	28,234	5,240	8	2.32%	0.023	22,994	81.44%
Total	94,407	23,210	7	3.51%	0.035	71,197	75.42%

Table 9 presents a time-normalized analysis of library collection utilization using indicators such as the Annual Discovery Rate (ADR), the Annual Turnover Rate (ATR), and the Remaining Potential. These measures collectively provide insights into the extent to which library collections are being used and the proportion that remains unutilized.

At the aggregate level, the total collection comprises 94,407 books, out of which 23,210 books have been circulated during the study period. The overall Annual Discovery Rate (3.51%) indicates that only a small proportion of the total collection is accessed by users each year. Similarly, the Annual Turnover Rate (0.035) suggests that, on average, each book is circulated only a limited number of times annually, reflecting moderate to low usage intensity. A significant observation from the table is the high volume of non-circulated books (71,197), which accounts for a substantial portion of the total collection. The corresponding Remaining Potential (75.42%) indicates that nearly three-fourths of the collection remains unused during the study period. This highlights a considerable gap between the availability of resources and their actual utilization.

The values of ADR and ATR further reinforce the observation that collection usage is relatively limited, with only a small fraction of resources being actively accessed. The high remaining potential suggests that a large segment of the collection has not yet been discovered or utilized by users, representing untapped value within the library.

Overall, the table reveals that while a portion of the collection is being utilized, a substantial majority remains underused, indicating the need for improved strategies such as user awareness programs, demand-driven acquisition, better catalogue visibility, and periodic evaluation of low-usage materials to enhance overall collection effectiveness.

Table 10: Subject-wise Distribution and Percentage of Circulated Books

College	Commerce/ Management	% of Total Circ.	Languages	% of Total Circ.	Science	% of Total Circ.	Social Science	% of Total Circ.	Total Circulated
JSS-KG Library	2000	29.82%	1817	27.09%	379	5.65%	2512	37.45%	6708
MMJC College Library	1700	16.91%	2962	29.47%	2574	25.61%	2815	28.01%	10051
NDRK College Library	579	47.81%	131	10.82%	198	16.35%	303	25.02%	1211
SHFGC College	2045	39.03%	1187	22.65%	294	5.61%	1714	32.71%	5240

Library									
Total	6324	27.25%	6097	26.27%	3445	14.84%	7344	31.64%	23210

Table 10 presents the subject-wise distribution of circulated books along with their percentage composition, highlighting patterns of user engagement across major subject categories.

At the aggregate level, 23,210 circulation transactions are recorded. Among the subject categories, Social Science accounts for the highest share (7,344 transactions; 31.64%), followed by Commerce/Management (6,324; 27.25%) and Languages (6,097; 26.27%), which show nearly equal levels of usage. Science records the lowest share (3,445; 14.84%), indicating comparatively lower engagement with this subject area.

The distribution indicates that circulation activity is concentrated primarily in Social Science, suggesting strong user interest and demand in this domain. Commerce/Management and Language collections also demonstrate substantial usage, contributing almost equally to the overall circulation. In contrast, Science collections account for a smaller proportion, reflecting relatively limited usage compared to other subjects.

Overall, the table reveals a clear variation in subject-wise usage patterns, with Social Science emerging as the most utilized category, followed by moderate and balanced usage in Commerce/Management and Languages, while Science remains the least utilised. This pattern highlights differences in user demand across disciplines and suggests the need to align collection development strategies with observed usage trends.

Table 11: Circulation and Item Use – Commerce/Management

College	Transactions (T)	Items (B)	Years (Y)	T per Item	Annual T per Item
JSS-KG Library	8303	2000	7	4.15	0.59
MMJC College Library	12559	1700	6	7.39	1.23
NDRK College Library	1134	579	7	1.96	0.28
SHFGC College Library	7929	2045	8	3.88	0.48
	29925	6324	7	4.73	0.68

Table 11 presents the circulation transactions and item-wise usage analysis of Commerce/Management collections, using indicators such as Transactions per Item and Annual Transactions per Item to assess usage intensity and time-normalized utilization.

At the aggregate level, 29,925 circulation transactions are recorded across 6,324 items over an average period of 7 years. The overall Transactions per Item (4.73) indicates that, on average, each Commerce/Management book has been used nearly five times during the study period. When adjusted for time, the Annual Transactions per Item (0.68) shows that each item is circulated less than once per year, reflecting moderate utilization of the collection.

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The values for Transactions per Item and Annual Transactions per Item suggest that the Commerce/Management collection experiences steady, but not intensive, use. While the overall usage indicates that the collection is being accessed by users, the annualized rate reveals that the frequency of use per item remains relatively limited.

Overall, the table indicates a moderate level of utilization of Commerce/Management resources, where the collection is neither highly underutilized nor heavily used. The findings suggest that there is scope to improve usage through enhanced access, greater promotion of resources, or alignment of the collection with user needs.

Table 12: Circulation and Item Use – Languages

College	Transactions (T)	Items (B)	Years (Y)	T per Item	Annual T per Item
JSS-KG Library	7390	1817	7	4.07	0.58
MMJC College Library	18690	2962	6	6.31	1.05
NDRK College Library	205	131	7	1.56	0.22
SHFGC College Library	2630	1187	8	2.22	0.28
	28915	6097	7	4.74	0.68

Table 12 presents the circulation transactions and item-wise usage analysis of Language collections, highlighting usage intensity through Transactions per Item and Annual Transactions per Item.

At the aggregate level, 28,915 circulation transactions are recorded across 6,097 items over an average period of 7 years. The overall Transactions per Item (4.74) indicates that, on average, each language book was used nearly 5 times during the study period. When normalized over time, the Annual Transactions per Item (0.68) shows that each item is circulated less than once per year, reflecting moderate utilization.

The values indicate that the Language collection experiences steady, consistent use, comparable to that of other major subject areas. While the total usage suggests the collection is actively accessed, the annualized figure shows the frequency of use per item remains moderate rather than intensive.

Overall, the table shows that the Language collection maintains a balanced level of utilization, with regular user engagement but scope for increased usage. The findings suggest that while the collection is relevant and used, further strategies such as improved visibility, promotion, or alignment with user needs could enhance its utilization.

Table 13: Circulation and Item Use – Science

College	Transactions (T)	Items (B)	Years (Y)	T per Item	Annual T per Item
JSS-KG Library	3002	379	7	7.92	1.13
MMJC College Library	27646	2574	6	10.74	1.79
NDRK College Library	373	198	7	1.88	0.27

SHFGC College Library	1057	294	8	3.60	0.45
	32078	3445	7	9.31	1.33

Table 13 presents the circulation transactions and item-wise usage analysis of Science collections, highlighting usage intensity through Transactions per Item and Annual Transactions per Item.

At the aggregate level, 32,078 circulation transactions are recorded across 3,445 items over an average period of 7 years. The overall Transactions per Item (9.31) indicates that, on average, each science book was used more than 9 times during the study period. When adjusted for time, the Annual Transactions per Item (1.33) shows that each item is circulated more than once per year, reflecting a relatively high level of utilization.

The values for Transactions per Item and Annual Transactions per Item indicate that the Science collection experiences heavy use. The high usage intensity suggests that available scientific resources are actively used and closely aligned with user needs.

Overall, the table reveals that the Science collection demonstrates a high level of utilization, with frequent circulation of items each year. This indicates effective use of the collection and suggests that the resources are relevant and in demand.

Table 14: Circulation and Item Use - Social Sciences

College	Transactions (T)	Items (B)	Years (Y)	T per Item	Annual T per Item
JSS-KG Library	9562	2512	7	3.81	0.54
MMJC College Library	26285	2815	6	9.34	1.56
NDRK College Library	493	303	7	1.63	0.23
SHFGC College Library	4915	1714	8	2.87	0.36
	41255	7344	7	5.62	0.8

Table 14 presents the circulation transactions and item-wise usage analysis of Social Science collections, using Transactions per Item and Annual Transactions per Item to assess usage intensity and time-normalized utilization.

At the aggregate level, 41,255 circulation transactions are recorded across 7,344 items over an average period of 7 years. The overall Transactions per Item (5.62) indicates that each Social Science book has been used more than five times during the study period. When adjusted for time, the Annual Transactions per Item (0.80) shows that each item is circulated less than once per year, reflecting a moderate level of utilization.

The values suggest that the Social Science collection experiences steady, consistent use, with higher overall usage than in some subject areas, but a moderate annual usage rate when normalized over time. This indicates that while the collection is actively used, the frequency of use per item is not very high on an annual basis.

Overall, the table reveals that the Social Science collection demonstrates moderate to high utilization, with regular circulation and sustained user engagement. The findings suggest that the collection is relevant and frequently used, though there remains scope for further enhancing its annual usage.

CONCLUSION

The study reveals significant variations in the composition and utilization of library collections across the selected colleges. While the distribution of books and reference materials differs by institution, subject, language, and publisher, the analysis indicates that certain subject areas and categories experience higher circulation and demand than others. The application of time-normalized measures such as ADR and ATR enabled a fair comparison and highlighted disparities in usage efficiency among the libraries. Subject-wise analysis further showed that disciplines like Commerce/Management and Science tend to have higher usage rates, whereas some areas remain underutilized. The findings also point to an imbalance between collection size and actual usage in certain institutions, suggesting the need for more user-oriented collection development. Overall, the study underscores the importance of continuous evaluation of library resources and circulation patterns to optimize collection utilization, improve access, and support the academic needs of users more effectively.

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