

Evaluating Library Collection Utilization Based on ISO 11620:2014: A Pilot Study at Slamet Riyadi University

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ABSTRACT

Purpose Research. This study evaluates collection utilization at the UNISRI Library using ISO 11620:2014 and describes factors related to collection availability and library services in the use of printed and electronic collections. The study is important for supporting evidence-based collection evaluation and service improvement in higher education libraries. **Research Method.** This study employed a descriptive quantitative pilot design by combining library automation system (SLiMS) data on visits and circulation with a questionnaire administered to 30 student users of the UNISRI Library. **Analysis Data.** The data were analyzed using descriptive statistics and interpreted based on selected ISO 11620:2014 indicators covering collection utilization, collection availability, and library service performance. **Results.** The findings show a utilization gap: library visits were relatively high, but borrowing and the use of electronic collections remained low to moderate. Printed collections were generally perceived as relevant and sufficiently current, and library services were rated positively. However, collection utilization was constrained by item unavailability, difficulties using the OPAC, ineffective search and retrieval, and metadata-related problems in accessing electronic resources. **Conclusions.** Collection utilization at the UNISRI Library remains limited despite positive perceptions of collection relevance and service quality, indicating that availability management and discovery and access systems remain key constraints. Improving utilization therefore requires better access tools, stronger metadata quality, and more targeted user guidance. Further research should involve a larger sample and a longer observation period.

Keywords: *Collection Utilization; Academic Library; ISO 11620:2014; Library Performance; Electronic Collections*

A. INTRODUCTION

University libraries are a key part of academic infrastructure. They support the Tri Dharma of higher education—teaching, research, and community service—by providing information resources for the academic community. In Indonesia, university libraries follow the National Standards for Higher Education Libraries,

which set minimum requirements for operations, management, and development (National Library of the Republic of Indonesia, 2024). The NSPK for Higher Education Libraries (2021 revision) also emphasizes standardization. Its goal is to align management practices so that services and performance are more consistent and measurable (National Library of the Republic of Indonesia, 2021).

Meeting standards, however, does not guarantee high collection use. A library may have adequate collections and facilities, but use can remain low if the collections do not match users' needs or if access is difficult. For this reason, evaluating collection use is important. It helps ensure that library resources are actually used and support academic activities. Collection evaluation assesses the strengths and weaknesses of a collection in meeting institutional and user needs (American Library Association, 1979). Collection use is also shaped by accessibility, relevance, and fit with users' needs. This means evaluation should focus on users, not only on the collection itself (Brophy, 2000).

For performance measurement, ISO 11620:2014 recommends library performance indicators to evaluate service quality. It also provides a framework that can be applied across different types of libraries (International Organization for Standardization [ISO], 2014). Research using ISO 11620:2014 shows that usage indicators can be derived from service data, such as circulation records, to support more objective evaluation (Suhendani, 2021).

Barriers in information retrieval can also reduce collection use. Studies on OPAC in university libraries report that users still face difficulties, such as limited understanding of features and usability issues. This suggests the need to improve the interface and strengthen user education to support better searching and higher collection use (Anjelina et al., 2024). Previous studies also highlight gaps between academic needs and available collections. A citation-based study found that only a small share of cited references was available in the library. This supports the need for evidence-based and user-oriented collection development (Nursyahbani & Fajriyah, 2022). Information literacy programs also matter. Training can improve users' ability to access and use library resources effectively (Asaniyah, 2024). However, these studies have mostly examined collection use from separate perspectives, leaving limited evidence that integrates actual utilization data and user perceptions in evaluating both printed and electronic collections within a single performance framework.

Based on this framework, the study assesses three ISO 11620:2014-based domains: collection utilization, collection availability, and library service performance. These domains are important because collection use is shaped not only by the existence and relevance of collections, but also by whether materials are available when needed and whether library services and access systems enable users to locate and use them effectively. This study focuses on the UNISRI Library, which manages both printed and electronic collections through an automated library system and therefore provides a relevant case for examining collection

utilization in a higher education library context. It examines whether the use of printed and electronic collections is optimal and identifies related factors.

The novelty of this study lies in its integrated evaluation approach, which responds to the limited use of combined behavioral and perceptual evidence in previous studies of collection utilization. It combines evidence of actual user behavior (circulation and visit data from the library automation system) with user perceptions (survey results). This approach provides a more complete picture than studies that rely on only one data source (Suhendani, 2021; Nursyahbani & Fajriyah, 2022). The research question is: What is the level of collection use in the UNISRI Library, and how are collection availability and library services related to it? This study aims to map the level of collection use and propose recommendations based on users' needs, in line with national standardization policy for university libraries (National Library of the Republic of Indonesia, 2024).

B. METHODS

This study employed a descriptive quantitative approach to evaluate library collection utilization and its related factors using selected library performance indicators from ISO 11620:2014. The design was chosen because the study aims to describe measurable conditions (e.g., circulation, visits, and users' perceptions) as they occur in the field rather than testing causal hypotheses. This approach is aligned with the study's intention to provide an evidence-based evaluation of library performance indicators.

This pilot study was conducted at the UNISRI Library, Surakarta, Indonesia. The library manages its printed collections using an automation system (SLiMS), which also records circulation and visit statistics. The population of this study comprised users of the UNISRI Library. For the questionnaire component, the accessible population consisted of active UNISRI student users during the study period. The survey participants were active UNISRI students who had visited the library and used its collections or services. These participants were selected because they were considered able to provide preliminary information based on direct experience with library collections and services.

This pilot study was conducted to assess the feasibility of recruiting users and administering the questionnaire, as well as to generate preliminary descriptive evidence to inform a larger study (In, 2017; Thabane et al., 2010; van Teijlingen & Hundley, 2001). Participants were recruited using purposive sampling and were eligible if they were active UNISRI students who had visited the library and used its collections or services. A total of 30 student respondents completed the questionnaire survey in June 2025. This sample was used for pilot feasibility purposes rather than as a statistically representative sample for general survey inference. In pilot studies, sample size is primarily intended to assess feasibility and study procedures rather than to provide adequate power for hypothesis testing

(In, 2017). In addition, 30 representative participants have been suggested as a reasonable minimum for preliminary survey or scale development, and 30 respondents is generally sufficient for assessing questionnaire reliability in a pilot study (Johanson & Brooks, 2010; Bujang et al., 2024).

This study uses ISO 11620:2014 as a conceptual framework to define the key indicators assessed (see Table 1), covering collection utilization, collection availability, and library service performance. In this study, collection utilization was represented by loans, visits, and the use of electronic collections; collection availability by perceived relevance and availability of materials; and library service performance by loan policy, ease of access, and user satisfaction.

Table 1. Operational definition of variables

Variable	Indicator	Operational definition	Main data source
Collection utilization (Y)	Number of loans	Total number of printed items borrowed within a specific period.	SLiMS circulation statistics; survey
	Library visits	Total number of on-site visits within a specific period.	SLiMS visit log; survey
	Frequency of e-collection use	Total accesses/uses of digital resources (e-journals/e-books) within a period.	Survey (and system log if available)
	Percentage of stock not used	Percentage of physical/digital collection never borrowed/used within a period.	SLiMS circulation statistics; library report
Collection availability (X1)	Availability and relevance	The extent to which available collections match users' information needs.	Survey
Library services (X2)	Loan policy	Rules related to loan duration, borrowing limits, and overdue fines.	Survey; library policy document
	Ease of access	Availability of facilities/IT systems supporting access, borrowing, and discovery (e.g., OPAC, digital repository).	Survey; observation/documentation
	User satisfaction	Perceived satisfaction with services, measured through a satisfaction survey.	Survey

This study used two types of data:

1. Primary data from a structured questionnaire distributed to students. The questionnaire includes items covering collection utilization (printed and electronic), perceived availability/relevance, perceived service quality, and overall satisfaction.
2. Secondary data were obtained from SLiMS reports, including circulation and visit records for 2023–2025. The 2025 data were available only as partial-year records at the time the reports were retrieved.

The questionnaire instrument was tested for validity and reliability using SPSS. Item validity was assessed by comparing item-correlation coefficients with the r-table value. With 30 respondents, the r-table value used in this study was 0.361, and all questionnaire items exceeded this threshold; therefore, all items were considered valid. Reliability was assessed using Cronbach's alpha, and the instrument showed good internal consistency with an overall Cronbach's alpha coefficient of 0.88.

Data collection followed two parallel steps. First, the researchers retrieved circulation and visit statistics from SLiMS for the 2023–2025 study period using the system reporting modules. The records were exported to spreadsheet format, screened for obvious errors or missing entries, and then aggregated by year and relevant categories to describe utilization trends. Second, the researchers administered a self-administered questionnaire to eligible student users. Completed questionnaires were checked for completeness, coded, entered into a spreadsheet, cleaned, and tabulated for descriptive analysis.

Data analysis was conducted using descriptive statistics (frequencies and percentages) to present: (1) utilization patterns from SLiMS, and (2) user perceptions from the questionnaire. The results were then interpreted using the study's ISO-based indicators and the operational definitions provided in Table 1. ISO 11620 was updated to ISO 11620:2023, which adds new indicators beyond the 2014 set (e.g., SDGs-related and impact-oriented measures) (Bahrudin, 2023). This study uses ISO 11620:2014 for three reasons: (1) it has been adopted in Indonesia as SNI ISO 11620:2014 through a BSN decree, making it a practical national reference; (2) most core indicators remain comparable, because 47 of 52 indicators are retained in ISO 11620:2023 with no change in calculation methods; and (3) the present study focuses on utilization, availability, and service aspects that are fully covered by the retained 2014 indicators, while many new 2023 domains fall outside the scope of the current variable model.

C. RESULT AND DISCUSSION

After the questionnaire was confirmed to meet the validity and reliability criteria, the respondent characteristics were analyzed. In this pilot study ($n = 30$), most respondents were female (70.0%, $n = 21$), while male respondents accounted for 30.0% ($n = 9$). Respondents were mainly from the 4th semester (73.3%, $n = 22$), followed by the 6th semester (13.3%, $n = 4$), 2nd semester (10.0%, $n = 3$), and 8th semester (3.3%, $n = 1$) (see Table 2). The participants represented several study programs, including Management, Law, Accounting, Communication Studies, Primary School Teacher Education (PGSD), Food Technology, Public Administration, and Civics Education (PPKn), suggesting that library users in this pilot sample came from diverse academic backgrounds.

Table 2. Respondent demographics

Variable	Category	n	%
Gender	Male	9	30
	Female	21	70
Semester	2	3	10
	4	22	73
	6	4	13
	8	1	3

1. SLiMS-based library utilization (visits and circulation)

SLiMS records indicate that library utilization was highest in 2023, followed by a decline in 2024, both in terms of library visits and collection circulation (see Table 3). In 2023, the UNISRI Library recorded 43,514 visits and 1,608 loans (copies borrowed). In 2024, the number of visits decreased to 16,289, while total loans declined to 619. For 2025, the available SLiMS data cover January–May for visits (4,021) and January–June for loans (951); therefore, these figures represent partial-year data and should not be interpreted as annual totals. Analysis of circulation by subject classification shows that materials in class 300 and class 600 were the most frequently borrowed, whereas class 200 and class 900 were the least utilized. This distribution provides an initial indication of subject areas that are more closely aligned with users' academic needs.

Table 3. Library visits and circulation based on SLiMS

Year	Data coverage	Total visits	Total loans (copies)
2023	Full year	43,514	1,608
2024	Full year	16,289	619
2025	Jan–May (visits); Jan–Jun (loans)	4,021	951

2. Utilization of printed collections

Survey results indicate that respondents visited the library regularly, but borrowing and in-library reading of printed collections were generally low to moderate. Although routine visits were common, borrowing behavior was dominated by occasional and infrequent use, and a small proportion of respondents reported never borrowing printed materials. In terms of in-library reading, most respondents reported reading printed collections sometimes, followed by often, while only a small number reported very often. A minor proportion also reported rarely or never reading printed materials inside the library. Overall, textbooks were identified as the most frequently used type of printed collection (see Table 4).

Table 4. Printed collection utilization based on the survey

Aspect	Category	n	%
Visit frequency	Routine	19	63.3
	Very frequent	3	10.0
	Occasional	8	26.7
	Rare	1	3.3
Borrowing frequency	Frequent	3	10.0
	Sometimes	14	46.7
	Rarely	9	30.0
	Never	4	13.3
Number of items borrowed (per semester)	Many	2	6.7
	Moderate (as needed)	9	30.0
	Few	15	50.0
	Very few	4	13.3
In-library reading of printed materials	Never	1	3.3
	Rarely	2	6.7
	Sometimes	16	53.3
	Often	9	30.0
	Very often	2	6.7
Most-used printed collection type	Textbooks	13	43.3

3. Collection availability and relevance

Survey results show that respondents generally perceived the library collection as adequate and relevant, although practical availability constraints were still reported when users searched for specific materials (see Table 5). Most respondents rated the collection as quite relevant to relevant, while perceptions of currency were largely positive but concentrated at the “quite up to date” level rather than the highest category. Despite these favorable perceptions, users continued to experience barriers related to item availability and access through the OPAC, indicating gaps between perceived adequacy and actual usability.

Table 5. Perceived availability, relevance, and currency of printed collections

Aspect	Category	n	%
Perceived relevance of collections	Very relevant	2	6.7
	Relevant	11	36.7
	Quite relevant	14	46.6
	Less relevant	3	10.0
Perceived currency of collections	Very up to date	2	6.7
	Up to date	7	23.3
	Quite up to date	21	70.0

Aspect	Category	n	%
Constraints in accessing printed collections	Required item not available	13	43.3
	Difficulty using OPAC	10	33.3
	Item cannot be borrowed	4	13.3
	Multiple constraints experienced	2	6.7

4. Library Services

Overall, respondents reported positive perceptions of library services, particularly regarding librarian friendliness, circulation efficiency, and facility comfort (see Table 6). Most respondents perceived librarians as friendly (with responses concentrated in the “friendly” and “very friendly” categories), and the circulation process was generally considered fast. Facilities were also rated positively, with no respondents providing negative evaluations, suggesting that the service environment is supportive for academic library use.

Table 6. Perceived library service quality

Service aspect	Category	n	%
Librarian friendliness	Very friendly	12	40.0
	Friendly	16	53.3
	Quite friendly	2	6.7
Circulation speed	Very fast	4	13.3
	Fast	17	56.7
	Quite fast	6	20.0
	Less fast	1	3.3
	Not fast	2	6.7
Facility comfort and ease of use	Very easy and comfortable	10	33.3
	Easy and comfortable	11	36.7
	Quite easy	9	30.0

5. Utilization of electronic collections

Survey results indicate that the utilization of electronic collections among respondents was generally low, even though access was perceived as relatively easy. Overall, the pattern suggests a gap between perceived accessibility and actual use, with reported obstacles pointing more to search and retrieval effectiveness than to basic access availability. Details are provided in Table 7.

Table 7. Utilization and access issues for electronic collections

Aspect	Category	n	%
	Never	14	46.7
	Rarely	6	20.0

Aspect	Category	n	%
Frequency of electronic collection access	Sometimes	9	30.0
	Very often	1	3.3
Perceived ease of access	Very difficult	0	0.0
	Difficult	0	0.0
	Quite easy	21	70.0
	Easy	7	23.3
	Very easy	2	6.7
Barriers to accessing electronic collections	Difficulty using the search system	9	30.0
	Access restricted or downloads not possible	7	23.3
	Required collection not available in the repository	6	20.0
	Collection difficult to find due to inaccurate/poorly indexed metadata	6	20.0
	Difficulty downloading journals	1	3.3
	No barriers experienced	1	3.3

This pilot study integrates SLiMS statistics with a user survey to interpret collection utilization at the UNISRI Library using the performance measurement logic of ISO 11620:2014. ISO 11620 emphasizes that library performance should be interpreted through multiple indicators that reflect both use and the conditions that enable use, rather than relying on a single metric such as visits (ISO, 2014). Read together, the findings indicate a utilization gap: physical visits were evident, yet borrowing of printed materials and the use of electronic collections remained low to moderate. This pattern suggests that collection utilization should be interpreted not only in terms of user presence in the library, but also in relation to the effectiveness of access, discovery, and availability mechanisms that connect users to collections.

The SLiMS profile shows substantial visit activity and measurable circulation, while the survey indicates that many students visited the library routinely but borrowed collections only occasionally. This pattern is consistent with studies showing that academic libraries increasingly function as learning spaces, where students come for studying and academic activities even when circulation does not rise proportionally (Rose-Wiles et al., 2020; Kim & Yang, 2022; DeFrain et al., 2022; Ju et al., 2023). In post-pandemic contexts, changes in academic library space use and service organization have also contributed to shifting patterns of library use (Chigwada, 2024; Goldberg, 2024; Thornton et al., 2024). Therefore, the findings suggest that library visits and collection utilization should not be treated as equivalent indicators, because they capture different dimensions of library use.

For printed collections, respondents generally perceived the collection as relevant and sufficiently current, yet constraints emerged when users attempted to locate or obtain specific items. This suggests that perceived relevance alone is not sufficient to produce high utilization. In ISO 11620 terms, utilization outcomes

are closely related to access conditions, because even a relevant collection may remain underused when discovery tools are difficult to use or when item availability fails at the point of need (ISO, 2014). This interpretation is consistent with Indonesian studies showing that collection use is shaped not only by collection adequacy, but also by catalog usability and the availability of required materials for academic work (Anjelina et al., 2024; Nursyahbani & Fajriyah, 2022). The findings therefore indicate that collection evaluation should consider not only what the library owns, but also how effectively users can locate and obtain what they need.

The importance of discovery is reinforced by OPAC usability studies in Indonesian academic library settings. Evidence from usability evaluations shows that OPAC usability is measurable and influences users' ability to complete search tasks efficiently, which can affect whether users proceed to access collections (Khatun & Ahmed, 2018; Saragih & Sayekti, 2024; Ridlo et al., 2024). This is consistent with the present findings, where OPAC difficulties appear alongside moderate borrowing and reported availability constraints. In practice, this implies that improving utilization may require bibliographic and technical interventions such as better indexing consistency, clearer subject access, and improvements to search interfaces and workflows, rather than focusing only on additional acquisitions.

Service perceptions help strengthen this interpretation. Respondents generally rated librarian friendliness, circulation speed, and facilities positively, suggesting that, in this study, collection utilization was not primarily constrained by frontline service quality. Instead, the findings point to a more specific bottleneck in the access pathway: users may be satisfied with services and facilities, yet still fail to obtain needed materials efficiently if discovery systems are difficult to use or if items are unavailable when needed. In this study, positive service perceptions therefore did not automatically correspond to high collection utilization when operational barriers remained.

Electronic collection results sharpen the same message. Respondents tended to perceive electronic access as easy, yet actual use was low, and reported barriers clustered around search effectiveness, restricted downloads, and difficulty locating materials due to metadata issues. Research in Indonesia on continued use of online library resources indicates that sustained utilization is shaped by usability, satisfaction, and perceived usefulness rather than access availability alone (Ratnasari & Sensuse, 2017; Ramadhan et al., 2022). Repository related studies also show that access policies vary across institutions, ranging from full open access to partial access and metadata only access, and these choices can shape user experience and utilization (Prost & Schöpfel 2014; Rodliyah, 2023). The reported metadata and findability barriers in this study are also consistent with evidence that repository metadata quality affects discoverability and user access, supporting the need for metadata governance and routine quality control (Yusrizal et al., 2024; Marc et al., 2016; Řezník et al., 2022).

Taken together, the results suggest that improving utilization at UNISRI should prioritize operational improvements that connect users to content. First, discovery improvements should target OPAC and digital search usability and metadata quality because these factors appear repeatedly across printed and electronic collection use (Anjelina et al., 2024; Saragih & Sayekti, 2024; Yusrizal et al., 2024). Second, availability management for printed collections should be strengthened because perceived relevance will not translate into use if users repeatedly encounter unavailability at the point of need (Nursyahbani & Fajriyah, 2022). Third, user guidance should be more task based, focusing on how to search effectively, refine queries, and access or download electronic materials through the actual systems users encounter, which is consistent with findings that information literacy activities can strengthen effective resource use (Asaniyah, 2024; Sakinah et al., 2021). These priorities also align with Indonesia's standards-oriented direction for higher education libraries, which encourages measurable improvement in service and collection performance (National Library of the Republic of Indonesia, 2024).

Because this is a pilot study with a limited sample in a single institution, the discussion should be interpreted as an initial diagnostic rather than a statistically generalizable assessment. However, combining system indicators with user reported barriers provides a practical baseline to identify where utilization is most likely constrained and where improvements may yield measurable gains, consistent with ISO 11620:2014's performance improvement orientation (ISO, 2014).

E. CONCLUSION

This pilot study shows that collection utilization at the UNISRI Library remains suboptimal despite relatively high library visits and generally positive perceptions of collection relevance and service quality. The findings indicate that utilization is constrained less by frontline service issues than by operational barriers related to collection availability, OPAC use, search and retrieval effectiveness, and metadata quality in electronic resource access. These results suggest that improving collection utilization requires not only relevant collections and supportive services, but also effective discovery and access mechanisms. Practically, the library should prioritize metadata improvement, strengthen electronic collection development and access, and provide more targeted student guidance on the use of the OPAC and electronic resources. Because this study was conducted as a pilot study in a single institution with a limited sample, the findings should be interpreted as an initial diagnostic and confirmed through further research with a larger sample and a longer observation period.



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