



User Perceptions of Artificial Intelligence and Library-Led AI Literacy: A Survey at Guru Nanak Dev University, Amritsar

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Abstract

Artificial intelligence is transforming the way we search, assess and utilize information. Ability to work with algorithms in a critical way – AI-literacy – is becoming a prerequisite for full participation in education. For a long time, academic libraries have served as the institution home for information literacy, making them a natural choice to carry that new function. However, there is little proof of how library users in India perceive that role. A structured questionnaire comprising of 25 five-point Likert statements was administered to cadre of 153 users comprising of students, research scholars, library staff and faculty of Guru Nanak Dev University, Punjab. The responses obtained were analysed through frequency, percentage, mean, median, standard deviation and rank. The responses were predominantly positive with 74.2% of the responses on the agree side of the scale and the highest-rated response in the survey was librarians need to be trained in AI (Mean = 4.25). According to a mean of 3.14, the lowest ratings were on institutional capacity, with only 29.4% agreeing that their library is well funded for adopting AI. Library staff had the lowest meanscores and faculty the highest. There has been growing concern about privacy at the same time with enthusiasm on AI. According to the findings, it is clear that the library is in demand but has insufficient resources to offer AI literacy. And it has direct implications for libraries' policy, staffing and resources across Indian higher education.

Keywords: AI literacy, artificial intelligence, academic libraries, digital divide, university libraries, India, user perceptions, library services

1. Introduction

Artificial intelligence is embedded in many academic tools search, recommendation, summarisation, translation, plagiarism-detection that researchers use in their everyday work today. Effectively using these tools requires more than technical know-how: users also need to be aware of what AI can do, where it goes wrong and what it means for privacy and accuracy. These skills are known as AI literacy (Long & Magerko, 2020). Researchers have found AI literacy to be a different concept from digital literacy, one that needs to be taught explicitly (Ng et al., 2021; Miao et al., 2021). If it is not taught, a new gap will emerge between the capable users of AI and incapable users (van Deursen & van Dijk, 2019; Lythreath et al., 2022). Given the traditional role of the academic library in teaching information literacy, this new teaching finds a natural home there (Ridley & Pawlick-Potts, 2021; Cox, 2023).

In India, this potential is already built on established foundations. University libraries routinely manage the e-resources, institutional repositories and plagiarism screening of research making a case for an AI literacy role as an extension of



functions already performed and not an unfamiliar task. It remains unclear if libraries are ready and if their users expect them to do so to teach AI literacy. The evidence at hand is limited and unbalanced. Research on academic libraries has principally reported the perceptions of the librarians themselves (Ali et al. 2020), along with their readiness to work with AI-based systems (Hervieux and Wheatley 2021). The work of Lund et al. in 2020, extended this to the opportunities and challenges that generative AI represent for library services, and, Alam et al. in 2024, to the worries of professionals in the Zambian context. It is rare that individuals engaged in such a programme are consulted and Indian evidence of either kind remains sparse. Due to the limitation of activities, libraries are only capable of planning for observed demand and need. As a result of such activity, an important gap has been created concerning the knowledge of AI literacy within Indian academic libraries.

2. Review of Literature

The literature linked to this study ranges from the general notion of AI literacy to the specific case of libraries. AI Literacy has been defined by Long and Magerko (2020) as a set of skills that enables a person to critically judge artificial intelligence and use it well. Ng et al. (2021) divided it further into four parts knowing, using, evaluating and ethics which shows that it is not same as a computer skill. One of the reasons for widely teaching it is fairness. Despite almost universal access to technological devices, inequalities in terms of skills and outcomes remain, according to Van Deursen and van Dijk (2019), while Lythreath et al. (2022) suggest education is the easiest way to bridge the gap. According to (Miao et al., 2021), UNESCO has since included AI competence among the goals of every education system. According to Ridley and Pawlick-Potts (2021) libraries to teach 'AI literacy' is an extension of the profession's existing work in information literacy rather than a departure from it, while Cox (2023) looked at how AI might change the work of academic librarians themselves.

There are two directions in writing AI in libraries. The primary meaning is theoretical. The authors Wheatley and Hervieux (2019) surveyed the early experiments in academic libraries, and Cox et al. (2019) have collected the views of eminent professionals, who have expected a major change in discovery and reference services. A study by Gasparini and Kautonen (2022) on research libraries found that while there was interest in using AI by them, not much planning on it was visible. Okunlaya et al. (2022) responded to such studies with a framework for AI-based services within university education. In the aftermath of the emergence of generative tools, Dwivedi et al. (2023) analysed their risks and benefits across various disciplines, van Dis et al. (2023) proposed priorities for the research practice, Lund and Wang (2023) discussed their implications for libraries, and Panda and Kaur (2023) explored whether the old-style library chatbots could be replaced.

The second direction is experimental and much smaller. Employees in academic libraries were found to be present in the entire spectrum of adopters. Librarians in Canada and the United States had a positive opinion of AI but felt unprepared for it, reported Hervieux and Wheatley (2021). According to Andrews et al. (2021), the reason expected usefulness was the strongest reason many planned to adopt AI. There seems to be the same mixture of interest and caution shown by librarians in North America (Yoon et al., 2022), Pakistan (Ali et al., 2020) and Zambia (Alam et al., 2024).

There are three spaces. Most of this evidence is from librarians rather than users. This situation reflects the issue that Zawacki-Richter et al. (2019) observed: more research on AI in higher education being technology-centric than people-centric. Only a tiny portion of it happens to be Indian, given the size of India's higher education system. There is no study till date that correlates what users think about AI tools with any possible way in which the library could be a teacher teaching AI literacy.

3. Objectives of the Study

The study covered what the planners of a library-based AI literacy programme require from the user side as indicated in the preceding. The objectives are as provided below.

1. To evaluate the perceived usefulness of AI tools and services by library users.
2. To gauge the level of user support for both adopting AI and implementing AI literacy programs spearheaded by libraries.



3. To study perceived institutional readiness, including funding and current provision of AI funded learning programmes.
4. To investigate the trust levels in AI tools and the ethical issues raised by users.
5. To compare perceptions among various categories of library users.

4. Methodology

4.1 Design and Instrument

A survey design was utilized in the study. A structured questionnaire was developed after reviewing the instruments and constructs used in earlier perception studies of AI in libraries and the AI-literacy-competency literature. The last tool contained demographic characteristics like designation, educational qualification, department, and frequency of library visits. It also contained 25 statements of attitude measured with Likert scale type response from 1 (Strongly Disagree) to 5 (Strongly Agree). The uses of certain AI applications a library may have perceived, support for AI adoption and library-led AI literacy, institutional readiness and trust and ethical concerns top the list. The first group of statements bearing on whether a library can use chatbots, discovery tools, recommendation, plagiarism detection, cataloguing, summarisation, translation, OCR, cybersecurity and automation.

4.2 Sample and Data Collection

The online questionnaire was administered in March 2025 to users of the library of Guru Nanak Dev University in Punjab, India, using a convenience sampling technique. Participation in the study was voluntary and responses were anonymised before analysis. There were 153 usable responses received in total. The respondents included research scholars, students, library staff and others. 51.0% were research scholars, 21.6% were students, and 17.6% were library staff. Fewer were faculty members, teachers, NET-qualified scholars and working professionals. Just over half held or were pursuing a doctorate. Across the whole dataset, nine item-level responses were missing (0.2% of all item responses), and these were left as missing rather than being imputed. Given that missingness was as sparse as this, no imputation method would alter any reported statistic at the precision given. The obtained sample is comparable to the librarian surveys in the literature, which range from about one hundred to a few hundred respondents (Hervieux & Wheatley, 2021; Lund et al., 2020) but is different than them as it surveys the user community as a whole rather than only professionals.

4.3 Analysis

The responses were coded numerically and analysed with simple descriptive statistics like frequency, percentage, cumulative frequency, cumulative percentage, mean, median, standard deviation and ranks. The 25 statements were ranked according to their mean scores for most-agreed and least-agreed items. To compare the different respondent groups, calculations were made using Means and Ranks for two simple composites perceived usefulness of AI tools (11 items) and support for AI adoption and literacy (8 items) which were derived from a simple average of their items. For the purpose of this comparison, the subjects in the NET-qualified category were added to research scholars, whereas faculty and teacher and working professionals were added to a single faculty and others category ($n = 12$), because groups of only three respondents are too small for separate description.

4.4 Ethical Considerations

Submission of the questionnaire form was treated as consent, as the questionnaire opened with a statement of purpose. Fields collected for administrative purposes (name, e-mail) were deleted prior to analysis, respondents were assigned sequential codes, and results are reported only in the aggregate such that no individual response can be traced.

5. Data Analysis and Interpretation

5.1 Profile of Respondents

Table 1 shows the profile of the respondents through frequency, percentage, cumulative frequency and cumulative percentage. Ph.D. scholars comprise the largest share of the qualification-wise distribution. Research scholars represent



just above half of the sample at 51.0 percent, whereas students account for 21.6 percent. Further, a significant share of 17.6 percent comprises library staff. The library is frequently utilized: 62.7% visit every day or every week, whilst fewer than one in ten visit just once a month. This means that the sample is made up of active users of the university library whose views matter most when a new service is planned.

Table 1

Demographic Profile of Respondents

Characteristic	Frequency (f)	%	Cumulative f	Cumulative %
Designation				
Student	33	21.6	33	21.6
Research Scholar	78	51.0	111	72.5
NET Qualified Scholar	3	2.0	114	74.5
Faculty Member	6	3.9	120	78.4
Teacher	3	2.0	123	80.4
Library Staff	27	17.6	150	98.0
Working Professional	3	2.0	153	100.0
Educational qualification				
Undergraduate	18	11.8	18	11.8
Postgraduate	57	37.3	75	49.0
Ph.D. Scholar	78	51.0	153	100.0
Library visit frequency				
Daily	48	31.4	48	31.4
Weekly	48	31.4	96	62.7
Monthly	15	9.8	111	72.5
Rarely	42	27.5	153	100.0

Note. N = 153. Cumulative values restart within each characteristic. Three visit-frequency responses of “just three times in four years” were counted as Rarely.

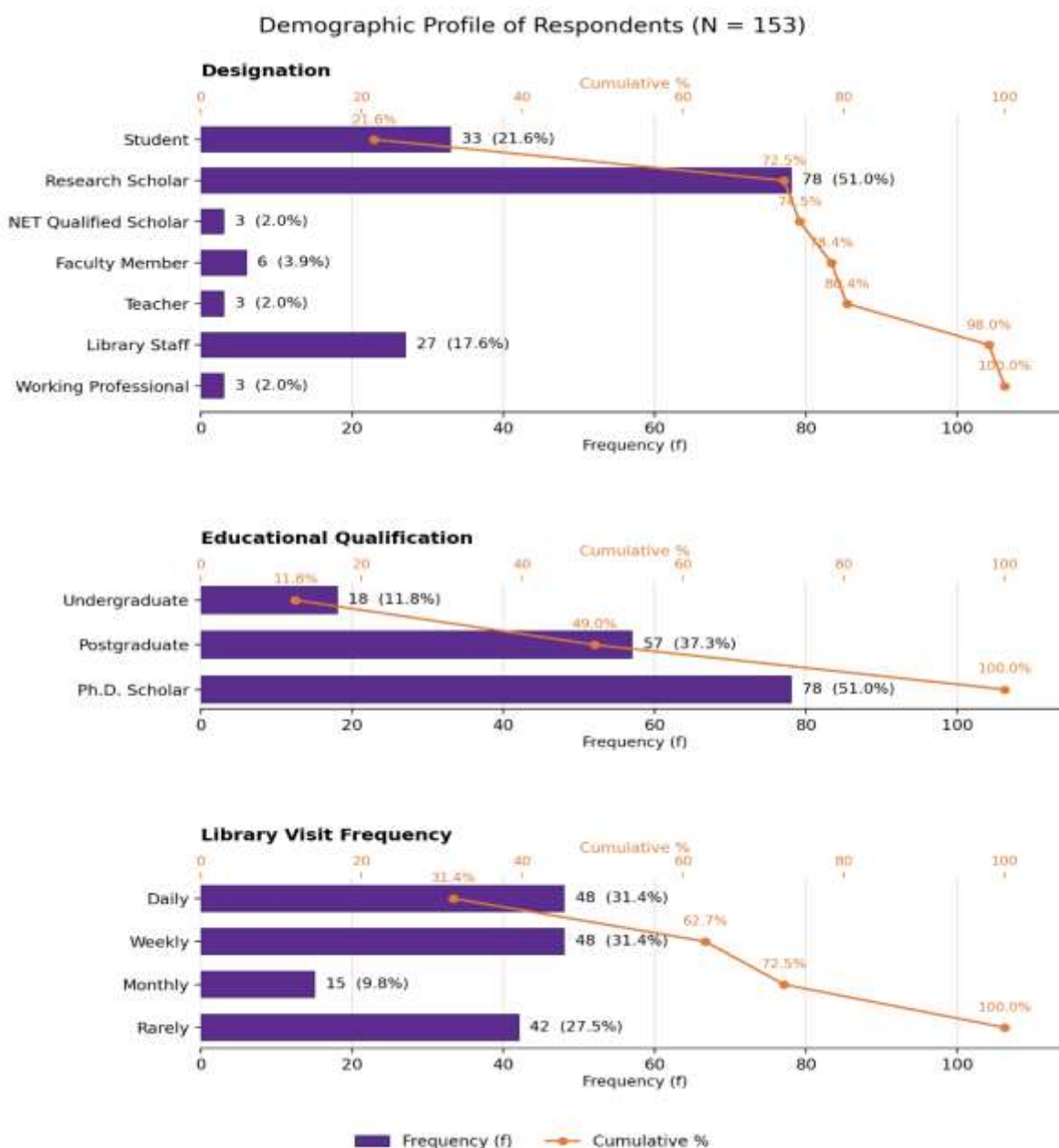


Figure 1: Demographic Profile of Respondents by Designation, Educational Qualification and Library Visit Frequency (N = 153)

5.2 Highest-Rated Statements

Table 2 shows the ten statements with the highest mean scores which ranked from 1 to 10. The result is clear that users value most the educational side of AI. One statement that received the highest mean rating 4.25 (SD = 0.62) was that librarians should be trained on AI use. After this, there were statements in support of plagiarism-detection tools and AI summarisation, translation and research tools. It is essential that users must be made future-ready to ensure AI literacy (Rank 5) and AI literacy workshop should be a regular library service (Rank 10). There is also a gap in addition for ethical concerns (Rank 8). It is equally telling what does not appear: no consumer novelty such as voice assistants or chatbots reaches the top ten. According to the users of an academic library, AI should not be measurable by visibility, but by the value of usefulness for study and research. This is a good basis for the planning of services.



Table 2

Ten Highest-Rated Statements

Rank	Statement	M	SD
1	Librarians should receive AI training	4.25	0.62
2	AI plagiarism-detection tools are necessary for academic integrity	4.20	0.74
3	AI-generated content summaries are helpful for research	4.14	0.53
4	AI translation tools improve accessibility for diverse users	4.14	0.60
5	AI literacy is essential for future-ready library users	4.14	0.63
6	AI-powered research tools enhance academic work	4.12	0.62
7	AI-driven cybersecurity is crucial for protecting user data	4.10	0.67
8	Ethical concerns about AI should be addressed in library programmes	4.08	0.59
9	AI-based OCR improves access to historical archives	4.00	0.69
10	AI literacy workshops should be a regular library service	3.98	0.70

Note. Scored 1 = Strongly Disagree to 5 = Strongly Agree.

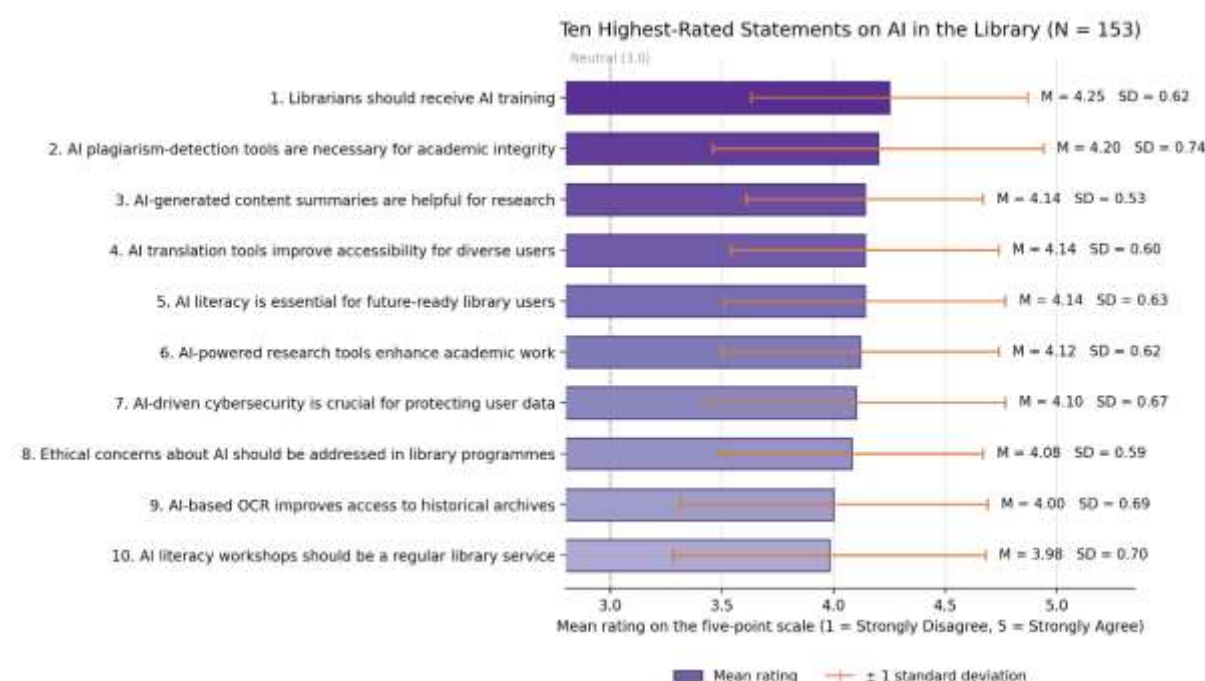


Figure 2: Ten Highest-Rated Statements on AI in the Library, Ranked by Mean Score (N = 153)

5.3 Lowest-Rated Statements

As can be seen in Table 3, the five statements with the lowest mean scores are depicted. The two lowest concern the institution itself. To what extent does the library provide access to AI-based learning programmes (Mean = 3.35). To what extent does the library have the funding to adopt AI (Mean = 3.14, lowest score in the survey). The belief in the effectiveness of AI tools is also in this cluster, namely, the assertion that AI is effective for an accurate response and the assertion that AI can bridge a digital divide with a mean of 3.59 and 3.62 respectively.. When analysed together with Table 2, what comes across at the very beginning is simple: the demand for AI literacy is much stronger than the library capacity to supply it. Respondents doubt the very matters for which they have no direct experience, this is access to funding, trust, and broad social claims. And this allows for a strong case to be made for a library programmable, which is visible, allowing users to see AI in action.



Table 3

Five Lowest-Rated Statements

Rank	Statement	M	SD
21	AI voice assistants should be implemented in libraries	3.64	0.87
22	AI can bridge the digital divide in underprivileged communities	3.62	0.85
23	I trust AI-driven tools to provide accurate information	3.59	0.82
24	My library provides access to AI-based learning programmes	3.35	0.86
25	My library has sufficient funding for AI adoption	3.14	0.95

Note. Rank is out of the 25 items. Scored 1 = Strongly Disagree to 5 = Strongly Agree.

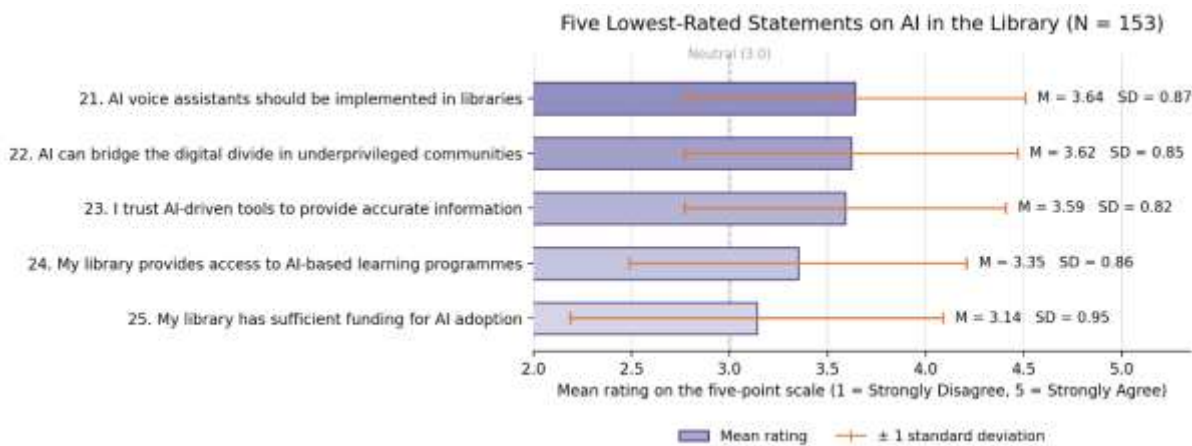


Figure 3: Five Lowest-Rated Statements on AI in the Library, Ranked by Mean Score (N = 153)

5.4 Overall Distribution of Responses

Table 4 takes all 3,816 valid responses to the 25 statements from the last section and pools them into a single frequency distribution. It then introduces cumulative frequency and cumulative percentage. Most of the responses (74.2%) fall on the agreement side of the scale, whereas only 4.6% fall on its disagreement side. The median response is Agree (4) because the cumulative percentage crosses 50% in Agree. The mean overall is 3.87 with a standard deviation of 0.78. Thus, complete rejection to AI is rare. The key distinction is not between yes and no, but between yes and the great neutral band (21.2%). This band focuses on funding and trust, which is exactly the uncertainty visible programme and open budgeting would resolve.

Table 4

Overall Distribution of Responses Across the 25 Attitude Items

Response	Frequency (f)	%	Cumulative f	Cumulative %
Strongly Disagree (1)	39	1.0	39	1.0
Disagree (2)	135	3.5	174	4.6
Neutral (3)	810	21.2	984	25.8
Agree (4)	2,127	55.7	3,111	81.5
Strongly Agree (5)	705	18.5	3,816	100.0
Total	3,816	100.0		

Note. Responses pooled across the 25 statements (153 respondents × 25 items, minus 9 missing = 3,816 valid responses). Overall Mean = 3.87, SD = 0.78, Median = 4 (Agree). Percentages may not sum exactly to 100 because of rounding.

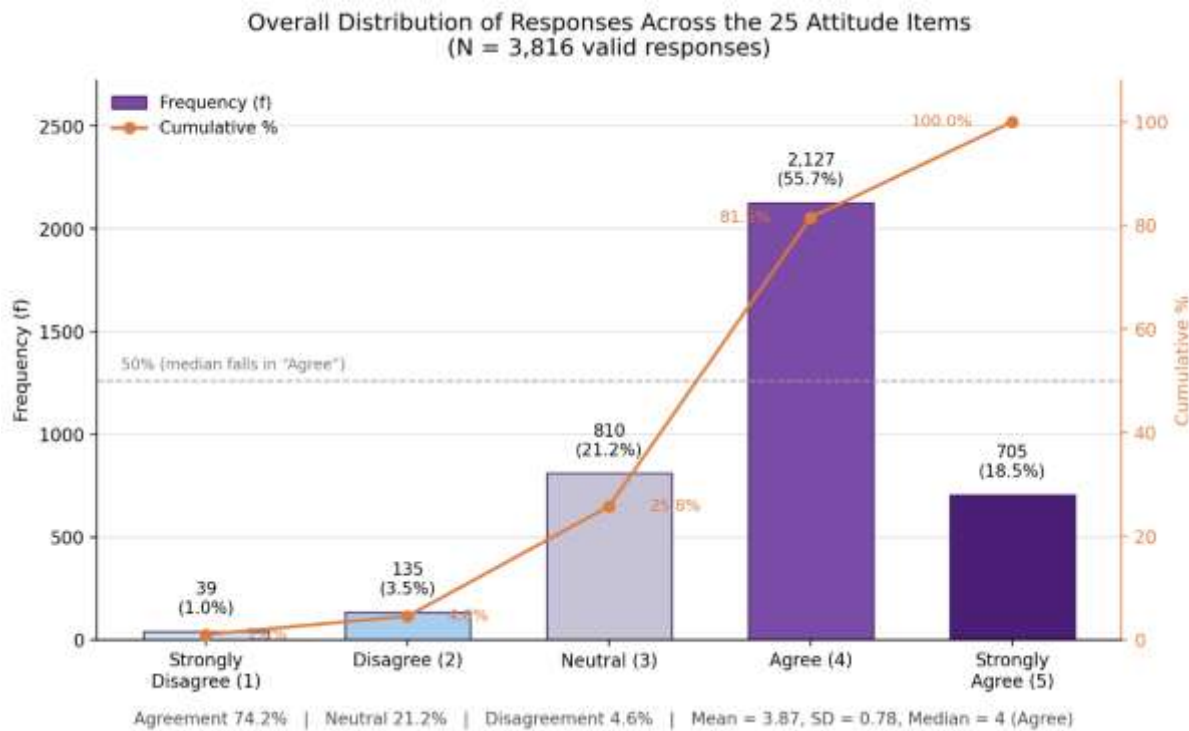


Figure 4: Overall Distribution of Responses Across the 25 Attitude Items (N = 3,816 valid responses)

5.5 Group Differences

Table 5 illustrates the mean score and rank of the four respondent groups on the two composite scores. The small faculty-and-others group has the top spot on both composites with the middle slots occupied by students and research scholars. The library staff is at the bottom of both. This is easy to decipher. It is interesting to note the staff who provide the AI services were not as eager as the users who were consuming them. This mirrors the reluctance noticed in library surveys. Thus, the training that users most desire would also benefit the staff. The other key insight is that all groups have low ratings for funding showing that concern over capacity runs through the whole community and can't be dismissed as simply the pessimism of one section.

Table 5

Mean Scores and Ranks of the Respondent Groups on the Two Composites

Respondent group	n	Usefulness: Mean	Rank	Adoption & Literacy: Mean	Rank
Students	33	4.00	2	3.93	3
Research Scholars	81	3.99	3	3.96	2
Library Staff	27	3.84	4	3.65	4
Faculty and Others	12	4.34	1	4.16	1

Note. Rank 1 = highest mean. Research Scholars includes NET-qualified scholars; Faculty and Others combines faculty members, teachers and working professionals.

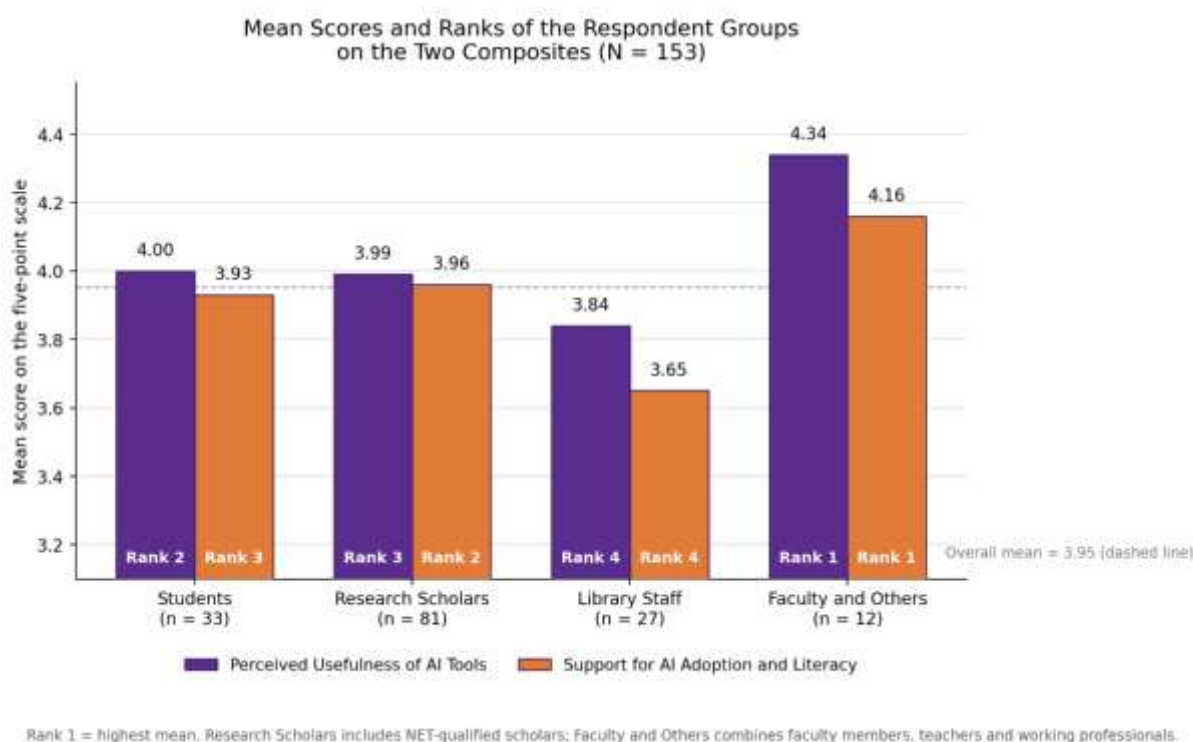


Figure 5: Mean Scores and Ranks of the Four Respondent Groups on the Two Composite Measures (N = 153)

6. Major Findings

The principal findings may be summarised as follows:

- The response to AI in the library has been overwhelmingly positive with 74.2% of all responses on the agreement side, the median response being Agree, the overall mean being 3.87 and outright disagreement being rare (4.6%).
- The weakest ratings concern institutional capacity: only 29.4% agree that the library has sufficient funding for AI adoption (Mean = 3.14), and current provision of AI-based learning programmes is rated second-lowest (Mean = 3.35). Demand runs well ahead of perceived supply.
- The four groups of respondents have different opinions: the library staff recorded lowest mean scores on both composites, while the faculty and others group recorded the highest.
- The users who find AI tools most useful also strongly support programs for adoption and literacy, while support for privacy rises alongside enthusiasm rather than against it users are interested but wary.
- A little more support for adoption is registered with infrequent visitors, which suggests that AI-enabled services could help the library reach its least served users.

7. Limitations of the Study

The results are based on a convenience sample of 153 users at one state university and on self-reported data, so they portray that university's active library constituency, rather than Indian library users in general. Given that the two composite measures are simple conceptual groupings of items, and the faculty-and-others group is quite small (n = 12), the relatively high scores here should be interpreted with caution.

8. Future Scope

Future research may carry this work in four directions. One approach to testing whether the demand–capacity gap discovered in this institution manifests more generally across Indian universities would involve replicating the survey in many universities, as well as in private universities. The questionnaire itself requires statistical validation on a larger



sample. Also, a longitudinal design can determine whether attitudes and skills shift as generative AI becomes part of academic work. An intervention study could provide an AI literacy program led by a library and assess results against the baseline here. The questionnaire employed in this research offers a convenient foundation for such comparative and longitudinal studies.

9. Conclusion

The library users of an Indian university prefer the library to take up the teaching of AI literacy. Almost 75 percent of responses fell on the agreement side of the scale; in particular, the strongest opinion among these 153 users was that librarians themselves should be trained in AI: users are not asking the library merely to buy new tools, but to teach. What prevents service delivery is capacity rather than resistance, as funding and current provision of AI-based learning programmes get the two lowest scores in the survey. Also, the library staff who would deliver these services receive the lowest scores of the four groups. Asking to train the library staff responds both to users' strongest demand and to staff's hesitancy and is the first condition for any real AI literacy programme - one that must train users to question these tools as well as to use them, since concern about privacy here rises alongside interest in AI. Indian university libraries have an opportunity to become AI literacy hubs for their students, but much will depend upon the response of the users and institutions. Libraries have received their rightful place in the curriculum precisely because they capacitate students with the knowledge of how to find and judge information. AI has changed the nature of that task, not the need for it.

Conflicts of Interest

The authors have no conflict of interest. Both authors work at Guru Nanak Dev University, Amritsar, where the survey was carried out. They have no financial interest in any AI tool mentioned in this paper.

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Ethical Approval

The study was approved by the Institutional Ethics Committee of Guru Nanak Dev University, Amritsar. Taking part was voluntary and anonymous. Filling in and submitting the questionnaire was treated as consent.

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