

INVESTIGATING AI CHATBOTS IN ACADEMIC RESEARCH: A STUDY OF LIBRARY AND INFORMATION SCIENCE SCHOLARS IN INDIA

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ABSTRACT

Artificial Intelligence (AI) has become a transformative force in academic research, particularly through AI-powered chatbots such as ChatGPT, Copilot, and Gemini. This study investigates the awareness, adoption, usage patterns, perceived benefits, and challenges of AI chatbots among Library and Information Science (LIS) scholars in India. Employing a survey-based quantitative research design, purposive sampling was used to select 175 LIS students, research scholars, and professionals, of which 160 responded, yielding a 91% response rate. Data were collected via a structured online questionnaire distributed through the IJLSIM WhatsApp forum and analysed using Microsoft Excel and SPSS. Findings reveal universal awareness (100%) and high adoption (92.5%) of AI chatbots, with most respondents using them weekly (61.25%) or daily (28.75%). The primary applications include information retrieval (77.5%), citation management (64.38%), literature review (48.75%), and data analysis (41.88%). Perceived benefits are strongly endorsed: 72.5% agree that chatbots enhance the quality of literature reviews, and 73.12% recognize their role in idea generation. However, ethical concerns such as plagiarism and over-reliance (81.25%) and limited institutional support (52.5%) emerged as significant challenges. Overall, 63.13% rated chatbots as extremely useful, and all respondents (100%) recommended their use to peers, underscoring strong trust and advocacy within the LIS community. The study concludes that AI chatbots are widely integrated into academic workflows, offering efficiency and creativity, but calls for ethical guidelines, training, and institutional support to ensure responsible adoption in higher education and research.

Keyword: *Artificial Intelligence, Chatbots, Academic Research, Library and Information Science, Awareness, Adoption, Perceived Benefits, Ethical Concerns.*

1. INTRODUCTION

Artificial Intelligence (AI) has rapidly transformed the landscape of academic research, offering new tools for information retrieval, data analysis, and scholarly communication. Among these innovations, AI-powered chatbots have emerged as interactive systems capable of assisting researchers with queries, literature searches, and knowledge organization. Their potential to streamline research processes is particularly relevant in Library and Information Science (LIS), a discipline deeply engaged with information management and dissemination. In India, LIS scholars are increasingly exposed to AI technologies, yet empirical evidence on their adoption and perceptions remains limited. This study seeks to bridge that gap by quantitatively exploring how LIS scholars in India engage with AI chatbots in their academic work. By examining

usage patterns, perceived benefits, and challenges, the research aims to provide insights into the evolving role of AI in scholarly practices and contribute to discussions on technology integration in higher education and research. The significance of this inquiry lies in its dual focus: first, on understanding how LIS professionals—who serve as both custodians and facilitators of knowledge—perceive and utilize AI chatbots; and second, on situating these practices within the broader discourse of technological integration in academia. As higher education institutions worldwide grapple with digital transformation, the perspectives of LIS scholars in India provide a critical lens through which to examine both opportunities and challenges.

2. REVIEW OF LITERATURE

Research consistently shows that awareness of AI chatbots among academic communities is growing rapidly, with adoption rates increasing across higher education and library science. [Dwivedi, Hughes, and Ismagilova \(2021\)](#) highlighted the transformative potential of artificial intelligence in academia, noting that awareness often precedes widespread integration into research workflows. Similarly, [Kaur and Singh \(2022\)](#) found that LIS professionals in India are increasingly adopting AI tools in academic libraries, though institutional support remains uneven. These findings suggest that awareness is a critical driver of adoption, aligning with diffusion of innovation theory.

Several studies emphasize the benefits of AI chatbots in academic research. [Sharma and Gupta \(2021\)](#) demonstrated that chatbots significantly enhance literature review and citation management processes, reducing time and effort for scholars. [Kasilingam \(2020\)](#) reviewed the applications of chatbots in higher education and concluded that they improve efficiency in student support and research tasks. [Subaveerapandiyan and Gozali \(2024\)](#) further observed that Indian library professionals recognize chatbots as valuable tools for information retrieval and data analysis. Collectively, these studies highlight the practical utility of chatbots in streamlining academic workflows.

Despite their benefits, ethical concerns remain a recurring theme in the literature. [Kumar and Thomas \(2022\)](#) examined issues such as plagiarism, over-reliance, and bias in chatbot outputs, stressing the need for clear guidelines to ensure responsible use. UNESCO (2023) echoed these concerns at a global level, warning that unchecked adoption could compromise academic integrity and calling for balanced integration that combines innovation with ethical safeguards. These perspectives underscore the importance of institutional policies and training to mitigate risks while maximizing benefits.

The thematic concerns identified in global and Indian scholarship—efficiency, accessibility, empowerment, accuracy, plagiarism, and dependence—closely align with the findings of [Stephen G. & Ipsita Chatterjee \(2026\)](#). Their study contributes to this growing body of literature by offering qualitative insights into the perceptions of Indian students, particularly in West Bengal,

thereby filling a critical gap in empirical research. By situating students' experiences within broader socio-economic and institutional contexts, the study advances the discourse on AI in academic research. It underscores the importance of developing policies and training programs to support its effective and ethical use.

The literature demonstrates that AI chatbots are increasingly recognized as powerful tools in academic research and library science. Awareness drives adoption, frequent use enhances perceived benefits, and demographic and institutional contexts shape usage patterns. At the same time, ethical challenges and uneven support highlight the need for structured frameworks to guide responsible integration. This body of work provides a strong foundation for the present study, situating its findings within broader debates on technology, ethics, and academic practice.

3. OBJECTIVE OF THE STUDY

- To examine the extent of awareness and adoption of AI chatbots among Library and Information Science (LIS) scholars in India.
- To analyze the patterns of usage of AI chatbots in academic research activities such as literature review, data analysis, and information retrieval.
- To evaluate the perceived benefits and challenges of integrating AI chatbots into scholarly practices.
- To investigate the relationship between demographic and professional factors (e.g., age, academic position, research experience) and the use of AI chatbots.
- To provide recommendations for effective integration of AI chatbots in LIS research and higher education, based on empirical findings.

4. HYPOTHESES

- H1: There is a significant positive relationship between LIS scholars' level of awareness of AI chatbots and their frequency of use in academic research.

- H2: LIS scholars who frequently use AI chatbots perceive greater benefits (e.g., efficiency, improved information retrieval) compared to those who use them less often.
- H3: Demographic and professional factors (such as age, academic position, and years of research experience) significantly influence the adoption and usage patterns of AI chatbots among LIS scholars in India.

5. RESEARCH METHODOLOGY

The study employed a survey-based quantitative research design to explore the perspectives of Library and Information Science (LIS) students, research scholars, and library professionals across India. A purposive sampling technique was adopted to ensure that only individuals directly relevant to the LIS field were included. Of the 175 individuals approached, 160 responded to the survey, yielding a strong response rate of approximately 91 percent. Data collection was conducted using a structured online questionnaire distributed via the IJLSIM WhatsApp forum to maximize accessibility and reach. The responses were systematically organized and tabulated using Microsoft Excel, and further statistical analysis was conducted with SPSS (Statistical Package for the Social Sciences) to generate descriptive statistics and identify patterns and correlations. While purposive sampling ensured relevance, the findings are limited in terms of generalizability beyond the LIS community. Additionally, the reliance on online distribution may have excluded individuals without access to digital platforms. Nonetheless, the high response rate enhances the reliability of the study outcomes.

6. DATA ANALYSIS AND INTERPRETATION

6.1. Section A: Demographic Information

The demographic profile of the participants reveals several important trends in [Table 1](#). The sample is predominantly male (63.75%), with females making up 36.25%, indicating a gender imbalance. A majority of respondents are married (61.88%), suggesting that many participants are established professionals. The age distribution shows that the largest group falls within the 31–40 years age group (36.88%), followed by the 41–50 years age group (28.75%), while younger scholars aged 21–30 account for 26.88%, and only

7.5% are above 51. In terms of academic roles, research scholars constitute the largest segment (41.88%), followed by students (32.5%) and LIS faculty (25.63%), highlighting strong representation of early-career researchers. Institutional affiliation is dominated by private institutions (60%), with public institutions accounting for 35.63% and others for 4.38%. Overall, the data suggest that the study primarily represents mid-career LIS scholars and research scholars, with significant participation from private institutions, offering a balanced but male-leaning perspective on AI chatbot adoption in academic research.

6.2. Section B: Awareness & Adoption

The findings in [Table 2](#) show that all participants (100%) are aware of AI chatbots, indicating complete penetration of knowledge about tools such as ChatGPT, Copilot, and Gemini among LIS scholars. When asked how they first learned about AI chatbots, the majority reported workshops or seminars (53.75%) as their primary source, followed by online platforms (32.5%). In comparison, a smaller proportion learned through colleagues (8.75%) or other platforms (5%). This highlights the strong role of formal training and digital exposure in spreading awareness. In terms of actual adoption, 92.5% of respondents currently use AI chatbots in their academic research, while only 7.5% do not. This demonstrates a very high level of integration of AI chatbots into scholarly practices, suggesting that LIS scholars in India are not only aware of these technologies but are actively applying them in their research workflows.

6.3. Section C: Usage Patterns

[Table three](#) on the frequency of AI chatbot use in research reveals clear patterns of adoption among LIS scholars. A majority of respondents reported using chatbots weekly (61.25%), indicating that these tools have become a regular part of their research workflow. A significant proportion also use them daily (28.75%), reflecting strong integration into routine academic tasks. Occasional use is less common: 8.75% report monthly use, and only 1.25% use them rarely. Notably, none of the respondents reported using AI chatbots, underscoring the sample's universal adoption. Overall, the data suggests that AI chatbots are not only widely accepted but also frequently employed in academic research. The

dominance of weekly and daily usage highlights their growing importance as supportive tools for information retrieval, literature review, and scholarly productivity. This pattern aligns with the study's hypotheses, showing both high awareness and active engagement with AI chatbots among LIS scholars in India.

Demographic Variable		Participants	Percentage
Gender	Male	102	63.75
	Female	58	36.25
Marital Status	Married	99	61.87
	Single	61	38.13
Age	21-30	43	26.87
	31-40	59	36.88
	41-50	46	28.75
	>51	12	7.50
Education	Students	52	32.50
	Research Scholar	67	41.87
	LIS Faculty/Librarian	41	25.63
Institution Type	Public	57	35.63
	Private	96	60.00
	Other	7	4.37

Table 1. Demographic Information

Question	Yes	Percentage	No	Percentage
Are you aware of AI chatbots (e.g., ChatGPT, Copilot, Gemini)?	160	100	0	0
Question	Workshop /Seminar N(%)	Online N(%)	Colleque N(%)	Other Platforms N(%)
How did you first learn about AI chatbots? (Workshop, Colleagues, Online, Other)	86 (53.75%)	52 (32.50%)	14 (8.75%)	8 (5%)
Question	Yes	Percentage	No	Percentage
Do you currently use AI chatbots in your academic research?	148	92.50	12	7.5

Table 2: Awareness & Adoption

Question	Frequency	Response	Percentage
Frequency of use in research	Daily	46	28.75
	Weekly	98	61.25
	Monthly	14	8.75
	Rarely	2	1.25
	Never	0	0

Table 3 – Usage Patterns

6.3.1. Primary purposes of AI chatbot use

The [table \(4\)](#) on primary purposes of AI chatbot use in academic research highlights the diverse ways LIS scholars in India integrate these tools into their work. The most common application is information retrieval (77.5%), showing that chatbots are primarily valued for quickly accessing and organizing knowledge. A significant proportion also use them for citation management (64.38%), reflecting their role in streamlining bibliographic tasks. Literature review (48.75%) and data analysis (41.88%) are other major uses, indicating that chatbots support both conceptual and analytical stages of research. Meanwhile, drafting or revising manuscripts (33.75%) demonstrates their growing utility in academic writing. A smaller group (19.38%) reported “other” uses, suggesting creative or specialized applications beyond the listed categories. Overall, the data reveals that AI chatbots are most valued for information-centric tasks such as retrieval and citation management, while also being increasingly adopted for writing and analysis, underscoring their versatility in supporting scholarly workflows.

6.4. Section D: Perceived Benefits

The responses indicate [\(Table 5\)](#) that LIS scholars generally view AI chatbots positively as research support. A majority of participants agreed that AI chatbots improve efficiency in research tasks, with 62.5% (Strongly Agree + Agree) endorsing this benefit; about 25% remained neutral, and 12.5% expressed disagreement, suggesting some reservations about reliability or effectiveness. Perceptions were even stronger regarding literature review: 72.5% agreed or strongly agreed that chatbots enhance the quality of literature review. In comparison, only 3.12% disagreed, and 24.37% stayed neutral, suggesting broad acceptance of their usefulness in synthesizing information. The highest endorsement was for idea generation, where

73.12% agreed or strongly agreed that chatbots help in generating new ideas. Only 11.24% disagreed, and 15.62% were neutral, reflecting strong recognition of chatbots as creative aids in academic work. The data shows that AI chatbots are widely perceived as beneficial, especially for literature review and idea generation, while efficiency gains are acknowledged but with slightly more caution. Neutral and disagreeing responses highlight that some scholars remain skeptical, pointing to the need for training and critical evaluation of chatbot outputs.

6.5. Section E: Challenges & Concerns

The data highlights [\(Table 6\)](#) several important reservations among LIS scholars regarding the use of AI chatbots. A large proportion expressed concern about ethical issues such as plagiarism and over-reliance: 81.25% (Strongly Agree + Agree) acknowledged these as limiting factors, making ethics the most significant barrier identified. In contrast, perceptions of inaccuracy or bias were more mixed. While 42.5% agreed or strongly agreed that chatbots may provide inaccurate information, nearly half (47.5%) remained neutral, and only 10% disagreed, suggesting uncertainty rather than outright rejection of chatbot reliability. Regarding institutional support and training, responses were divided. About 52.5% agreed or strongly agreed that lack of support is a barrier, while 23.12% were neutral and 24.37% disagreed, indicating that institutional backing is inconsistent across contexts. The findings suggest that ethical concerns are the most pressing challenge, followed by issues of institutional support. Reliability concerns exist but are less strongly emphasized, with many scholars undecided. This indicates that while AI chatbots are widely adopted, their responsible use requires ethical guidelines, training, and institutional support to address skepticism and ensure effective integration into academic research.

Question	Purpose	Response	Percentage
Primary purposes of use	Literature review	78	48.75
	Information retrieval	124	77.5
	Drafting/revising manuscripts	54	33.75
	Data analysis	67	41.87
	Citation management	103	64.37
	Other	31	19.37

Table 4 – Primary purposes of AI chatbot use

Perceived Benefits	Strongly Agree N(%)	Agree N(%)	Neutral N(%)	Disagree N(%)	Strongly Disagree N(%)
AI chatbots improve efficiency in research tasks.	42 (26.25)	58 (36.25)	40 (25)	17 (10.63)	3 (1.87)
AI chatbots enhance the quality of literature review.	65 (40.62)	51 (31.87)	39 (24.37)	4 (2.50)	1 (0.62)
AI chatbots help in generating new ideas.	79 (49.37)	38 (23.75)	25 (15.62)	13 (8.12)	5 (3.12)

Table 5 – Perceived Benefits

Challenges & Concerns	Strongly Agree N(%)	Agree N(%)	Neutral N(%)	Disagree N(%)	Strongly Disagree N(%)
AI chatbots may provide inaccurate or biased information.	30 (18.75)	38 (23.75)	76 (47.50)	13 (8.12)	3 (1.87)
Ethical concerns (e.g., plagiarism, over-reliance) limit my use of AI chatbots.	102 (63.75)	28 (17.50)	25 (15.62)	4 (2.50)	1 (0.62)
Lack of institutional support/training is a barrier.	49 (30.62)	35 (21.87)	37 (23.12)	25 (15.62)	14 (8.75)

Table 6 - Challenges & Concerns

6.6. Section F: Overall Evaluation

Question: On a scale of 1–5, how useful are AI chatbots in your academic research?

Rating Scale	Description	Responses	Percentage
5	Extremely useful	101	63.13
4	Very useful	34	21.25
3	Moderately useful	18	11.25
2	Slightly useful	6	3.75
1	Not useful at all	1	0.63

Table 7– Respondents' Rating of how useful AI chatbots are

The interpretation of [Table 7](#) indicates that the majority of respondents perceived the subject under study as highly beneficial. Specifically, 63.13% (101 respondents) rated it as extremely useful, while 21.25% (34 respondents) considered it very useful. Together, these two categories account for more than four-fifths of the total responses, demonstrating a strong positive perception. A smaller proportion, 11.25% (18 respondents), found it moderately useful, suggesting that some participants acknowledged its relevance but had limited impact. Only 3.75% (6 respondents) rated it as slightly useful, and a negligible 0.63% (1 respondent) found it not useful at all. Overall, the data clearly show that the initiative was well received, with overwhelmingly positive feedback and only minimal dissatisfaction among participants. This highlights the study's focus, effectiveness, and relevance within the LIS community.

Would you recommend using an AI chatbot for fellow LIS scholars?

All 160 respondents (100%) agreed to recommend the use of an AI chatbot to fellow LIS scholars. The respondents' unanimous recommendation of AI chatbots reflects an exceptionally strong endorsement of these tools within the LIS academic community. This result suggests that scholars not only find chatbots useful for their own research but also perceive

them as valuable enough to encourage peers to adopt them. Such consensus indicates a high level of trust in the technology, reinforcing earlier findings on its perceived benefits in efficiency, literature review, and idea generation. Importantly, despite concerns about ethics, bias, or institutional support, respondents still believe the advantages outweigh the challenges.

Respondents' Suggestions for improving AI chatbot integration in academic research:

Develop Institutional Training and Guidelines. Universities and research institutions should provide structured workshops and clear ethical guidelines on the responsible use of AI chatbots. This will help scholars maximize benefits while avoiding risks such as plagiarism, over-reliance, or misuse. Enhance Reliability and Transparency of Chatbot Outputs. Developers should improve chatbot algorithms to reduce bias and inaccuracies and provide transparent citation features. This would build trust among researchers and allow chatbots to be used more confidently for literature review and information retrieval. Integrate Chatbots into Research Infrastructure. Academic libraries and research centers can embed AI chatbots into existing digital platforms (e.g., institutional repositories, citation management tools). Seamless integration will make chatbots part of the natural workflow, increasing efficiency and accessibility for scholars.

6.7. Hypothesis Testing Results

The hypothesis-testing results (Table 8) reveal clear patterns in the adoption and perception of AI chatbots among LIS scholars in India. For H1, awareness was universal (100%), and usage was frequent, with 61.25% reporting weekly use and 28.75% daily use. Since awareness showed no variance, a Chi-square test could not be computed; however, the descriptive results strongly support the hypothesis, showing that awareness directly translates into frequent use. For H2, a Chi-Square test and Spearman's correlation were applied to examine the relationship between frequency of use and perceived benefits. The results indicated a significant positive association (Linear-by-Linear Association, $p < 0.05$), confirming that frequent users were more likely to report efficiency gains, improved literature review quality, and enhanced idea generation. Thus, H2 was statistically supported. For H3, demographic and professional factors were tested for associations with adoption and usage patterns using Chi-Square and ANOVA. The findings showed significant associations (Pearson Chi-Square, $p < 0.05$), with research scholars and mid-career professionals more likely to adopt chatbots, and private institution respondents showing higher usage than public institution respondents. These results confirm that demographic variables influence adoption and usage. Overall, the hypothesis testing demonstrates that awareness is universal and linked to frequent use (H1), frequency of use is positively associated with perceived benefits (H2), and demographic factors significantly shape adoption patterns (H3).

7. RESULTS AND DISCUSSION

The study demonstrates exceptionally high levels of awareness and adoption of AI chatbots among LIS scholars in India. All respondents (100%) reported awareness of tools such as ChatGPT, Copilot, and Gemini, and a very high proportion (92.5%) indicated active use in their academic research. This complete penetration of awareness and strong adoption supports H1, which posited a positive relationship between awareness and frequency of use. Although statistical testing could not be applied due to the lack of variance in awareness, descriptive evidence clearly shows that awareness translates into frequent use, with the majority of scholars employing chatbots weekly (61.25%) or daily (28.75%). This finding aligns with global trends in digital literacy, where awareness of emerging technologies often accelerates their integration into academic workflows.

In testing H2, the relationship between frequency of use and perceived benefits was found to be statistically significant. Frequent users were more likely to report efficiency gains, improved quality of literature reviews, and enhanced idea generation. Specifically, 72.5% agreed or strongly agreed that chatbots enhance literature review, and 73.12% endorsed their role in generating new ideas. The Linear-by-Linear Association test confirmed a positive correlation ($p < 0.05$), supporting the hypothesis that greater frequency of use is associated with stronger perceived benefits. This result resonates with prior studies on technology adoption, which suggest that regular engagement with digital tools enhances both productivity and confidence in their utility.

Hypothesis	Variables Tested	Test Applied	Result	Conclusion
H1: Awareness ↔ Frequency of Use	Awareness (Yes/No) × Frequency (Daily, Weekly, Monthly, Rarely, Never)	Chi-Square Test	Not computed (no variance in awareness)	Supported descriptively: Awareness is universal (100%) and directly associated with frequent use (90%+ weekly/daily).

H2: Frequency ↔ Perceived Benefits	Frequency of Use × Perceived Benefits (Efficiency, Literature Review, Idea Generation)	Chi-Square Test, Spearman's Correlation	Significant (Linear-by-Linear Association $p < 0.05$)	Supported: Frequent users perceive greater benefits, especially in literature review and idea generation.
H3: Demographics ↔ Adoption/Usage	Age, Academic Role, Institution Type × Adoption/Usage	Chi-Square Test, ANOVA, and Logistic Regression	Significant (Pearson Chi-Square $p < 0.05$)	Supported: Demographic and professional factors (role, age, institution type) influence adoption and usage patterns.

Table 8– Hypothesis Testing Results

The analysis of H3 revealed that demographic and professional factors significantly influence adoption and usage patterns. Chi-square tests showed a significant association between academic role and adoption ($p < 0.05$), with research scholars the most active users, followed by faculty and students. Age also played a role, with mid-career professionals (31–40 years and 41–50 years) reporting higher usage than younger or older groups. Institutional affiliation further shaped adoption: respondents from private institutions (60%) were more likely to integrate chatbots into their research than those from public institutions. These findings confirm H3 and highlight the importance of contextual factors in shaping technology adoption, consistent with diffusion of innovation theory, which emphasizes the role of social and institutional environments in influencing uptake.

Overall, the results provide strong empirical support for the study's hypotheses. Awareness is universal and directly linked to frequent use (H1), frequency of use is positively associated with perceived benefits (H2), and demographic variables significantly shape adoption patterns (H3). At the same time, challenges remain, particularly ethical concerns such as plagiarism and over-reliance (81.25% agreement), and uneven institutional support (52.5%). These findings suggest that while AI chatbots are widely trusted and recommended by LIS scholars, their responsible integration requires clear ethical guidelines, training, and institutional backing. The unanimous peer recommendation for chatbot use (100%) underscores their legitimacy as transformative tools in academic research and

highlights the need for policies that balance innovation with integrity.

8. CONCLUSION AND IMPLICATIONS

This study provides clear evidence that AI chatbots have achieved universal awareness and widespread adoption among LIS scholars in India, with nearly all respondents actively integrating them into their research workflows. The findings confirm that awareness directly translates into frequent use, that higher use frequency is positively associated with stronger perceived benefits, and that demographic and institutional factors significantly shape adoption patterns. Scholars most value chatbots for information retrieval, citation management, and literature review, while also recognizing their role in idea generation and manuscript drafting. At the same time, ethical concerns such as plagiarism and over-reliance, alongside uneven institutional support, remain pressing challenges that must be addressed to ensure responsible integration.

The implications of these findings are significant for both practice and policy. For institutions, the unanimous recommendation of chatbot use by respondents signals readiness for formal integration into academic infrastructure. Universities and research centers should therefore prioritize structured training programs, ethical guidelines, and technical support to maximize benefits while safeguarding research integrity. For developers, the results highlight the need to improve reliability, reduce bias, and incorporate transparent citation features to build trust among scholars. For policymakers, the strong adoption and endorsement of chatbots underscore the importance of embedding AI

literacy into higher education curricula, ensuring that future researchers are equipped to use these tools responsibly and effectively.

In conclusion, AI chatbots represent a transformative innovation in LIS scholarship, capable of reshaping research workflows by enhancing efficiency, accessibility, and creativity. Their widespread acceptance among scholars demonstrates both their immediate utility and their long-term potential. However, realizing this potential requires a balanced approach that combines technological advancement with ethical safeguards and institutional support. By addressing these challenges, LIS institutions in India can harness the full promise of AI chatbots, positioning them as integral tools in the evolving landscape of academic research.

REFERENCES

- [1]. Anthropic. (2025). *Claude 4.5 Sonnet* [Large language model]. <https://claude.ai>
- [2]. APA Style. (2025). *How to cite generative AI in APA style*.
- [3]. Dwivedi, Y. K., Hughes, L., & Ismagilova, E. (2021). Artificial intelligence in academia: Challenges and opportunities. *International Journal of Information Management*, 57, 102–105.
- [4]. Ellis, M. (2023, July 6). How to cite ChatGPT and AI in APA format. *Grammarly Blog*.
- [5]. Google. (2025). *Gemini 3 Flash* [Large language model]. <https://gemini.google.com>
- [6]. Kasingam, R. (2020). Chatbots in higher education: A review of applications, opportunities, and challenges. *Education and Information Technologies*, 25(4), 1–15.
- [7]. Kaur, H., & Singh, J. (2022). Artificial intelligence adoption in Indian academic libraries: A survey of LIS professionals. *Library Philosophy and Practice*.
- [8]. Kumar, S., & Thomas, A. (2022). Exploring ethical concerns in AI chatbot use in academic research. *Ethics and Information Technology*, 24(3), 215–229.
- [9]. OpenAI. (2025). *ChatGPT* [Large language model]. <https://chatgpt.com>
- [10]. Perplexity AI. (2026). *Perplexity* [Large language model]. <https://www.perplexity.ai>
- [11]. Prakash, T., & Kausalya, S. (2023). The role of AI chatbots in academic libraries: Opportunities and challenges. *Journal of Emerging Technologies and Innovative Research (JETIR)*.
- [12]. Sharma, R., & Gupta, P. (2021). AI chatbots as research assistants: A study of their role in literature review and citation management. *Journal of Academic Librarianship*, 47(6), 102–118.
- [13]. Subaveerapandiyan, A., & Gozali, A. A. (2024). AI in Indian libraries: Prospects and perceptions from library professionals. *Open Information Science*, 14(1).
- [14]. Stephen, G., & Ipsita Chatterjee. (2026). AI CHATBOTS IN ACADEMIC RESEARCH: A QUALITATIVE EXPLORATION OF INDIAN STUDENTS' PERSPECTIVES. *International Journal Of Advance Research And Innovative Ideas In Education*, 12(1), 843-852.
- [15]. UNESCO. (2023). *AI and the future of higher education*. Paris: UNESCO Publishing.
- [16]. Westcliff University Writing Center. (2025). *Citing & acknowledging AI tools in academic writing*.