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Use of ChatGPT by the Library and Information Science Students at the University of Delhi

Margam Madhusudhan*, Parbati Pandey and Ravindra Kumar Bharti
Department of Library and Information Science, University of Delhi, Delhi - 110 007, India
**E-mail: mmadhusudhan@libinfosci.du.ac.in*

ABSTRACT

This study explores the use of ChatGPT among Library and Information Science (LIS) students at the University of Delhi. A structured online survey with 13 questions (both closed and open-ended) was conducted via Google Forms in March 2024. The survey link was shared through the official WhatsApp group for BLISc and MLISc students of the University of Delhi's Department of Library and Information Science, as well as individually through personal WhatsApp accounts of the 2023-2024 academic year, yielding a 79.36 % response rate from 100 participants. Descriptive statistical analysis of the data revealed that ChatGPT is widely recognised. Students primarily use ChatGPT for assignments, valuing its free access, quick responses, and idea-generation capabilities. Most respondents find its information somewhat accurate (61.9 %), and 66 % are likely to recommend it for academic purposes. The most cited advantage (67 %) is its free, 24/7 availability. However, 56.3 % are concerned about over-reliance on AI. Additionally, 89.7 % note the absence of institutional policies on AI use, and 85.6 % have yet to receive faculty recommendations to use ChatGPT for academic or research work to ensure academic and research integrity. The findings will aid the university in developing policies to integrate AI tools in academia effectively.

Keywords: AI tools; ChatGPT; Academic writing tools; Digital writing assistant; Library and information science students; University of Delhi

1. INTRODUCTION

The quality of academic content reflects its writers' educational standards and subject knowledge. As authors express their ideas through text, English has become the dominant language for global communication, further solidifying its role in international discourse. Achieving and maintaining high-quality academic writing requires continuous practice, involving mastery of the language and attention to elements such as structure, citation style, grammar, paraphrasing, word choice, conciseness, content coverage, critical thinking, argumentation, and avoiding plagiarism. Academic writing is a vital mode of communication among students across diverse academic disciplines[1-2]. Students produce multiple genres of academic writing, including notations, annotated bibliographies, letters, summaries, reports, essays, research papers, dissertations, and theses[1,3].

Fortunately, various AI-based tools now assist academic writers, including students, researchers, faculty, and scholars. These tools offer support in areas such as grammar checking, paraphrasing, plagiarism detection, reference management, abstract creation, summarisation, language translation, and more. These tools can generate text as swiftly as humans, prompting the academic community to rethink traditional teaching and learning processes. Among these tools, ChatGPT has emerged as a digital writing assistant, offering support to academicians, students, researchers, and faculty in various aspects of academic writing. Some innovative ways students can use ChatGPT:

1. Collaborative Learning: ChatGPT can facilitate group brainstorming, offer feedback, and improve peer collaboration by refining ideas and providing suggestions.
2. Non-Traditional Academic Tasks: They support creative writing, generate prompts, and aid in digital art and multimedia projects by conceptualising themes and descriptions.
3. Research Support: ChatGPT helps co-create research papers, synthesize perspectives, moderate discussions, and offer insights during group interactions.
4. Multidisciplinary Projects: It bridges knowledge gaps between different fields and assists in language learning, cultural studies, and translation tasks.
5. Independent Learning: ChatGPT encourages inquiry-based learning and supports real-world problem-solving through simulations and data analysis.
6. Ethical Thinking: It engages students in discussions about AI ethics, fostering critical thinking and debate on the societal impacts of AI.

These uses enhance collaboration, creativity, and interdisciplinary learning beyond traditional academic tasks. While learners have increasingly turned to this tool as a virtual intelligent assistant[4], its relative novelty

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presents challenges and uncertainties for users. Therefore, assessing user perspectives and experiences with ChatGPT is essential, and this study aims to fill that gap by exploring these aspects.

2. LITERATURE REVIEW

ChatGPT offers significant support for higher education by enhancing instruction, facilitating "remote learning, aiding research design and development, improving academic writing, fostering innovation and creativity, and boosting administrative productivity"[5]. It can improve educational productivity by personalising learning experiences and promoting idea generation[6]. ChatGPT, as a Generative Pre-Trained Transformer (GPT) model, excels in real-life conversations, providing immediate feedback on punctuation, vocabulary, and grammar, improving writing skills and personalising learning experiences[7]. It is also noted that ChatGPT delivers "instant feedback, on-demand answers, and explanations of complex topics" [4]. Users can utilise this tool to summarise content, translate multiple languages, paraphrase texts, check grammar and spelling, personalise learning, access structured learning plans, and clarify assignments.

ChatGPT has gained considerable attention, passing "the US bar exam and quickly amassing over a million subscribers shortly after its release"[8]. Students are motivated to use ChatGPT for various educational purposes, including clarifying complex concepts, completing assessments, solving problems, receiving quick responses, analysing data, supplementing learning, assisting with classroom and homework tasks, adaptive learning, achieving high assignment scores, and clarifying concepts. It is highlighted that ChatGPT enhances hard skills, soft skills, and English language communication skills[9], while another study found it beneficial for second-language writing pedagogy and improving writing efficiency[10]. ChatGPT engages students by providing content and immediate feedback, enhancing their learning and skill development[11]. Its widespread popularity among researchers signifies its potential as a key player in future educational development[12].

Despite its advantages, ChatGPT has raised concerns within academic circles. Critics worry that its use may diminish analytical skills and encourage academic misconduct[8]. Key issues include overreliance on the tool, ethical considerations, threats to academic integrity, and plagiarism[5,6,9,10]. Additional concerns involve security and privacy, learning assessment accuracy, reliability, potential limitations on knowledge affecting future employment, "differing perceptions of academic violations between students and teachers, and the potential stifling of critical thinking and essential skills development"[5,9,6]. To address these issues, several studies recommend enhancing critical evaluation skills to assess ChatGPT's accuracy and relevance. Regular training and integrating human interaction with AI in learning activities are essential[4]. Other recommendations include creating a harmonised approach between AI tools and the educational community, establishing ethical guidelines, adapting pedagogical strategies, and fostering strategic collaboration[13]. Institutions must develop procedures for ChatGPT use, encourage students to develop their ideas and encourage OpenAI to create tools to detect AI-generated work to mitigate negative impacts.

3. STATEMENT OF THE PROBLEM

ChatGPT, as a digital writing assistant, offers valuable support to students, enhancing their academic skills in various ways. Since its launch, it has gained popularity among academic stakeholders, including undergraduates, postgraduates, and researchers. Evaluating this emerging technology is crucial to understanding its benefits, limitations, and user perceptions. This study aims to assess how Library and Information Science (LIS) students at the University of Delhi understand and utilize ChatGPT, exploring its adoption, purposes, benefits, and challenges. The study also evaluates students' perceptions of ChatGPT's efficacy, reliability, and ethical implications.

4. OBJECTIVES OF THE STUDY

1. To explore the purpose of using ChatGPT.
2. To identify the advantages and hindrances associated with using ChatGPT.
3. To examine the integrity and ethical considerations related to ChatGPT.
4. To provide recommendations for the effective use of ChatGPT.

5. RESEARCH METHODOLOGY

An online survey was conducted using Google Forms in March 2024. The survey link was shared through the official WhatsApp groups for Bachelor of Library and Information Science (BLISc) and Master of Library and Information Science (MLISc) students and individually through personal WhatsApp accounts. The participants were students from the Department of Library and Information Science (DLIS), University of Delhi, for the 2023-2024 academic year. By April 15, 2024, 100 responses were received from 126 students, yielding a response rate of 79.36 %. Personal interactions with the students also provided valuable insights, allowing the researchers to make recommendations for using ChatGPT effectively.

Respondents were selected using a census sampling method, including all 126 students. The survey consisted of 13 open-ended and closed-ended questions, such as dichotomous, rating, and multiple-choice questions, designed for clarity and brevity. The questionnaire was evaluated internal consistency for validity and reliability using "Cronbach's alpha, with a value over 0.70 considered reliable and the value of alpha between 0.60 and 0.69 is regarded as moderately reliable"[15]. In this study, the Cronbach's Alpha Reliability Coefficient was 0.98, indicating excellent internal consistency.

6. SCOPE AND LIMITATIONS OF THE STUDY

This study explores students' use of ChatGPT for academic and research purposes. Its primary aim is to identify the specific purposes, benefits, and challenges of using ChatGPT while examining integrity issues and ethical considerations in its use. The research is geographically limited to the DLIS students at the University of Delhi. A key limitation of the study is the sample size, which is restricted to 100 participants from only one department.

7. DATA ANALYSIS AND INTERPRETATION

The responses from 100 participants to 13 questions were organised into six sections: (i) Demographic information, (ii) Awareness and use of ChatGPT, (iii) Purpose of using ChatGPT, (iv) Advantages of ChatGPT, (v) Hindrances of ChatGPT, and (vi) Integrity and ethical considerations. The data was presented in tables and figures and analysed using simple calculation methods.

7.1 Demographic Information

The demographic data, including education level, respondents' age, and gender, are major phenomena that lead to any research's core area (Table 1).

Table 1. Demographic information of respondents (n=100)

Sl. No.	Particulars	No. of respondents (%)
	Gender	
1.	Female	53(53%)
2.	Male	47(47%)
	Age group	
1.	Below 20	00
2.	21-25	90 (90%)
3.	26-30	07(7%)
4.	Above 31	03(3%)
	Enrolled courses	
1.	BLISc	44 (44%)
2.	MLISc	56 (56%)

Table 1 indicates a relatively balanced gender distribution among respondents, with females comprising a slight majority at 53 %. This suggests a fairly equal representation of genders among the students surveyed. Most respondents fall within the 21-25 age group, representing 90 % of the sample. There is no presence of respondents below 20 years, and only a small percentage are in the 26-30 or above 31 age brackets.

The enrollment course distribution shows that 56 % of respondents are enrolled in the MLISc program, while 44 % are in the BLISc program. This result suggests a higher level of participation from MLISc students in the survey. These demographic insights provide a foundational understanding of the respondent group and help contextualise their responses to the study.

7.2 Awareness and Use of ChatGPT

"ChatGPT, a chatbot and virtual assistant developed by OpenAI, was publicly released on November 30, 2022. This large language model, built on OpenAI's generative pre-trained transformer (GPT) architecture, rapidly gained popularity in academic circles"[14]. Its broad array of features has drawn interest from various academic stakeholders, including students, scholars, faculty, educators, and instructors, eager to utilise its capabilities. However, ChatGPT also has its limitations (Fig.1).

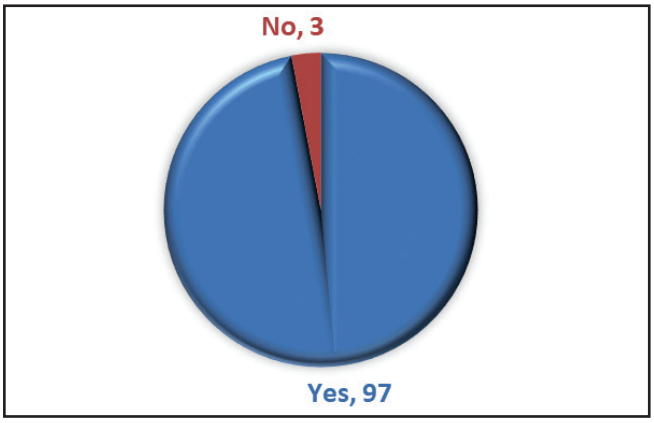

Figure 1. Awareness and use of ChatGPT by LIS students (n=100).

Figure 1 indicates that most respondents (97 %) know ChatGPT, highlighting its widespread recognition among the students surveyed. 3 % of the respondents reported needing to learn about ChatGPT.

7.3 Purpose of Using ChatGPT

ChatGPT, a sophisticated natural language processing AI, excels at generating text and providing instant feedback. While it significantly supports students and academics, it raises ethical concerns. Participants were questioned about using ChatGPT for academic purposes and its role in their tasks. The results of this inquiry are detailed in Table 2.

Table 2 highlights varied usage patterns and perceptions of ChatGPT among respondents. Over half (53 %) use ChatGPT rarely, with fewer using it monthly (21 %), weekly (16 %), or daily (10 %). ChatGPT is mainly utilised for generating project ideas (68 %) and completing assignments (57 %), while it's less frequently used for creating PowerPoint presentations (24 %), summarising articles (29 %), or paraphrasing content (23 %). The tool is least used for spelling and grammar correction (20 %) and literature review (14 %).

Most respondents perceive ChatGPT's information as somewhat accurate (62 %), with a significant portion considering it inaccurate (28 %). Only a few view it as accurate (7 %) or incorrect (3 %). A large majority (79 %) agree that ChatGPT reduces the time and effort needed for academic work, with 10 % strongly agreeing and none strongly disagreeing.

Regarding recommendations, 66 % of respondents are likely to recommend ChatGPT to other students for academic purposes, and 20 % are likely to do so. However, 14 % would not recommend it, indicating mixed perceptions about its overall value and accuracy.

Table 2. Purpose of using ChatGPT (n=97)^

S. No.	Particulars	No. of respondents (%)
	Frequency use of ChatGPT	
1.	Rarely	51 (53%)
2.	Monthly	20 (21%)
3.	Weekly	16 (16%)
4.	Daily	10 (10%)
	Types of academic tasks do you use for*	
1.	Generating Ideas for Projects	66 (68%)
2.	Assignments	55 (57%)
3.	Creation of PowerPoint Presentation	23(24%)
4.	Summarize the article	28(29%)
5.	Paraphrase the content	22 (23%)
6.	Spelling and grammar correction	19 (20%)
7.	Review of Literature	14 (14%)
	Perceive the accuracy of information provided by ChatGPT	
1.	Somewhat accurate	60 (62%)
2.	Not very accurate	27 (28%)
3.	Very accurate	07 (7%)
4.	Not accurate at all	03(3%)
	Believe the use of ChatGPT significantly reduced the time and effort in completing academic work.	
1.	Agree	77(79%)
2.	Disagree	10(10%)
3.	Strongly agree	10(10%)
4.	Strongly disagree	00
	Would you recommend using ChatGPT to another student for academic purposes?	
1.	Yes, somewhat likely	64(66%)
2.	Yes, highly likely	19(20%)
3.	No, not likely	14(14%)

Note: **Multiple answers are permitted. ^Marked "Yes" in Fig.1.*

7.4 Advantages of Using ChatGPT

Adopting ChatGPT for academic tasks offers considerable advantages to students. It provides valuable support by generating new ideas and offering feedback on critical concepts. The various benefits that LIS students derive from ChatGPT are presented in Table 3.

Table 3. Advantages of using ChatGPT (n=97)^

S. No.	Particulars	No. of respondents (%)
1.	Free to use and available 24/7 hours	65 (67%)
2.	It saves the time and energy for finding information	47(48.5%)
3.	Saves time in researching specific information	47 (48.5%)
4.	To get quick, instant responses	47(48.5%)
5.	Generating ideas and refining research questions	46 (47.4%)
6.	It assists in generating ideas or brainstorming	26(26.8%)
7.	Completing assignments without any input	24 (24.7%)
8.	It is very useful for solving complex problems	23(23.7%)
9.	It enhances the learning experience	17(17.5%)
10.	It enhances the language skills	16(16.5%)
11.	Proofreading completed assignments/project work	15 (15.5%)
12.	To paraphrase AI content for academic writing	14(14.4%)
13.	To know the AI content percentage in Plagiarism Detection Tools	5(5.2%)

Note: **Multiple answers are permitted. ^Marked "Yes" in Table 2.*

Table 3 highlights several key benefits of using ChatGPT for academic tasks. The most cited advantage, noted by 67 % of respondents, is that ChatGPT is free and available 24/7, emphasising its accessibility and convenience. Additionally, 48 % of respondents value its ability to save time and energy in finding information, researching details, and providing quick responses, indicating appreciation for the tool's efficiency.

ChatGPT is also recognised for its usefulness in generating ideas and refining research questions, with 47 % of respondents citing this benefit, particularly in the early stages of academic work. About 27 % use ChatGPT for brainstorming and idea generation, highlighting its role in the creative and planning phases.

Fewer respondents find ChatGPT useful for solving complex problems (24 %) or completing assignments without input (25 %). This suggests that while the tool is helpful, it is only sometimes relied upon for all academic tasks. Even fewer respondents noted that ChatGPT enhances their learning experience (17 %) or language skills (16 %), with these benefits less emphasized than practical support and efficiency.

A small percentage of respondents use ChatGPT for proofreading assignments (15 %) or paraphrasing AI content (14 %), and even fewer (5 %) use it to determine AI content percentages in plagiarism detection tools.

7.5 Hindrances of Using ChatGPT

While ChatGPT offers several benefits, there are also some limitations to consider. Participants were asked to provide feedback on any hindrances they experienced with ChatGPT. Using AI tools like ChatGPT can have mixed psychological effects on student confidence. While some students may gain confidence through instant access to information and guidance, others might become overly reliant on AI, reducing self-assurance in their abilities.

Regarding time management, AI can help students manage their time more effectively by streamlining research, writing, and problem-solving tasks. However, overuse could lead to procrastination or dependency, impacting the development of independent time-management skills. The results are graphically presented in Table 4.

Table 4. Hindrances of using ChatGPT (n=97)*

S. No.	Particulars	No. of respondents (%)
1.	Becoming too reliant on AI	54(56.3%)
2.	Losing creativity and critical thinking	49(51%)
3.	Not providing the right source of literature like books, articles	46 (47.9%)
4.	Limited content display in the interface once at a time	38(39.6%)
5.	It is considered cheating by some	35 (36.5%)
6.	It generates inaccurate or unreliable responses	29(30.2%)
7.	It provides repetitive information/biased answers	27(28.1%)
8.	Lacking issues of privacy and security threats to personal data	21(21.9%)
9.	It cannot analyze graph and image data	21(21.9%)
10.	It cannot respond to voice	19(19.8%)
11.	Lacks the ability to express	18(18.8%)
12.	It is unable to browse real-time data	13(13.5%)

Note: **Multiple answers are permitted*

Table 4 shows that 56 % of respondents are concerned about becoming overly dependent on AI, indicating worries about the potential negative impacts of heavy reliance on the technology. Additionally, 51 % believe using AI might reduce creativity and critical thinking, while 48 % reported issues with the AI's ability to provide comprehensive literature sources. Concerns about limited content display affected 40 % of users, and 36 % viewed AI usage as potentially unethical or akin to cheating.

Furthermore, 30 % noted the AI's occasional inaccuracy, 28 % observed repetitive or biased responses, and 22 % were concerned about privacy and security risks. The same percentage highlighted the AI's limitation in analysing graphs and images. Meanwhile, 20 % noted the absence of voice response functionality as a drawback, 19 % stated the AI's inability to express nuanced emotions or tones, and 13 % cited the AI's lack of real-time data access.

7.6 Integrity and Ethical Consideration of Using ChatGPT

Despite the impressive features of ChatGPT, discussions around academic honesty, integrity, and policy have emerged within academic circles. Maintaining academic integrity poses significant challenges, particularly given the need for established policies for integrating AI technology. The responses to these questions are summarized in Table 5.

Table 5. Integrity and ethical consideration of using ChatGPT (n=97)

Sl. No.	Particulars	No. of respondents (%)
	Do you have any institutional policy to use ChatGPT or any AI tool by students?	
1.	Yes	10(10%)
2.	No	87(90%)
	Have your professors recommended using ChatGPT or any AI tool for academic/research work?	
1.	Yes	14 (14%)
2.	No	83(86%)

Table 5 provides insights into the institutional policies and academic recommendations regarding students' use of ChatGPT and similar AI tools. Most respondents (90 %) indicated that their institutions do not have a formal policy governing students' use of ChatGPT or other AI tools. This highlights a significant gap in institutional guidelines concerning integrating AI technologies in academic settings. Only a small fraction (10 %) reported having their policy, suggesting a need to develop and implement comprehensive policies to address the use of AI tools. The ethical issues surrounding ChatGPT include: (i) *Misinformation*: ChatGPT may generate incorrect or misleading content, potentially spreading false information if not carefully reviewed. (ii) *Bias*: The model may unintentionally reflect biases from its training data, resulting in biased responses on sensitive subjects. (iii) *Privacy*: Users might share personal or confidential details, raising concerns about how this data is handled and whether privacy is adequately protected. (iv) *Plagiarism*: ChatGPT could inadvertently promote plagiarism if users present generated text as original without proper citation when used in academic or professional contexts. (v) *Overdependence*: Excessive reliance on ChatGPT could diminish human creativity, critical thinking, and problem-solving, as students may opt for automated solutions over deeper engagement.

These challenges emphasise the importance of the ethical and transparent use of AI models like ChatGPT.

When asked if their faculty members (professors) had recommended using ChatGPT or similar AI tools for academic or research work, most respondents (86 %) reported still waiting to receive such recommendations. In contrast, 14 % of respondents indicated that their professors had endorsed using these tools. This suggests that while some educators may see the value in AI tools for academic purposes, more endorsement or guidance should be needed.

8. RECOMMENDATIONS

The study recommended several measures to ensure students effectively use ChatGPT:

8.1 Conduct Training

Implementing training programs is essential to help students improve their precision when using AI tools and enhance their ability to assess AI-generated content critically. For example, universities could offer workshops for students on "AI-powered Digital Writing Assistance," demonstrating how ChatGPT can aid in drafting assignments and project reports, generating content ideas, or revising written work while being aware of their limitations. *Actionable Steps:* (i) Create structured sessions with real-world tasks, e.g., drafting emails, writing project proposals, assignments or preparing presentations, and (ii) Designate specific modules on ethical AI use, where students can discuss challenges or concerns about AI deployment.

8.2 Establish Policies

Institutions should create clear policies regarding the ethical use of AI technologies. These policies could outline how AI-generated content should be labelled, how to ensure transparency in AI-assisted research, and how privacy concerns are managed when using AI platforms. For example, universities could mandate that AI-assisted content used in an academic submission be clearly labelled and attributed. Policies might also address issues like data privacy, ensuring that students and faculty's personal information is protected when interacting with AI platforms. *Actionable Step*: Start with a brainstorming session where ChatGPT suggests various policy changes based on successful examples (e.g., digital transformation policies at MIT).

8.3 Foster Synergy

Encouraging collaboration between AI tools and the educational community can lead to more seamless integration of AI in academic practices. For instance, students could use AI to assist with brainstorming essay topics, reviewing drafts, or generating study aids. In educational settings, AI tools could help students find relevant literature, automate citation management, or create research ideas. However, AI must enhance, rather than replace, the expertise of information professionals, promoting a balance between AI-driven efficiency and human intellectual contribution.

8.4 Encourage Original Thinking

While AI tools can assist in certain tasks, it's important to cultivate original thinking among students. For instance, instead of simply generating a list of sources using AI, students could be encouraged to critically evaluate each source for its relevance and credibility, fostering a deeper understanding of the research topic. Educators could create assignments prioritising creativity and personal reflection, ensuring students engage in deep thinking rather than relying on AI for all answers. *Actionable Step*: Libraries could design programs that help students develop their research skills independently, such as guiding them through the research process, from creating a project/thesis to finding and analyzing primary sources.

8.5 Develop Detection Tools

With the growing use of AI in academic writing, there is a pressing need for tools that can detect AI-generated content to prevent plagiarism. Universities might invest in or develop plagiarism detection software that can flag content generated by AI systems. For example, tools like Turnitin could incorporate AI-specific checks that identify patterns or markers unique to AI-generated text, helping educators ensure students' submissions reflect their work. This can help maintain academic integrity and uphold the value of originality in education. *Actionable Step*: Librarians could incorporate AI-detection functionalities into library databases or research management platforms, assisting users in verifying the authenticity of their research outputs. This will safeguard the originality of scholarly work and uphold the ethical standards of the academic community.

9. CONCLUSION

The study indicates that ChatGPT is well recognised among students, primarily through informal channels such as social media and personal connections, with formal academic sources playing a lesser role. Despite this widespread awareness, students utilise ChatGPT infrequently, primarily for generating project ideas and completing assignments. Most respondents consider its information somewhat accurate and are willing to recommend it for academic purposes. The most frequently cited advantage of ChatGPT is its free, 24/7 availability. While students appreciate ChatGPT's accessibility, time-saving features, and capacity to assist with idea generation and refining research questions, opinions on its overall effectiveness vary. Its strengths in simplifying tasks such as brainstorming are recognised, yet its potential for more specialised academic support, such as proofreading and paraphrasing, merits further emphasis. However, concerns regarding over-reliance on AI are prominent, with over half of the respondents expressing caution. Many reports that their universities/institutions lack formal policies on AI usage and have yet to receive faculty recommendations to incorporate ChatGPT into their academic or research work.

The study highlights a significant gap in institutional policies and academic guidelines concerning using AI tools like ChatGPT. It calls for educational institutions to develop clear policy frameworks and actively educate students on AI's ethical and responsible use in academic settings. As the first study to examine ChatGPT's usage among LIS students at the University of Delhi, it offers valuable insights into its benefits and the areas needing improvement, particularly regarding accuracy, ethics, and user support. To overcome the limitations of the current study, future research plans to increase the sample size and incorporate students from various departments throughout the University of Delhi. This will provide a more diverse and representative dataset, enhancing the generalisability of the findings.

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CONTRIBUTORS

Dr. Margam Madhusudhan is a Professor in the Department of Library and Information Science at the University of Delhi, India. He has served in various key roles, including Deputy Dean of Academics, University Librarian (I/C), and Member of the Academic Council at the University of Delhi. With 25 years of experience in teaching, administration, and research at the university level, his expertise spans Website design and evaluation, Web-OPACs, ICT in libraries, Social networking sites, E-resources, Mobile-based library services, and Text mining. He contributed by cross-checking the content, tables, and related literature, revising the data analysis and interpretation, conducting a plagiarism check, and preparing and revising the final manuscript.

Ms. Parbati Pandey is a PhD scholar in the Department of Library and Information Science at the University of Delhi. Her research interests include Systematic literature reviews (PRISMA), Library automation, Content management, Federated search, ICT tools and techniques, and E-resources.
For the current study, she contributed to the conception of the idea, data analysis, and the writing of the initial draft of the paper.

Mr. Ravinder Kumar Bharti holds a Master's and Bachelor's degree in Library and Information Science from the University of Delhi, Delhi. His research interests include AI tools, Electronic resources, and Survey-based research.
In this study, he was responsible for data collection.