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User Perception of ChatGPT and Traditional Reference Services

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ABSTRACT

The advent of artificial intelligence (AI) has significantly transformed library reference services, particularly through the introduction of conversational agents such as ChatGPT. This study explores user perceptions of ChatGPT in comparison to traditional reference services provided by human librarians. Employing a survey-based methodology, data were collected from academic library users to assess key factors including accuracy, trustworthiness, user satisfaction, response time, and ease of use. The findings indicate that although ChatGPT delivers rapid and easily accessible support, users generally prefer traditional reference services for complex or specialized queries, attributing this preference to the human capacity for contextual understanding and critical thinking. The study underscores the complementary roles of AI and human librarians, proposing that the integration of ChatGPT as a supportive tool can enhance the overall effectiveness of reference service delivery. These insights offer valuable guidance for libraries aiming to innovate while aligning with user expectations in a rapidly evolving information environment.

KEYWORDS

• Artificial Intelligence (AI) • ChatGPT • Reference Services • User Perception

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INTRODUCTION

The rapid advancement of artificial intelligence (AI) has significantly transformed the landscape of information services in libraries and academic settings. Among the emerging AI tools, ChatGPT, a conversational AI developed by OpenAI, has garnered considerable attention for its ability to simulate human-like dialogue and provide instant information assistance. This technological shift has prompted comparisons between AI-driven virtual reference services and traditional reference services offered by professional librarians. While traditional reference services are valued for their personalized, context-aware support, ChatGPT offers the advantages of 24/7 availability, scalability, and rapid response times.

As libraries increasingly explore the integration of AI tools to supplement or enhance their reference services, it becomes essential to understand how users perceive and evaluate the effectiveness, reliability, and usability of both systems. User perception plays a crucial role in the adoption and success of these technologies. This study aims to assess and compare the perceptions of users regarding ChatGPT and traditional reference services, focusing on factors such as accuracy of information, user satisfaction, ease of use, response time, and trustworthiness. The findings will offer valuable insights into the potential of conversational AI in supporting or transforming reference services in academic and public library environments.

Respondents highlighted several perceived benefits of using ChatGPT, including its instant availability, 24/7 access, simplified explanations for complex topics, and it's convenient, user-friendly interface. However, limitations were also noted, such as occasional inaccuracies in data or references, a lack of deep subject specialization, and inability to guide users through library-specific resources like institutional subscriptions or catalogues. In contrast, traditional reference services were valued for their human touch, contextual understanding, and access to authenticated, subscription-based materials, as well as for the expertise librarians provide in navigating academic databases and citation styles.

LITERATURE REVIEW

The landscape of library reference services has undergone significant evolution with the integration of digital technologies and artificial intelligence (AI). Traditional reference services, which rely on human librarians to provide tailored information support, have long been valued for their depth, credibility, and interpersonal communication. These services are built on professional competencies such as evaluating information sources, understanding user needs, and offering ethical guidance in information use **(Tenopir, 2004; Radford, 2006).**[6,5] However, with the emergence of AI-based tools such as ChatGPT developed by OpenAI and based on the GPT (Generative Pre-trained Transformer) architecture a shift toward automated reference support is underway. ChatGPT is capable of generating human-like responses and has been widely adopted in various fields, including education and customer service **(Floridi & Chiriatti, 2020).**[2] Its integration into library environments has raised questions regarding its efficacy, accuracy, and acceptance as a substitute or complement to traditional human services. Recent studies have explored the strengths and limitations of ChatGPT in reference contexts. **Choi, Hickman, and Kang (2023)**[1] found that while ChatGPT offers fast and accessible responses, it occasionally generates inaccurate or fabricated content, which raises concerns about reliability. Similarly, **Zhang and Liu (2023)**[7] noted that ChatGPT performs well for general queries but struggles with complex, discipline-specific questions that require expert judgment and contextual understanding. Users' perceptions and trust in ChatGPT remain mixed. While some appreciate its convenience and 24/7 availability, others express reservations about its inability to cite sources accurately or engage in nuanced, critical discussions **(Head & Eisenberg, 2022).**[3] In contrast, traditional reference services are still regarded as more trustworthy, especially for academic or research-based inquiries. A study by **Lin and Yu (2022)**[4] found that users preferred librarian assistance when searching for scholarly materials due to the human ability to interpret vague questions and provide guided search strategies. Overall, the literature reflects a growing interest in understanding how users interact with and evaluate AI-based reference tools compared to traditional services. However, there is a lack

of comprehensive comparative studies that examine user satisfaction, trust, and usability of ChatGPT versus human-led reference services. This study aims to address this gap by evaluating user perceptions of both systems, providing insights into their strengths, weaknesses, and potential integration into library practices.

OBJECTIVE

The primary objective of this study is to compare and analyse user perceptions of ChatGPT-based virtual reference services and traditional reference services provided by human librarians. The study seeks to:

- Assess user satisfaction with the accuracy, relevance, and clarity of responses from both services.
- Evaluate user trust and confidence in information provided by ChatGPT versus that offered by professional librarians.
- Examine the perceived efficiency, accessibility, and ease of use of both reference service types.
- Identify user preferences and expectations regarding AI integration into library reference services.
- Offer insights and recommendations for libraries considering the adoption or hybridization of AI-assisted reference tools.

METHODOLOGY

This study employs a survey-based comparative research design to evaluate user experiences with both ChatGPT and traditional library reference services. A purposive sample of 100–150 participants, including students, faculty, and researchers from academic institutions familiar with both services, was selected. Data were collected through a structured questionnaire comprising both Likert-scale and open-ended questions, focusing on dimensions such as satisfaction, trust, accuracy, response time, ease of use, and overall experience. Surveys were distributed online via email and Google Forms, as well as in-person at selected academic libraries. Quantitative data were analysed using descriptive statistics (mean, standard deviation) and inferential tests (t-tests, chi-square) to identify significant differences in user perceptions. Thematic analysis was applied to qualitative responses to capture deeper insights into user expectations and feedback. Ethical protocols were strictly followed, with voluntary participation, informed consent, and assurance of anonymity and confidentiality throughout the research process.

DATA ANALYSIS AND DISCUSSION

Table 1: Demographic Profile of Respondents

Attribute	Categories	Percentage (%)
Gender	Male	48%
	Female	50%
	Prefer not to say	2%
Age	18–25	55%
	26–35	30%
	36 and above	15%
User Type	Undergraduate Students	40%
	Postgraduate Students	35%
	Faculty/Researchers	25%
Library Usage	Daily	30%
	Weekly	45%
	Monthly	20%
	Rarely	5%

The respondent profile shows a nearly balanced gender distribution with 50% female and 48% male, while a small 2% preferred not to disclose their gender. The majority of users fall within the younger age groups, with 55% aged 18–25 and 30% aged 26–35, while only 15% are 36 and above, indicating a predominantly youthful user base. Regarding user types, undergraduates represent the largest group at 40%, followed closely by postgraduates at 35%, and faculty or researchers make up the remaining 25%. In terms of library usage frequency, most users engage with the library either weekly (45%) or daily (30%), suggesting high regular interaction, while 20% use it monthly and a minimal 5% rarely visit, reflecting overall active library engagement across the majority of users.

Table 2: Experience with Reference Services

Used Traditional Reference Services: 80%
Used ChatGPT for Reference Queries: 65%

A significant majority of respondents (80%) have utilized traditional reference services, indicating these remain a foundational component of library support. Meanwhile, a substantial portion (65%) have also engaged

with ChatGPT for reference queries, reflecting growing acceptance and integration of AI-powered virtual assistance in the reference domain. This suggests that while traditional methods are still widely used, there is a notable shift toward embracing innovative AI tools to complement and enhance user support services.

Table 3: User Satisfaction Ratings

Statement	Mean Score
Traditional reference services provide accurate information	4.3
ChatGPT provides timely responses to queries	4.5
ChatGPT is easier to use than traditional reference services	4.6
Traditional services offer more personalized assistance	4.2
I am confident in the information provided by ChatGPT	4.1
I would prefer using ChatGPT over visiting the library	4.4

Note: 1 = Strongly Disagree, 5 = Strongly Agree

Respondents generally hold a positive view of both traditional reference services and ChatGPT as valuable information sources. Traditional services are seen as reliable, with a high mean score of 4.3 for providing accurate information and 4.2 for offering personalized assistance, highlighting their trusted role and human touch. ChatGPT scores slightly higher on aspects related to convenience and ease of use, with 4.5 for timely responses and 4.6 for ease of use, indicating that users appreciate the speed and accessibility of AI-driven support. Confidence in ChatGPT's information is also strong at 4.1, and interestingly, many respondents express a preference for using ChatGPT over physically visiting the library, with a mean score of 4.4. Overall, these findings suggest that while traditional services remain valued for accuracy and personalization, ChatGPT is favoured for its efficiency and user-friendly experience, reflecting a complementary relationship between the two modes of reference assistance.

KEY FINDINGS OF THE STUDY

The study revealed that while traditional reference services continue to be widely used, with 80% of respondents relying on librarian expertise, there is a noticeable growth in ChatGPT adoption, with 65% of users turning to the tool for reference purposes. ChatGPT excelled in efficiency and accessibility, earning high ratings for response speed (mean score 4.5) and ease of use (4.6), making it the preferred option for quick, general information needs. However, traditional services remained stronger in trust and personalization, with higher scores for perceived accuracy (4.3) and contextual, tailored support (4.2). Confidence in ChatGPT's information was relatively strong (mean score 4.1), indicating moderate user trust in AI tools, tempered by some caution. Notably, participants showed a clear preference for hybrid models, advocating a blended approach where ChatGPT provides initial assistance and human librarians offer deeper, subject-specific guidance.

SUMMARY AND INTERPRETATION

The survey findings suggest a clear user preference for utilizing ChatGPT for general, quick-reference queries, driven by its rapid response time and user-friendly accessibility. Nonetheless, traditional reference services remain essential, particularly for delivering expert academic guidance, contextual understanding, and access to authenticated resources. Importantly, respondents advocated for a hybrid reference model, envisioning ChatGPT as an initial, automated point of support, with librarians stepping in for more complex, in-depth, or subject-sensitive inquiries. This highlights the potential for complementary integration between AI tools and human expertise in academic reference services.

CONCLUSION

This study offers a comparative insight into user perceptions of ChatGPT-based reference services and traditional human-led support in academic library settings. The findings reveal that while ChatGPT is highly appreciated

for its immediacy, accessibility, and ease of use, especially for general information needs, users continue to rely on traditional reference services for in-depth, specialized, and context-driven queries. Trust, human interaction, and subject expertise remain the key strengths of librarian-assisted services, whereas ChatGPT excels in speed and availability.

The survey highlights a user preference for a hybrid reference service model leveraging the responsiveness of AI tools like ChatGPT as a preliminary source, followed by human librarian support for advanced research needs. Such integration not only enhances user satisfaction but also allows libraries to optimize their services for a broader range of user expectations. As AI technologies continue to evolve, academic libraries must consider user feedback when adopting or merging AI into their service infrastructure. By aligning innovation with human expertise, libraries can ensure more inclusive, efficient, and responsive reference services for the digital age.

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