International Journal of Humanities and Education Research

ISSN Print: 2664-9799
ISSN Online: 2664-9802
Impact Factor (RJIF): 8.97
IJHER 2025; 7(2): 215-222
www.humanitiesjournal.net
Received: 20-06-2025
Accepted: 25-07-2025

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Perceptions of artificial intelligence: A study on academic fraternity of Sonipat district, Haryana, India

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DOI: https://www.doi.org/10.33545/26649799.2025.v7.i2c.258

Abstract
Artificial intelligence is rapidly transforming academic research and education, offering new opportunities to enhance efficiency, creativity, and analytical accuracy. This study examines the perceptions of the academic fraternity regarding the integration of artificial intelligence in academia, exploring its benefits, challenges, and future implications. The finding indicates that academic fraternity agreed that AI significantly boosts research performance, with research scholars demonstrating a higher frequency of AI usage compared to faculties. The study suggests that faculty members and research scholars share similar perspectives or behaviors regarding artificial intelligence in academia, exploring its benefits, challenges, and future implications. However, concerns persist regarding AI training barriers, ethical implications, and the potential displacement of traditional research and teaching methods. A significant proportion of respondents cited lack of AI training as a major obstacle, emphasizing the need for structured AI literacy programs. While the majority of faculty and research scholars agreed that AI might replace certain traditional academic roles, a considerable percentage disagreed, reinforcing the importance of human expertise in critical thinking, ethical judgment, and personalized learning. Despite these concerns, AI is largely perceived as a partner rather than a competitor, with over maximum academic fraternity expressing positive attitudes toward AI's collaborative role. The study shows that we need to use AI ethically, improved training programs, and a balanced integration strategy to ensure AI serves as an effective complement rather than a replacement in academia. The findings contribute to ongoing discussions on AI's role in higher education and academic research.

Keywords: Artificial intelligence, academic fraternity, artificial intelligence in academia, AI - assisted learning, higher education

Introduction
In the rapidly evolving landscape of education and research, artificial intelligence has emerged as a transformative force reshaping the way knowledge is accessed, and applied. AI technologies ranging from machine learning and natural language processing to intelligent tutoring systems and automated data analysis are increasingly being integrated into educational environments, enabling both faculties and research scholars to enhance productivity, teaching effectiveness, and research efficiency. As educational institutions globally shift toward digital transformation, the ability of academic community to understand and effectively use Artificial intelligence becomes critical. India, with its expanding higher education ecosystem and growing digital infrastructure, is witnessing a rising interest in Artificial intelligence across various academic disciplines. However, questions remain about the depth of awareness, usage patterns, and the extent to which faculties and research scholars utilize AI technologies. Artificial intelligence has emerged as a transformative force in higher education, significantly impacting teaching, research, and administrative processes. Atwal & Khan (2025) [1] reveal a notable disparity in artificial intelligence regardless of demographic differences, a majority of respondents express optimism about AI's potential to bridge existing educational gaps. This shared belief across gender and locality underscores the transformative role of AI in education and research. The literature emphasizes the urgent need for inclusive AI literacy initiatives and equitable access to digital tools, particularly in underserved or marginalized communities, to effectively bridge the prevailing digital divide.

Holmes et al. (2019) [3] emphasize the growing use of AI in personalized learning, automated feedback, and decision-making in academic institutions. Similarly, Zawacki-Richter et al. (2019) [7] discuss the wide-ranging applications of AI in higher education, from intelligent tutoring systems to predictive analytics. Faculty awareness and perception of AI play a crucial role in the effective integration of these technologies. According to Panigrahi et al. (2021) [5], faculty engagement with AI is influenced by their institutional support, digital competence, and exposure to AI tools relevant to their disciplines. Raj and Mishra (2020) [6] suggests that AI tools assist scholars in various tasks such as literature review, data analysis, and plagiarism detection, enhancing the overall efficiency and quality of research. However, disparities in AI adoption are evident across academic streams due to differences in training, awareness, and perceived applicability. Mishra and Yadav (2022) [4] observe that while artificial intelligence has interdisciplinary potential, actual usage varies depending on contextual relevance and availability of training opportunities. Despite the growing body of literature on artificial intelligence in education, there is a notable gap in comparative studies that explore awareness and usage of AI across different academic roles and disciplines. Atwal & Khan (2025) [2] indicates that AI has gained widespread recognition many individuals possess only a basic understanding of the concept. A significant number of respondents reported limited exposure to AI in their academic or professional settings. These findings highlight the need for targeted AI education and awareness initiatives to enhance understanding of its broader applications and societal impact The present study addresses that gap by examining perceptions of faculties and research scholars from science and arts streams, contributing to a more nuanced understanding of AI integration in the academic landscape. The study addresses the gap by offering a comparative perspective on how different academic groups perceive and utilize artificial intelligence, thereby contributing to the broader discourse on digital readiness and artificial intelligence integration in higher education. To explore this further, the study is driven by the following research question.

- **RQ 3:** What is your concern in usage of Artificial Intelligence?
- **RQ 4:** Do you think Artificial Intelligence can be useful tool for boosting research performance and enhancing the Quality and Creativity?
- **RQ 6:** How often do you use Artificial Intelligence Technology in your research and studies?
- **RQ 8:** Do you agree that lack of Artificial Intelligence Training is a significant barrier for researchers?
- **RQ 9:** As a researcher are you interested in learning more resources and training on Artificial Intelligence Technology?
- **RQ 11:** Do you think Artificial Intelligence Technology can replace teachers and traditional research methods in future?
- **RQ 12:** Would you be comfortable with Artificial Intelligence Technology assisting teachers in grading assignments and exam?
- **RQ 15:** In your opinion Artificial Intelligence can be perceived as a partner rather than a competitor?

Methodology

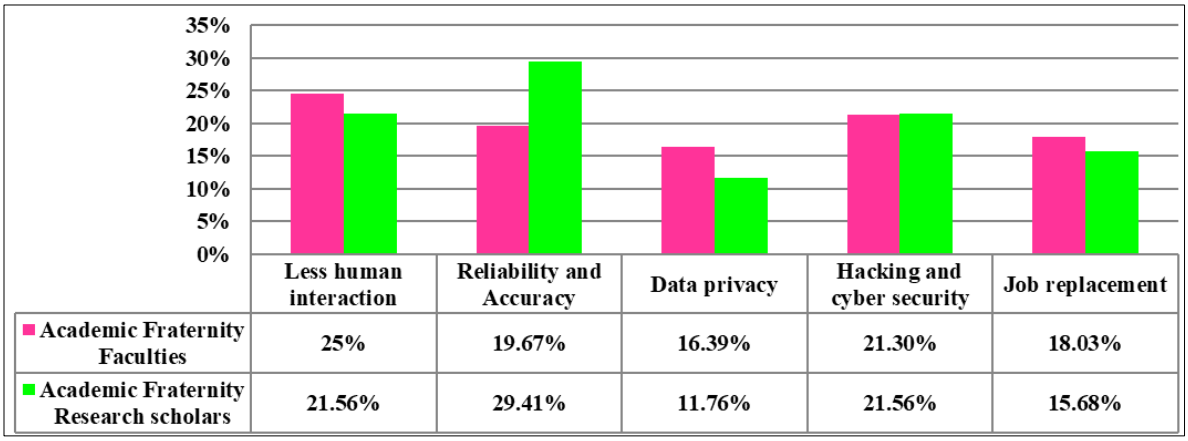
This study employs a descriptive and analytical research design to examine the perceptions of the academic fraternity regarding the integration of artificial intelligence in academia. The study involves a total of 112 academic fraternity on the basis of stratified purposive sampling for collecting data from universities/colleges in the Sonipat district of Haryana, India, A structured questionnaire was designed to assess academic fraternity views on AI adoption in academia. Likert-scale questions; comprised 25 statements covering the frequency of AI usage in research and teaching, perceived benefits of AI in academia, concerns regarding AI, including ethical issues and job displacement, and willingness to undergo AI training and skill development. The questionnaire was sent to the academic fraternity through Google Forms to know respondents opinions. A quantitative approach was adopted to collect, analyze, and interpret data by using statistical analysis.

Results and Discussion

Table 1: Frequency and overview on artificial Intelligence in academics

ID	Research Questions
RQ 3	What is your concern in usage of Artificial Intelligence?
RQ 4	Do you think Artificial Intelligence can be useful tool for boosting research performance and enhancing the Quality and Creativity?
RQ 6	How often do you use Artificial Intelligence Technology in your research and studies?
RQ 8	Do you agree that lack of Artificial Intelligence Training is a significant barrier for researchers?
RQ 9	As a researcher are you interested in learning more resources and training on Artificial Intelligence Technology?
RQ 11	Do you think Artificial Intelligence Technology can replace teachers and traditional research methods in future?
RQ 12	Would you be comfortable with Artificial Intelligence Technology assisting teachers in grading assignments and exam?
RQ 15	In your opinion Artificial Intelligence can be perceived as a partner rather than a competitor?

RQ 3 What is your concern in usage of Artificial Intelligence?

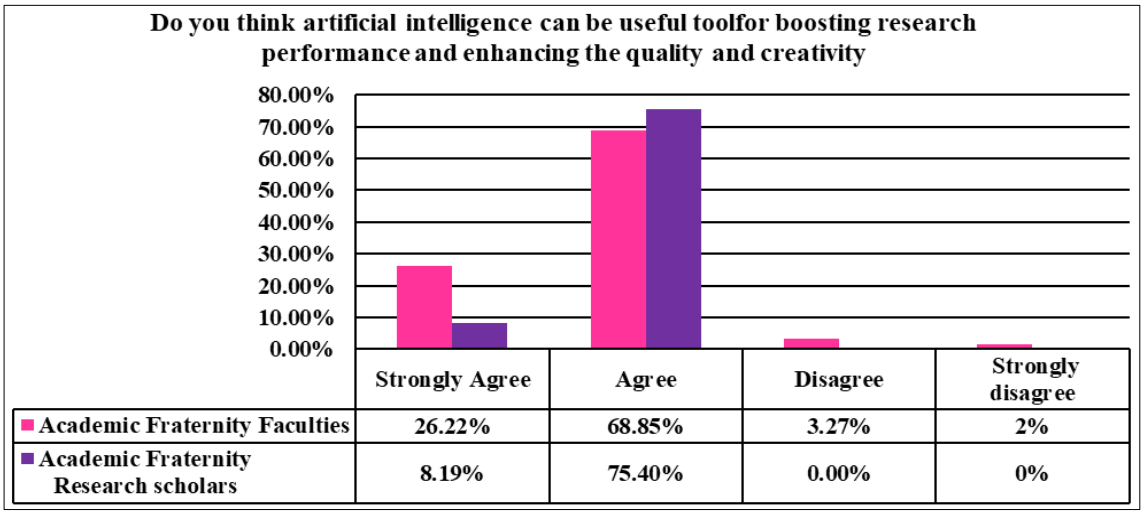


	Less human interaction	Reliability and Accuracy	Data privacy	Hacking and cyber security	Job replacement
Academic Fraternity Faculties	25%	19.67%	16.39%	21.30%	18.03%
Academic Fraternity Research scholars	21.56%	29.41%	11.76%	21.56%	15.68%

Fig 1: Concern in usage of artificial intelligence

Table 1 shows the frequency and overview of artificial intelligence in academics. The study evidenced by RQ 3: What is your concern about the usage of artificial intelligence? The responses of academic fraternity are categorized into five sections: Less human interaction, reliability and accuracy, data privacy, hacking and cyber-security, and job replacement. Each section represents the percentage of respondents in usage of AI among faculties and research scholars: To start with, as highlighted in Figure 1, suggested that faculties express 25% concern about AI reducing human interaction compared to research scholars 21.56%. It indicates that faculty members could be more concerned about AI diminishing traditional teaching and personal communication in education. Following that academic fraternity concern regarding AI's reliability and accuracy, the emphasis that 29.41% of research scholars and 19.67% of faculty mark their perception, the significantly more concerned of research scholars as compared to faculty, indicates that research scholars rely deeply on data-driven results and may fear errors and biases in AI-generated outputs. Moving on to data privacy 16.39% of faculty and 11.7% of research scholars mark their opinion. The study visualized the higher concern of faculty than research scholars about data privacy. It indicates that faculty members who deal with institutional and student data are more aware of the risks associated with AI's handling of sensitive information. Proceeding to hacking and cyber security concerns among the academic fraternity is almost parallel 21.30% of faculty and 21.56% of research scholars marked their answers and suggested a collective awareness regarding cyber security threats related to artificial intelligence. Furthermore, study driven that 18.03% of faculty and 15.68% of research scholars show a great concern about AI replacing jobs. The study depicts that academic faculty show much more concern about job replacement than research scholars. It may reflect that academic faculty shows anxiety about AI powering teaching or administrative roles, whereas research scholars may view AI as a supportive tool rather than a replacement or threat to the profession.

RQ 4 Do you think Artificial Intelligence can be useful tool for boosting research performance and enhancing the Quality and Creativity?



	Strongly Agree	Agree	Disagree	Strongly disagree
Academic Fraternity Faculties	26.22%	68.85%	3.27%	2%
Academic Fraternity Research scholars	8.19%	75.40%	0.00%	0%

Fig 2: Artificial Intelligence can be useful tool for boosting research performance and enhancing the

Quality and Creativity

Table 1 presents the frequency and overview of artificial intelligence in academics. The study illustrates RQ 4: Do you think artificial intelligence can be a useful tool for boosting research performance and enhancing the quality and creativity? The perspective of academic fraternity regarding the usefulness of AI is categorized into four levels: strongly agree, agree, disagree, and strongly

disagree. The study highlighted in Figure 2 depicts that 26.22% are academic faculty, whereas 8.19% are research scholars, it presents a clear emphasis that academic faculty strongly agree that AI enhances research performance. Subsequently, the majority of the academic fraternity, 68.85% of faculty and 75.40% of research scholars, study focuses that higher agreement among research scholars suggests that they interpret AI as a valuable support system for research in performing data analysis, literature review, and analytical forming. It is clearly evident that both compared variables of academic fraternity parallelly agree on the statement that artificial intelligence enhancing the quality and creativity in research. Thereafter, study demonstrate that only a small fraction 3.27% of academic faculty answered disagree, while none of the research scholars showed disagreement with AI's role in research. It is evident from the above that the academic fraternity strongly disagrees, and their responses are minimal just: 2% of academic faculty and 0% of research scholars. The study insights that research scholars, although supportive of artificial intelligence, might still be developing a more profound understanding of its full potential, leading to a greater share of 'agree' rather than 'strongly agree' responses on the other side academic faculties experience in academia, where they have observed noticeable benefits of AI in research. The study determined that the role of artificial intelligence in improving research efficiency and creativity is widely accepted among the academic fraternity.

RQ 6 How often do you use Artificial Intelligence Technology in your research and studies?

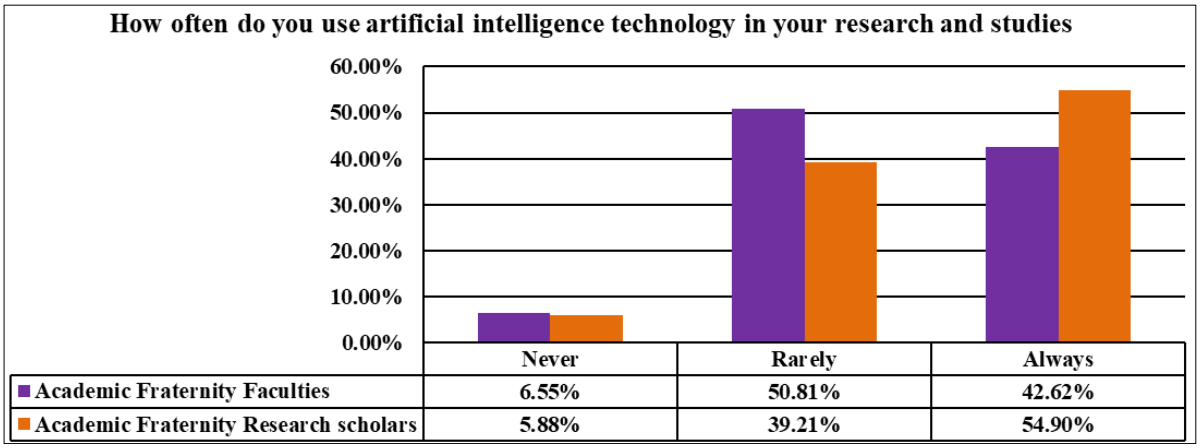


Fig 3: Use of artificial intelligence in your research and studies

Table 1 determines the frequency and overview of artificial intelligence in academics. The study demonstrates by RQ 6: How often do you use artificial intelligence technology in your research and studies? The responses of academic fraternity categories into three: never, rarely, or always regarding utilizing AI in their research and academic activities. As emphasized in Figure 3, comparison of two variables - academic faculties and research scholars to understand AI adoption trends in academia, represents that 6.55% of academic faculties and 5.88% of research scholars reported never supporting AI in their research, though the percentage is very low for compared variables, indicating that AI is widely recognized and utilized in academic settings. Proceeding to the next category, 5.081% of faculty and 42.62% of research scholars stated that they use artificial intelligence. The study clearly emphasizes that academic faculties are less frequent users of AI in research compared to research scholars; it could be because faculty members rely on traditional research methodologies and are not yet fully familiar with AI tools. Moving on to the last category, 54.90% of research scholars and 42.62% of academic faculty, study suggests that the higher AI adoption rate among research scholars suggests that young researchers are more inclined to integrate AI into their studies, using it for research and academic writing.

RQ 8 Do you agree that lack of Artificial Intelligence Training is a significant barrier for researchers?

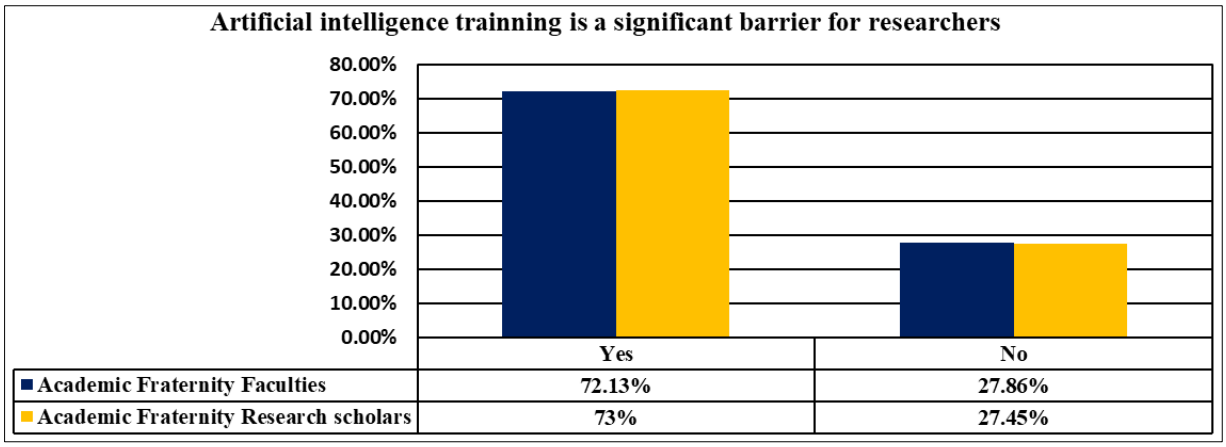
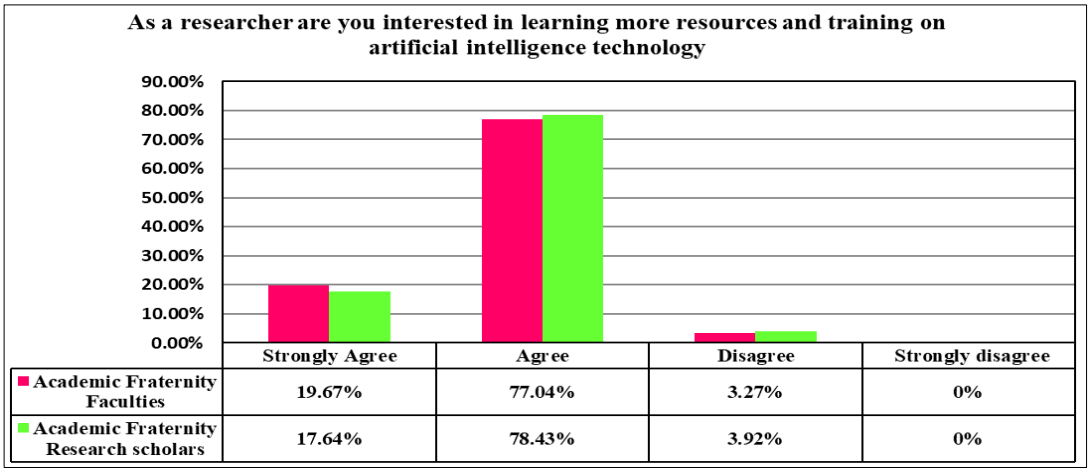


Fig 4: Artificial intelligence training is a significant barrier for researchers

Table 1 visualized the frequency and overview of artificial intelligence in academics. The study illustrated by RQ 8: Do you agree that a lack of artificial intelligence training is a significant barrier for researchers? The opinion of academic fraternity regarding AI training is a significant barrier in research, categorized as 'yes' or 'no.' Figure 4 showcases that the comparison between variables suggests that AI training is a significant barrier or not. The primarily study represents that the academic faculties answered 72.13% and research scholars 73% answered 'yes' they believe that a lack of artificial intelligence training is a significant challenge. The study regulates that the maximum percentage highlights, by comparing variables that insufficient AI training is a widespread issue in academia, academic faculties and research scholar's expected struggle with learning AI tools and not applying them effectively. Subsequently, the very few academic fraternities suggest that AI training is not a barrier; 27.86% of faculty and 27.45% of research scholar do not feel AI training is a challenge. It advocates that the small portion of the academic fraternity have already acquired AI skills or have access to training opportunities. There is a need to receive advanced AI training research curricula to ensure that both faculties and research scholars can effectively utilize AI tools, machine learning frameworks, and AI-powered data analysis software, which are easily available to researchers. The above study gives the clear picture that academic institutions must establish clear policies on AI ethics, responsible AI usage, and data privacy to ensure safe and effective AI assimilation.

RQ 9 As a researcher are you interested in learning more resources and training on Artificial Intelligence Technology?

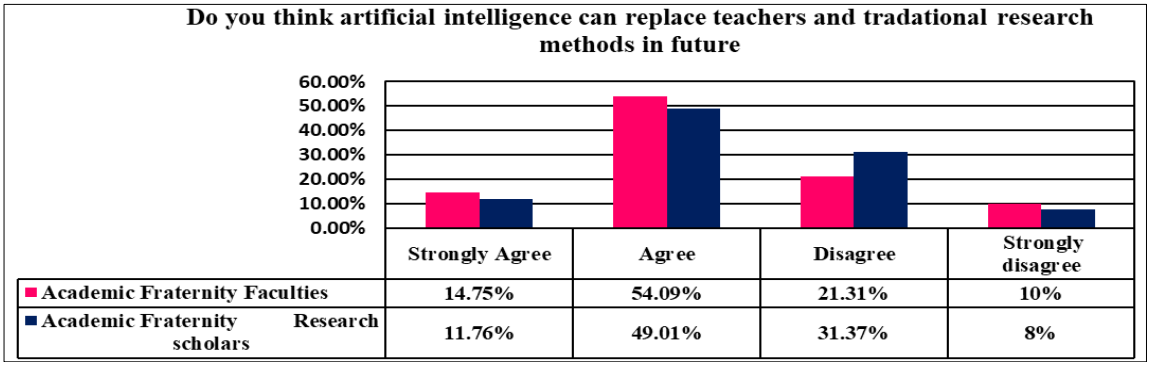


	Strongly Agree	Agree	Disagree	Strongly disagree
Academic Fraternity Faculties	19.67%	77.04%	3.27%	0%
Academic Fraternity Research scholars	17.64%	78.43%	3.92%	0%

Fig 5: Academic fraternity interested in learning more resources and training on artificial intelligence technology

Table 1 visualized the frequency and overview of artificial intelligence in academics. The study demonstrates by RQ 9: As a researcher, are you interested in learning more about resources and training on artificial intelligence technology? The study, as illustrated in Figure 5, understands their willingness to enhance AI skills, categorized into four levels: strongly agree, agree, disagree, and strongly disagree. Interpretation of the analysis suggests that 19.6% of faculty and 17.64% of research scholars strongly agree that they are interested in learning more about artificial intelligence technology. It may be due to the fact that the academic fraternity recognizes the importance of AI and is eager to gain advanced knowledge. Additionally, the majority of the academic fraternity agrees that they are interested in learning more about AI: 77.04% of faculty and 78.43% of research scholars. The higher ratio indicates a strong demand for AI training programs in academic research. Moreover, very few in the academic fraternity disagree: 3.27% of faculty versus 3.92% of research scholars, and none 0% in both compared variables strongly disagree, indicating that AI training is universally accepted as valuable. The study demonstrates that academic fraternities highlight a nearly equal level of interest and mark a significant demand for artificial intelligence education.

RQ 11 Do you think Artificial Intelligence Technology can replace teachers and traditional research methods in future?



	Strongly Agree	Agree	Disagree	Strongly disagree
Academic Fraternity Faculties	14.75%	54.09%	21.31%	10%
Academic Fraternity Research scholars	11.76%	49.01%	31.37%	8%

Fig 6: Artificial Intelligence Technology can replace teachers and traditional research methods in future

Table 1 demonstrated the frequency and overview of artificial intelligence in academics. The study showcases RQ 11: Do you think artificial intelligence technology can replace teachers and traditional research methods in the future? The study, as shown in figure 6, the academic fraternity perspectives on AI replacing teachers and traditional research methods, categorized into four levels: strongly agree, agree, disagree, and strongly disagree. The study endorses that 14.75% of faculty and 11.76% of research scholars strongly agree that AI can replace teachers and traditional research methods. Furthermore, 54.09% of faculty and 49.01% of research scholars agree with the statement, It may suggest that the academic fraternity believes AI will play a significant role in transforming traditional education and research, but they may not see it as a complete replacement. For another category, the study depicts that 21.31% of faculty and 31.37% of research scholars disagree that AI will fully replace traditional methods. A subsequently study reveals that 10% of faculty and 8% of research scholars strongly disagree with AI replacing traditional research and teaching; selected academic fraternity confidently believe AI cannot replace human expertise and critical thinking in education and research.

RQ 12 Would you be comfortable with Artificial Intelligence Technology assisting teachers in grading assignments and exam?

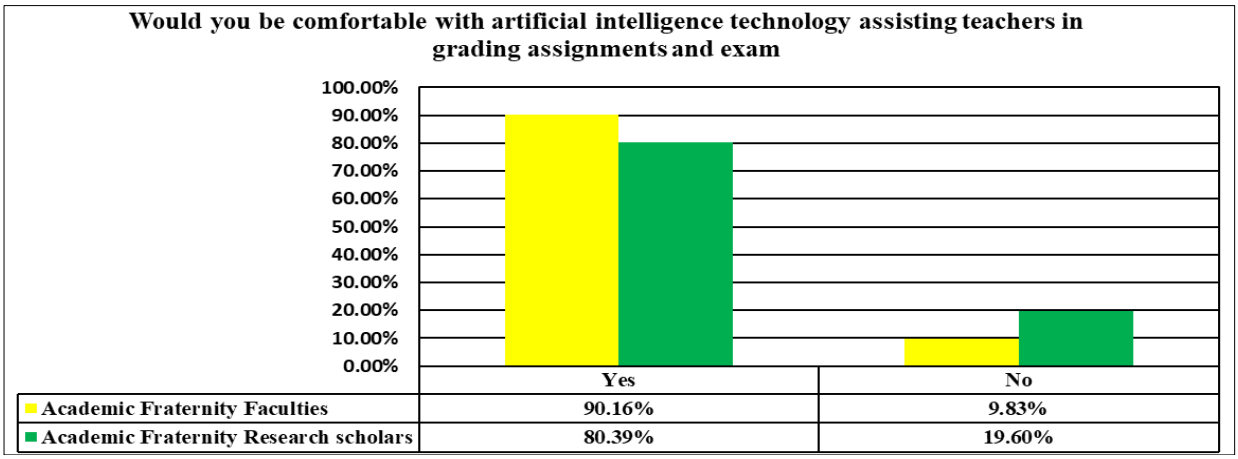


Fig 7: Artificial Intelligence -assisted grading in academia

Table 1 provides insight into the frequency and overview of artificial intelligence in academics. The study highlighted by RQ 12: Would you be comfortable with artificial intelligence technology assisting teachers in grading assignments and exams? The study, as evidenced in figure 7, academic fraternity opinions on AI-assisted grading in academia, respondents answers scored as 'yes' suggest that the academic fraternity is comfortable with artificial intelligence in assisting grades, whereas 'no' suggests that the academic fraternity is not comfortable with artificial intelligence in assisting grading; The study emphasizes that 90.16% of faculty and 80.39% of research scholars answered 'yes' that they are comfortable with AI being used to assist in grading, it clearly indicates that a strong majority among the compared variables recognizes the benefits of AI in automating assessment tasks. Additionally, the study demonstrated that 9.83% of faculty and 19.60% of research scholars answered 'no' that they show disagreement with AI-assisted grading. The findings from the above convey that academic fraternity reflects a growing trust in AI's ability to enhance efficiency, reduce grading time, and minimize human error, based on the study, faculty show greater acceptance regarding AI as a valuable tool to reduce their workload, allowing them to focus on teaching and mentoring.

RQ 15 In your opinion Artificial Intelligence can be perceived as a partner rather than a competitor?

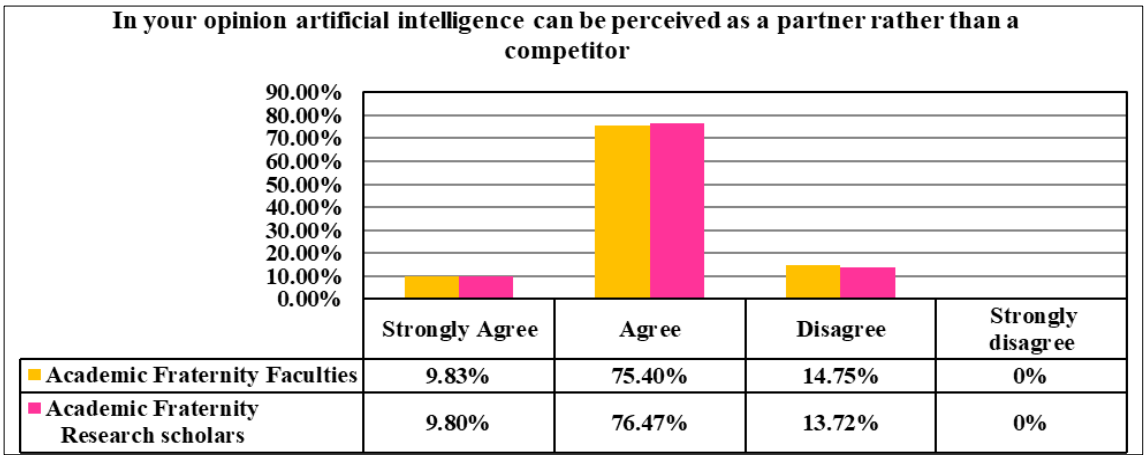


Fig 8: Artificial intelligence can be perceived as a partner rather than a competitor

Table 1 shows the frequency and overview of artificial intelligence in academics. The study is accentuated by RQ 15: In your opinion, artificial intelligence can be perceived as a partner rather than a competitor? The study visualized in Figure 8 illustrates the perspectives of academic fraternity that AI should be perceived as a partner rather than a competitor in academia. Academic fraternity opinion is categorized into four: strongly agree, agree, disagree, and strongly disagree. The study interpreted that 9.83% of faculty and 75.40% of research scholars strongly agree. Following that, 75.40% of faculty and 76.47% of research scholars suggest they agree and view AI as a collaborative tool rather than a competitor; the academic fraternity in both compared variables acknowledges AI's role in enhancing academia rather than replacing human effort. The Conjoint study depicts that 14.75% of faculty and 13.72% of research scholars show disagreement; thereafter, none of the academic fraternity strongly disagreed, indicating minimal opposition to the role of AI replacing human expertise. The study recommends that the overwhelming agreement suggests a positive perception of AI in academia, rather than a competitor.

Conclusion

The present study offers insightful perspectives on the perceptions and adoption of artificial intelligence among academic faculty and research scholars. It reveals a notable distinction in attitudes, with faculty members expressing greater concern over job displacement due to AI, particularly in teaching and administrative roles. Conversely, research scholars are more inclined to view AI as a complementary tool that enhances research and academic writing, although their understanding of its broader potential appears to be in development. Despite varying degrees of acceptance, both groups recognize the value of AI in improving research efficiency, fostering creativity, and reducing administrative workload. The data indicates that research scholars exhibit a higher rate of AI adoption, reflecting a generational shift toward digital integration in academic practices. At the same time, faculty members appreciate AI's ability to streamline tasks, allowing more time for core academic responsibilities such as mentoring and instruction. The minimal level of strong disagreement with AI's role in replacing traditional methods, particularly among faculty and scholars, underscores a growing confidence in AI as a supportive, rather than competitive, presence in academia. A small percentage of the academic fraternity continues to express reservations, affirming the belief that AI cannot replace the nuanced human expertise and critical thinking essential to education and research.

The study provides a comprehensive understanding of how academic fraternity i.e., faculty and research scholars perceive and adopt artificial intelligence in academic settings. During the data collection phase, the researcher actively engaged with participants to gain deeper insights into their perceptions. Participants were invited to express and write their personal views about AI; based on that, their responses were categorized into five distinct categories, such as AI as an assistive tool, not a replacement; AI's role in enhancing education; AI as a subject in the curriculum; ethical considerations and responsible use; and practical use and limitations of AI. To begin with, the respondent's viewpoints fall under the first category: that AI is an assistive tool, not a replacement. The academic fraternity emphasized that AI should complement, rather than replace, human educators and traditional teaching methods. AI can enhance learning by providing additional resources, automating tasks, and personalizing education, but the human touch remains essential for effective teaching, mentorship, and emotional intelligence. In addition to the second category's emphasis on the role of artificial intelligence in enhancing education; Academic fraternity highlighted AI's potential to improve educational outcomes by offering personalized learning experiences, increasing accessibility, and streamlining administrative processes. AI-powered tools can bridge educational gaps, particularly for learners in remote or underprivileged areas. Furthermore, in the third category, prominence about artificial intelligence as a subject in the curriculum, several respondents emphasized that AI should not just be a tool used in education but also a subject that learners acquire. As AI becomes more integrated into various industries, future professionals need a solid understanding of its principles, applications, and ethical considerations. Proceeding further to the fourth category, emphasize the ethical considerations of artificial intelligence and its responsible use. AI's integration into education raises ethical concerns, including data privacy, algorithmic bias, and the responsible use of technology. The academic fraternity give emphasis to the need for clear policies and government regulations to ensure AI is implemented safely and ethically in educational settings. Subsequently move towards the fifth category, suggesting the practical use and limitations of artificial intelligence. While faculties and research scholars considered that AI offered numerous benefits, it also has limitations that educators and students must navigate. The effectiveness of AI often depends on how it is used, particularly in terms of prompt accuracy and data availability. As a final consideration, the academic fraternity recognizes AI's transformative potential in education but stresses that it should be used responsibly and ethically. Although AI can enhance learning, improve accessibility, and streamline administrative tasks, it should remain an assistive tool rather than replace educators. Notably, AI literacy should become an essential part of the curriculum to prepare students for a future where AI plays a significant role in various fields. Overall, the findings suggest a positive perception of AI among the academic fraternity, recognizing its potential to augment human capabilities rather than supplant them. The study advocates for continued professional development and training in AI tools to support responsible, ethical, and effective integration into academic and research settings. The findings of this study hold important implications for higher education institutions and academic representatives. The uniformity in awareness and usage of artificial intelligence among faculties and research scholars suggests that AI has become a widely accepted and integrated component of academic life. Institutions can allocate resources and design faculty development initiatives equitably, ensuring that all academic members are equally equipped to engage with AI tools. Moreover, the results highlight the potential for fostering AI-enhanced pedagogical practices and research across disciplines. While awareness levels are consistent, there remains a need to focus on translating this awareness into

practical, field-specific applications through hands-on training and experiential learning. These implications collectively underscore the importance of institutional strategies that promote broad-based artificial intelligence competence in academia, thereby contributing to the digital transformation of higher education.

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