

Perceptions of Using Artificial Intelligence Tools in Academic Research: An Analytical Review of the Literature

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ABSTRACT

This research aimed to explore perceptions of using AI tools in scientific research, including clarifying the potential benefits of using AI tools in academic research and the challenges associated with their use. This study adopted a descriptive-analytical approach based on analyzing theoretical literature and previous studies related to the use of artificial intelligence tools in academic research. The studies were selected according to specific criteria, including recent publication, relevance to the study's objectives, and the quality of the scientific journals in which they were published. The results indicated that the continuous development of artificial intelligence (AI) technologies, academic research is expected to undergo numerous transformations on multiple levels. Integrating AI systems into academic publishing processes may change the roles of researchers in how they interact with AI tools. The results also found that transparency and credibility are among the most prominent ethical challenges associated with using artificial intelligence tools in scientific research and academic publishing. The use of artificial intelligence in academic research can be a helpful tool, but it should not be a fundamental substitute for creative human thinking. Based on the findings of this research, the research stressed that AI algorithms must be open to review and verification, allowing their accuracy, transparency, and reliability to be assessed by reviewers and editors

Keywords: *Artificial Intelligence (AI), tools, academic, research*

1. Introduction

Information systems witnessed numerous developments in the 20th century, resulting in many changes across various fields. Consequently, new applications emerged, giving rise to a modern technological revolution capable of simulating the human mind through specially designed computer programs.

Artificial intelligence (AI) is considered one of the most prominent of these modern applications, impacting various aspects of life and achieving breakthroughs in all areas. One of the fields significantly affected by artificial intelligence applications and its diverse tools is education, and more specifically, higher education. Akinwalere & Ivanov (2022) indicated that artificial intelligence has provided numerous opportunities and challenges simultaneously for education and teaching within the context of higher education, as its applications possess numerous capabilities that have brought about changes in educational concepts and educational systems.

At the level of graduate students specifically, there has been an increased interest in artificial intelligence tools that provide numerous services related to information gathering, data analysis, results interpretation, inference, and other services (AL-Ali et al., 2025). Vieriu & Petrea (2025) argued that artificial intelligence currently represents a tool used by researchers to address the evolving difficulties and challenges in the field of educational research. Recently, several perceptions have emerged linking artificial intelligence (AI) to the ability of improving the quality of scientific research and highlighting new research patterns that researchers have not observed. Floris & Renandya (2025) suggested that AI enables the precise analysis of scientific texts and helps in classifying research based on clear criteria, thus enhancing the possibility of publishing higher-quality research. Furthermore, there are perceptions that AI contributes to reducing the time associated with evaluating academic work, thereby increasing the quantity of published research and improving the quality of scientific review (Schwarz, 2024). Based on this, the current research aims to explore perceptions of using AI tools in scientific research, including clarifying the potential benefits of AI tools in academic research and the challenges associated with their use.

1.1 Research problem and questions

The field of research has undergone a radical transformation thanks to artificial intelligence (AI) at all stages of the research process. With technological advancements, it has become essential for researchers to keep pace with the tools and techniques offered by AI, which have contributed to fundamental changes and differences in academic scientific research. Scientific research is no longer confined to traditional methods of preparation, including manually organizing references and formulating research ideas. AI tools have opened numerous possibilities for accelerating research processes, automating routine tasks, analyzing large amounts of data, suggesting relevant references, and even in research writing and editing (Clark et al., 2020; Hosseini et al., 2023; Fabiano et al., 2024; Aluvihara et al., 2025). The integration of AI's analytical and research capabilities with human expertise and critical thinking contributes to creating an intelligent research environment that empowers researchers to innovate and be creative in their research. However, it also inevitably presents challenges to academic scientific research and the professional ethics associated with conducting scientific research.

Through her work as an internationally certified trainer in academic research for graduate students and a supervisor specializing in international academic publishing, the researcher observed weaknesses in the graduate students' research skills, which posed challenges for them when preparing their scientific research or completing their academic assignments. These challenges have led students to resort to assistive tools to help them complete their research, as they find the process arduous. In line with this, previous studies have confirmed that graduate students suffer from a significant weakness in scientific research skills, prompting them to seek help from others due to their inability to complete research assignments independently (Al-Sayed, 2020; Qabqab & Faisal, 2022; Ibrahim).

Within this context, Floris & Renandya (2025) emphasized that artificial intelligence (AI) tools have played a pivotal role in academic publishing and research processes. This has led to increased questions regarding the new approaches these applications offer and their potential impact on the quality of academic research. Therefore, the current research problem lies in uncovering perceptions related to AI tools in academic research, including clarifying the benefits AI offers, identifying the challenges arising from its use in research, and exploring the potential changes AI

can bring about in the research field. Based on this; the problem of this research is to explore perceptions of AI tools in academic research. Thus, the current research problem can be summarized in the following questions:

1. What tools does artificial intelligence (AI) provide in the field of academic research?
2. What are the benefits of using AI tools in academic research?
3. What challenges are associated with using AI tools in academic research?

1.2 Research importance

Exploring perceptions related to AI tools in academic research is of great importance in the current digital age and the enormous digital transformations witnessed by academic and educational institutions and various research fields. AI is expected to contribute to an enormous leap in the preparation and publication of scientific research due to the vast tools and technologies it offers with high accuracy and efficiency. Therefore, the current research provides important information related to the benefits of using AI in research and the opportunities it offers to improve the quality of academic research.

It is hoped that the current research will contribute to clarifying the vision related to the potential impact of AI on the future of scientific research at a time when efficiency and speed have become among the most important factors in scientific research, and it has become essential to understand the capabilities offered by AI and the increasing challenges associated with it. Accordingly; this research contributes to helping decision-makers anticipate future challenges related to artificial intelligence and make optimal use of the potential offered by this technology, thus improving the outputs of scientific research and promoting technological innovation.

2. Research methodology

This study adopted a descriptive-analytical approach based on analyzing theoretical literature and previous studies related to the use of artificial intelligence tools in academic research. The focus was on studies that addressed researchers' perceptions of AI tools, their applications in scientific research, and the benefits and challenges associated with their use.

The studies were selected according to specific criteria, including recent publication, relevance to the study's objectives, and the quality of the scientific journals in which they were published.

3. Literature review

3.1 The Concept of Artificial Intelligence

Artificial intelligence (AI) is a branch of computer science that aims to develop programs capable of performing tasks that require human intelligence. These systems possess capabilities that can accomplish tasks, plan, and make decisions, as these systems mimic the human mind and employ thinking patterns to deal with various situations and problems (Al-Shammari, 2024). Yahi & and Dilmi (2024) argued that AI technologies enable tasks to be accomplished without the actual intelligence possessed by humans.

In general, artificial intelligence aims to maximize the benefits that can be derived from computers and to develop computer programs used for problem-solving and handling situations. Yahi & and Dilmi (2024) added that artificial intelligence aims to simulate human intelligence by designing intelligent systems capable of making decisions in a logical and systematic manner.

Artificial intelligence possesses technologies that enable it to solve problems, including machine learning and neural networks used for analyzing big data (Schwarz, 2024). As a result, there has been a trend toward using artificial intelligence applications in many fields, such as translation, robotics, education, healthcare, and others. Al-Shammari (2024) emphasized that artificial intelligence provides services used to improve work efficiency, offer effective solutions, and provide accurate predictions, thus representing a suitable opportunity to achieve the desired progress in various industrial, educational, and medical sectors.

3.2 The Importance of Artificial Intelligence Tools in Scientific Research

Scientific research is a systematic and organized process capable of discovering new knowledge or verifying existing knowledge using precise scientific methods. Artificial intelligence has emerged as a modern and emerging technology that has significantly impacted educational systems, including scientific research (Yahi & and Dilmi, 2024). Recently, numerous AI tools have appeared that researchers rely on in their field, including reference search tools, academic writing tools, paraphrasing tools, and statistical analysis tools. AI has also provided tools for spell and grammar checking, text translation tools, and file formatting tools (Al-Shammari, 2024). Turnitin and Grammarly are among the most prominent AI tools used for grammar checking and citation

identification. iThenticate is considered one of the most important tools used for detecting plagiarism and verifying the originality of content (Al-Ali, 2020). These tools have integrated with academic scientific research, contributing to ensuring the accuracy and quality of research and reducing the level of content manipulation, thus enhancing confidence in scientific research.

In addition, advanced AI tools, such as DeepMind and OpenAI, have been instrumental in enhancing the quality of scientific research (Kukula, 2025). They are used to generate high-quality texts and demonstrate strong linguistic capabilities in the field. These tools have also enabled the summarization of academic articles, the formulation of research proposals, and the production of initial research drafts, thus reducing the time and effort required for academic writing (Schwarz, 2024).

Al-Sayyad & Salem (2023) emphasized that artificial intelligence has played numerous roles in advancing scientific research. These include intelligent teaching systems that provide specialized educational lessons for students across various subjects and implement classroom and extracurricular activities tailored to learners' needs. Furthermore, intelligent content creation using robots is another system facilitated by AI. This allows users to present content in diverse ways and utilize appropriate media, such as virtual conferences and digital lectures.

Thus, artificial intelligence applications can open up opportunities for researchers to explore new topics and emerging future trends that have not been previously investigated. This provides researchers with a broader perspective on areas worthy of investigation. This perspective contributes to the development and creation of research ideas that improve the quality of research outputs and enhance academic knowledge.

3.3 Future Prospects and Expectations for Artificial Intelligence Tools in Academic Research

With the continuous development of artificial intelligence (AI) technologies, academic research is expected to undergo numerous transformations on multiple levels, some of which may have significant implications for the management and evaluation of scientific research (Madanchian &

Taherdoost, 2025). Advanced systems in academic research may be used to review research and analyze big data using specially trained algorithms.

Al-Ali (2020) indicated that this intervention could reduce the need for human intervention at various stages of the research publication process and shorten the actual time required to obtain a research evaluation using traditional methods. Some journals may rely entirely on AI to determine research quality, detect plagiarism, and assess the significance and impact of research within the field. AI-based systems may also provide guidance to researchers and evaluate research based on clear and specific criteria, such as innovation, creativity, and reliability (Yahi & Dilmi, 2024).

Furthermore, integrating AI systems into academic publishing processes may change the roles of researchers in how they interact with AI tools. One of the most significant changes that may occur in the field of scientific research is the shift towards researchers relying entirely on artificial intelligence (AI) in preparing and formulating research papers to facilitate the process (Kukula, 2025). The way researchers interact with publishing and evaluating their research will also change. AI will enable researchers to provide predictive analysis to understand future research needs and offer related recommendations. AI can also suggest platforms and scientific journals suitable for the level and content of their academic research.

3.4 Challenges of Using Artificial Intelligence Tools in Academic Research

Transparency and credibility are among the most prominent ethical challenges associated with using artificial intelligence tools in scientific research and academic publishing. This is linked to the algorithms used and their reliability and impartiality (Al-Shammari, 2024). Many AI algorithms operate like a black box, making it more difficult to make research decisions and assess their quality based on AI systems. This can negatively affect the accuracy, objectivity, and impartiality of results, which in turn can impact trust levels (Al-Mousa, 2021).

Furthermore, relying entirely on AI in academic publishing and minimizing human intervention can negatively impact research quality (Yahi & Dilmi, 2024). The use of AI tools in scientific research should not be a primary replacement for human input, but rather a complementary element

within specific limits and parameters (Al-Shammari, 2024). Human creativity and profound thinking are the essence of scientific research and cannot be replaced by artificial means.

4. Research conclusion

The use of artificial intelligence in academic research can be a helpful tool, but it should not be a fundamental substitute for creative human thinking. Combining artificial intelligence with human creativity can improve results and lead to better outcomes by accelerating analytical processes. However, evaluating research and ensuring its compliance with academic publishing standards must remain the domain of distinguished reviewers and researchers with high levels of competence and research capabilities, capable of serving scientific research in the best possible way.

6.1 Recommendation

Based on the findings of this research, the following are recommended:

- Ensuring the transparency of AI algorithms requires that these algorithms be open to review and verification, allowing their accuracy and reliability to be assessed by reviewers.
- It is essential that AI system developers ensure that the tools used adhere to strict and clear ethical and objective standards in future academic publishing and research.
- It is necessary to train researchers in universities and graduate schools on the appropriate use of AI, understanding its capabilities and the limitations of the tools that can be employed in academic research.
- Intelligent systems must be subject to periodic review by relevant authorities to ensure their positive contribution to enhancing the quality of scientific research and to guarantee that they do not rely on unethical, inaccurate, or unreliable algorithms that may exceed academic standards.

6.2 Future research studies

It is recommended to conduct further studies that reflect students' perceptions of using AI tools, employing quantitative analytical methods.

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