

## **LITERATURE REVIEW: WISE USE OF ARTIFICIAL INTELLIGENCE (AI)**

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### **ABSTRACT**

This study aims to analyze the development of literature research on the utilization of Artificial Intelligence (AI) in Indonesia. The method used is a literature review by investigating 20 journal articles published between 2024-2025. This research aims to identify the main themes that are frequently studied related to the utilization of artificial intelligence (AI) in Indonesia. The results of this study indicate that the main themes commonly found in research on the utilization of artificial intelligence (AI) in Indonesia from 2020 to 2025 are in the fields of education, economy, and health. In addition to the three dominant themes studied related to artificial intelligence (AI), others discuss social perspectives, technology perspectives, public perspectives, and preferences for norms and ethics. The results of this research can serve as a foundation for further studies in this field and can aid in the development of understanding regarding the complexities of artificial intelligence (AI) utilization in Indonesia. Subsequent research can expand the scope and duration of the study, as well as deepen further analysis to identify significant trends and changes in artificial intelligence research in Indonesia.

**Key words:** Artificial Intelligence (AI); Literature Review; Indonesia; AI Utilization; Research Trends.

### **INTRODUCTION**

Artificial Intelligence (AI) is an emerging technology that we cannot avoid. Therefore, we must recognize that AI represents two sides of the same coin. On one hand, it has the potential to greatly simplify human life. On the other hand, it also poses significant ethical challenges. As the freedom of information and content becomes increasingly unrestricted, there simultaneously arises the threat of copyright infringement and the violation of intellectual property rights (Azmi Firdausi, 2024).

Although artificial intelligence (AI) offers many benefits, it also brings significant negative impacts. One of the most serious drawbacks is the decline in human learning processes. In the past, people had to read various sources and compile them into a scientific work; however, this practice has increasingly been abandoned. The process of learning is crucial for acquiring information and enhancing knowledge, which serves as an essential foundation for life. Artificial intelligence tends to make people overly dependent and accustomed to instant results, bypassing the cognitive process that should occur in the human brain. Another risk of using AI is the potential replacement of human jobs by intelligent systems. If not managed wisely, this situation could lead to widespread job loss and threaten the livelihoods of many individuals (Arif Yudianto, Novi Andri Nurcahyono, 2024).

In the field of education, concerns have emerged regarding the potential degradation of students' critical thinking abilities. The growing dependence on AI is believed to erode the intellectual processes that should be developed through consistent practice in reading, reasoning, and constructing arguments independently. Many students tend to copy AI-generated outputs rather than understanding the substance of their assignments, which, in the long run, may weaken their reasoning skills and intellectual depth (Mumamad Aryo Ramadhan, Agus Gunawan, Saddam Lorenza, Zulfa Ainy, Mhd Subhan (2025).

Artificial intelligence (AI) possesses a vast range of capabilities and can perform various tasks with high efficiency. However, there are several aspects in which humans often surpass AI. While AI can generate content based on pre-existing data, humans have the ability to think creatively and innovatively beyond the limitations of that data. AI lacks feelings and the ability to experience emotions. Humans, on the other hand, can understand and respond to the emotions of others in a more empathetic and humane manner. Although AI can analyze data quickly and provide recommendations, humans are better at making decisions that require a broad understanding of context and moral considerations. Much of human knowledge and skill cannot be easily articulated or programmed into AI systems. Practical experience and tacit knowledge are often difficult to integrate into artificial systems. Moreover, humans have the ability to learn and adapt rapidly to changing contexts, whereas AI typically requires additional data and retraining to handle new situations (Arif Yudianto, Novi Andri Nurcahyono, 2024).

Education should not only focus on the transfer of knowledge but also on the development of students' character and morality. However, with the emergence of AI capable of performing educational tasks automatically, there are growing concerns that essential aspects of moral and ethical development may be overlooked. For instance, the use of algorithms in student assessment or interactions between students and AI could reduce opportunities for students to learn about empathy, cooperation, and social responsibility (Zainal Muariffin, 2024).

Based on the phenomenon described above, the researcher formulates the following research questions:

1. How can we be smarter or wiser in using Artificial Intelligence.

2. How can we reduce our dependence on Artificial Intelligence.

## METHOD

The method used in this research is the literature study method. The literature study method, also known as a library research method, is a technique for collecting data and information by reviewing written sources such as scientific journals, reference books, encyclopedias, and other credible sources, both in print and digital formats, that are relevant to the research topic. In this study, data collection was conducted in accordance with the research topic, which focuses on the ethics of Generation Z in facing Artificial Intelligence (AI) technology. The data were gathered by searching for and synthesizing information from various sources, such as books, journals, and previous studies (Syifa Chairunnisa, Fadhilla Amaniar, 2025).

In this method, the main steps include data collection techniques, data analysis, and data presentation:

1. **Data Collection:** At the data collection stage, the researcher conducts a search and selection of literature sources relevant to the research topic. The data collection techniques in a literature study include (Ghufron, 2018):
  - **Source Selection:** Filtering the literature sources that are most relevant to the research topic. The quality and relevance of each source are evaluated by reviewing the abstract, excerpts, or summaries of the articles or books identified.
2. The data analysis stage in a literature study is conducted to gain a comprehensive understanding of the research topic. Several data analysis techniques that can be employed include (Morgan et al., 2020):
  - **Categorization and Thematization:** Identifying patterns, themes, or concepts that consistently emerge within the collected literature. Developing appropriate categories or subtopics based on the identified findings and organizing the information according to these categories
3. **Data Presentation:** The data presentation stage is the final step in the literature study method. This stage aims to organize and present the information obtained in a clear and structured manner. Several common approaches to data presentation include (Cohen, 2020):
  - **Synopsis or Summary:** Presents a concise overview of the information found in the literature, summarizing the main findings and arguments that emerge from the literature review.
  - **Quotations and References:** Citing the literature sources used in the research. Presenting direct quotations or paraphrases by including proper and accurate references.

## RESULTS AND DISCUSSION

In this literature study, the author found that artificial intelligence (AI) offers numerous benefits in everyday life; however, on the other hand, the passive and instant use of AI has the potential to reduce independent thinking motivation, weaken the ability to construct arguments, and diminish students' academic integrity.

1. According to the study conducted by Muhamad Aryo Ramadhan, Agus Gunawan, Saddam Lorenza, and Zulfia Amy Mhd. Subhan (2025), one of the main solutions suggested by various studies on the wise use of artificial intelligence (AI) technology is the systematic strengthening of digital and AI literacy. This digital literacy training includes aspects such as the responsible use of AI tools, the development of effective prompt engineering skills, and the ability to evaluate the credibility of AI-generated responses. This indicates a higher level of cognitive engagement, where users do not merely rely on AI as a technical aid, but rather as a thinking partner that helps them develop arguments, synthesize information, and cross-verify data with other academic sources.
2. According to the study by Arif Yudianto and Novi Andri Nurcahyono (2024), artificial intelligence is a technological tool that offers both benefits and risks if not used wisely. Being prudent and intelligent in utilizing artificial intelligence is crucial, especially in the field of education. The process of human interaction with learning resources provides unique experiences and fosters lasting learning outcomes. Artificial intelligence can be beneficial as long as users remain critical and aware that all final decisions ultimately rest in human hands. It is recommended that the use of artificial intelligence be guided by proper regulations, rules, and an understanding of academic ethics, so that students and learners can develop their knowledge appropriately, enhance their reasoning abilities, and foster creativity and innovation for the advancement of the nation.
3. According to Zainal Muariffin (2024), the use of Artificial Intelligence by students must be directly guided and supervised by teachers. Educators should encourage students to understand that AI serves only as a tool to assist and facilitate access to information, not as a means to make them dependent or lazy in their learning simply because AI can complete their tasks. Furthermore, teachers must also monitor students' use of AI to ensure it aligns with institutional policies and upholds academic integrity.
4. According to the study by Nasman, Pudji Astuti, and Dita Perwitasari (2024), to ensure that Artificial Intelligence operates responsibly and ethically, four key criteria—transparency, accountability, fairness, and security and privacy—serve as the essential foundations in the ethical development and implementation of Artificial Intelligence. Transparency ensures that the decisions made by Artificial Intelligence can be understood and explained to users, while accountability emphasizes the importance

- of shared responsibility among all parties involved. Fairness in Artificial Intelligence is necessary to prevent bias and discrimination, and data security and privacy must be guaranteed to protect users' personal information. The effective implementation of these principles requires strong regulatory support that not only facilitates technological innovation but also prioritizes ethics and social responsibility
5. According to Syifa Chairunnisa and Fadhilla Amaniar (2024), Generation Z faces various ethical challenges related to the use of artificial intelligence (AI). These challenges include issues concerning privacy and personal data security, algorithmic bias, job automation, as well as the spread of disinformation and digital manipulation. Although Generation Z is highly skilled in technology, they often lack the digital literacy necessary to distinguish valid information from false or misleading content. Therefore, it is crucial for Generation Z to develop critical thinking skills, understand the ethics of AI usage, and enhance media literacy in order to use technology wisely and responsibly.
  6. According to Galuh Efnon Adzan and Azhar (2024), the findings of this study conclude that the use of Artificial Intelligence (AI) in academic writing can enhance both the efficiency and quality of the writing process. The results indicate that AI can assist writers in identifying grammatical and spelling errors, as well as providing suggestions for improvement. In addition, AI can support writers in finding relevant sources and organizing the structure of their writing. Based on these findings, the study recommends utilizing AI to help identify grammatical and spelling errors, provide improvement suggestions, search for relevant references, and organize the writing structure. Furthermore, AI can aid writers in improving the overall quality of their work. However, manual verification remains essential to ensure the accuracy and validity of the content. The use of AI carries several functions and limitations, particularly in academic writing; therefore, it is crucial for researchers to validate and verify their AI-assisted outputs in scholarly articles. In practice, the ethical application of AI in academic writing aims to prevent any violation or compromise of academic integrity. Consequently, it is important for researchers to carefully consider the boundaries of appropriate AI use in their writing.
  7. According to Farah Indrawati and Leny Hartati (2024), the numerous irregularities that occur in the field regarding the use of technology, particularly artificial intelligence (AI), make character education an essential aspect of everyday life. Character education serves as one of the fundamental pillars that govern human resource development. The goal of character education is to shape resilient, competitive human resources who possess noble morals, integrity, tolerance, a spirit of cooperation, patriotism, and a dynamic mindset—individuals who are oriented toward science and technology while upholding strong faith in God Almighty. The function of character education in human life is to develop basic potentials so that individuals can think, feel, and act with virtue, as well as to enhance the nation's civilization to remain competitive amid the continuous evolution of time. All of this cannot be separated from effective and integrated character education management, which harmonizes various components of character (the cultivation of conscience, intellect, physical ability, and emotional-aesthetic sense) with the philosophical dimensions of knowledge—ontology, epistemology, and axiology.
  8. According to Ahmad Abdul Rochim (2024), the utilization of artificial intelligence in the field of education holds great potential in creating learning approaches that can be tailored to the individual needs of each student, namely personalized and adaptive learning. In the future, relevant and adaptive education will become a reality. The interaction between educators and artificial intelligence will foster a more dynamic and effective learning experience. Furthermore, it is crucial to pay attention to the accessibility of artificial intelligence technology to ensure that technological disparities do not hinder equitable access to education. By using artificial intelligence technology wisely, education can undergo a significant transformation—enhancing student engagement, reducing learning gaps, and creating learning experiences aligned with future needs. Therefore, it is essential for educators to prepare for and adopt these innovations responsibly in order to achieve a better future for education.
  9. According to Fernando de Napoli Marpaung, Rosmen, Muhammad Hasan, Supriadi, Donny Adiatmana Ginting, Resti Citra Dewi, and Indah Sari Liza Lubis (2025), as a follow-up and part of continuous development, it is recommended that topics related to AI and digital ethics be formally integrated into school curricula, particularly through Information and Communication Technology (ICT) or Civic and Pancasila Education (PPKn) subjects. Further training for teachers is also considered a strategic step to ensure that educators possess sufficient knowledge and skills to guide students in using technology ethically and productively. In addition, schools are encouraged to establish healthy digital communities involving teachers, students, and parents to support the wise use of AI in both academic and social contexts
  10. According to Siti Masrichah (2023), the use of Artificial Intelligence (AI) has brought significant changes in various aspects of human life. However, this advancement also presents challenges and opportunities that need to be properly understood. This study discusses the threats and opportunities associated with the use of AI in various contexts, such as privacy, the labor market, healthcare, and renewable energy. The findings indicate that the use of AI in collecting and analyzing personal data may pose risks to individual privacy. In addition, certain types of human jobs are at risk of being replaced by AI developments, necessitating adaptation and the acquisition of new skills. Nevertheless, AI also holds great

potential to enhance medical diagnoses and healthcare services, as well as to optimize the operation of renewable energy systems. Technical, ethical, and security challenges related to the use of AI also need to be carefully considered. Therefore, the application of AI must be carried out responsibly and grounded in strong ethical values. By understanding these challenges and opportunities, appropriate measures can be taken to maximize the benefits and minimize the risks associated with the use of AI.

11. According to Ratna Amalia, Suhertina, Dahliani, and Yola Asmayana (2025), the use of Artificial Intelligence (AI) in education enhances learning efficiency and students' critical thinking skills by providing quick access to information, personalized learning experiences, and instant feedback. However, excessive reliance on AI may hinder students' independent thinking and creativity. Therefore, a balanced approach to AI integration is necessary to continue fostering independent analytical development. The role of educators in guiding the wise use of AI, along with adequate technological infrastructure, serves as a key factor in ensuring the effective utilization of AI in the academic environment.
12. According to Beti Malia Rahma Hidayati, Ika Novita Sari, Sugianto, and Futika Permatasari (2024), the utilization of artificial intelligence (AI) in education must always take ethical considerations into account. Several actions can be undertaken, including monitoring the ethical aspects of AI development, ensuring user privacy and data security, preventing discrimination in decision-making, avoiding the mass replacement of human workers, and ensuring the safety of AI systems. To strengthen self-awareness as a form of responsibility toward technology, character education and moral values play a crucial role. A person's character inherently possesses the potential to continuously develop toward goodness; therefore, character education becomes an essential element in guiding individuals to cultivate virtuous character. The teaching of ethics and the consequences of using artificial intelligence (AI) is expected not only to provide knowledge about the technology itself but also to foster the ability to identify and analyze the impacts of AI across various aspects of life.

## CONCLUSION

Information and Communication Technology (ICT) has been rapidly advancing, and along with the wave of globalization, information technology plays a crucial role in meeting human needs. One of the most commonly used technologies today is Artificial Intelligence (AI). The use of AI in everyday life has shown a significant impact. The advancement of technology has transformed the way humans work, communicate, and live. AI technology is capable of providing solutions and benefits to various issues in the fields of education, economy, and healthcare. In addition to its advantages, AI also brings negative impacts. The implementation of AI in various aspects of life is gradually displacing human roles, as certain jobs are being replaced by AI, thereby posing a threat to human resources in several occupational sectors. Nevertheless, the existence of AI continues to provide positive impacts and effective solutions to meet the needs of modern society.

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