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The Influence of Artificial Intelligence (AI) Information Use on the Information Literacy of Students in the Library and Information Science Program at Universitas Negeri Padang

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Abstract

The rapid development of artificial intelligence (AI) has transformed how university students access, manage, and utilize information for academic purposes. Despite the efficiency and convenience offered by AI-based information retrieval, its effective use requires adequate information literacy to ensure that generated content is critically evaluated and responsibly applied. This study examined the influence of AI-based information use on the information literacy of students in the Library and Information Science Program at Universitas Negeri Padang. A quantitative approach with a causal-associative design was employed, involving 79 students selected through proportionate stratified sampling. Data were collected using a structured questionnaire and analyzed through descriptive statistics, simple linear regression, a *t*-test, and the coefficient of determination using SPSS. The findings indicated that both AI-based information use and students' information literacy were at high levels. The inferential analysis further demonstrated that AI-based information use had a positive and statistically significant effect on students' information literacy. These results suggest that the effective and responsible use of AI can strengthen

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students' capacity to identify, evaluate, manage, and apply academic information. This study contributes empirical evidence regarding the relationship between AI use and information literacy and provides practical implications for higher education institutions seeking to integrate AI literacy and information literacy into learning practices that promote critical, ethical, and responsible technology use.

Keywords: Artificial Intelligence; Information Literacy; Academic Information Management; Higher Education; University Students

INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed the way information is created, disseminated, and utilized across various sectors, particularly in higher education. Among the most influential technological innovations is Artificial Intelligence (AI), which has significantly reshaped the academic information ecosystem by enabling faster, more interactive, and personalized access to knowledge. AI-powered technologies have evolved beyond computational automation into intelligent systems capable of generating text, summarizing information, answering complex questions, and supporting academic problem-solving processes, thereby transforming students' learning experiences in higher education (Lase et al., 2025). Furthermore, the rapid development of AI has accelerated the digital transformation of educational systems by expanding access to information and promoting more adaptive learning environments that support students' academic activities (Afandi & Kurnia, 2023).

The emergence of generative AI platforms, such as ChatGPT, Gemini, and Perplexity, has accelerated the adoption of AI-assisted learning among university students. These platforms provide immediate responses to users' inquiries, assist in generating ideas, explain complex concepts, summarize academic materials, and facilitate literature exploration within a relatively short period. Such capabilities have encouraged students to integrate AI into various academic activities, including completing assignments, preparing research proposals, and writing scientific papers. Consequently, AI is increasingly perceived not merely as a technological innovation but also as an alternative source of academic information that complements conventional scholarly resources (Rifky, 2024). This phenomenon reflects a broader shift toward intelligent educational technologies that

improve students' productivity and facilitate more efficient information retrieval in higher education (Ramadani & Desriyeni, 2025).

The increasing dependence on AI within higher education reflects significant changes in students' information-seeking behavior. Rather than relying exclusively on printed books, academic journals, or library databases, students increasingly obtain synthesized information through conversational AI platforms. This transformation offers substantial advantages in terms of efficiency, accessibility, and convenience, particularly for students who require immediate explanations or rapid access to information. AI systems can simplify complex concepts, generate contextual explanations, and adapt responses according to users' needs, thereby improving learning effectiveness in various educational contexts (Kurniawan et al., 2024). In addition, AI has demonstrated considerable potential to stimulate students' creativity, support collaborative learning, and improve academic engagement during the learning process (Marsella et al., 2023).

Despite these advantages, the increasing reliance on AI-generated information has also generated concerns regarding information quality, reliability, and academic integrity. Unlike peer-reviewed scholarly publications, generative AI systems produce responses based on probabilistic language models rather than direct verification of scientific evidence. Consequently, AI-generated information may contain factual inaccuracies, outdated information, fabricated references, or biased interpretations while appearing highly convincing. This phenomenon, commonly referred to as AI hallucination, represents a significant challenge for higher education because students may unknowingly accept inaccurate information without conducting independent verification (Lee et al., 2025). Therefore, AI-generated information should always be validated using credible scholarly resources before being incorporated into academic assignments or scientific publications (Fajrillah et al., 2023).

These challenges have intensified discussions regarding the competencies required for students to utilize AI responsibly in academic environments. Universities increasingly recognize that technological accessibility alone cannot guarantee the quality of learning outcomes. Instead, students must possess sufficient competencies to critically evaluate, verify, interpret, and ethically apply AI-generated information before integrating it into academic work. Accordingly, information literacy has become one of the most essential competencies required to navigate today's digital information environment (Mahardhini et

al., 2021). Information literacy is increasingly regarded as a strategic capability that enables students to manage the rapid growth of digital information while making informed academic decisions in technology-rich learning environments (Winoto et al., 2024).

Information literacy extends beyond the ability to locate information. It encompasses the capacity to identify information needs, formulate appropriate search strategies, evaluate source credibility, compare information across multiple references, synthesize relevant evidence, and use information ethically according to academic standards. Within AI-assisted learning environments, these competencies become increasingly important because students are required to distinguish scientifically validated information from machine-generated responses that may not always reflect empirical evidence. Consequently, information literacy functions as a cognitive framework that enables students to maximize the benefits of AI while minimizing the risks associated with misinformation and inappropriate academic practices (Muhaemin et al., 2024). Strong information literacy competencies also enable students to recognize misinformation, critically evaluate digital information, and make appropriate academic judgments before utilizing information obtained through AI platforms (Rachmawati & Agustine, 2021).

The integration of AI into higher education also raises ethical concerns regarding originality, transparency, and responsible technology use. Although AI substantially improves learning efficiency and reduces the time required to complete academic tasks, excessive dependence on AI without adequate critical evaluation may weaken students' analytical abilities and threaten academic integrity. Therefore, universities should encourage ethical AI utilization by promoting responsible information behavior, strengthening critical thinking, and encouraging students to verify AI-generated information before academic use (Subiyantoro, 2023). Responsible AI utilization should also be accompanied by adequate digital competencies to ensure that technological innovation contributes positively to learning quality and academic development (Lubis, 2021).

From the perspective of technology adoption, students' willingness to utilize AI is influenced not only by technological availability but also by their perceptions regarding the usefulness and ease of use of AI applications. The Technology Acceptance Model (TAM), introduced by Davis, explains that individuals' intentions to adopt new technologies are primarily determined by perceived usefulness and perceived ease of use, which subsequently influence attitudes toward technology and actual usage behavior. The TAM framework has

been extensively applied to explain students' acceptance of emerging educational technologies because it provides a comprehensive explanation of how technological perceptions shape users' behavioral intentions (Pratama et al., 2022). Previous studies similarly demonstrate that perceived usefulness and perceived ease of use significantly influence users' intentions to adopt digital technologies in various contexts (Ramadhan & Saputro, 2024).

However, technology acceptance alone cannot adequately explain whether students utilize AI-generated information responsibly. Students may perceive AI as useful and easy to use while simultaneously lacking the competencies required to evaluate the credibility, relevance, and accuracy of AI-generated content. Consequently, examining AI adoption solely through the Technology Acceptance Model provides only a partial explanation of students' academic behavior. Technology acceptance should therefore be interpreted together with users' cognitive competencies to provide a more comprehensive understanding of AI utilization in educational settings (Putra et al., 2022).

To address this limitation, the present study integrates the Technology Acceptance Model (TAM) with the Big6 Information Literacy Model developed by Eisenberg and Berkowitz. The Big6 framework conceptualizes information literacy as a systematic process consisting of six interconnected stages, namely Task Definition, Information Seeking Strategies, Location and Access, Use of Information, Synthesis, and Evaluation. These stages explain how individuals identify information needs, develop search strategies, locate relevant information, evaluate information quality, synthesize knowledge, and assess the effectiveness of information use. The Big6 model has been widely recognized as one of the most comprehensive frameworks for assessing information literacy competencies in educational settings (Iriani & Wicaksono, 2021). Its implementation has also demonstrated effectiveness in improving students' information literacy across different educational levels and learning environments (Viona et al., 2022).

The integration of TAM and the Big6 framework provides a comprehensive theoretical perspective for understanding AI utilization among university students. While TAM explains why students are willing to adopt AI technologies, the Big6 model explains whether they possess sufficient information literacy competencies to evaluate, verify, and utilize AI-generated information critically. Combining these two theoretical perspectives allows researchers to explain both technology acceptance and students' cognitive

information-processing behavior when interacting with AI-generated academic information. Such an integrated approach is increasingly important because AI utilization is no longer merely a technological issue but also an information literacy issue that influences the quality of academic learning (Rohman et al., 2023).

Preliminary observations conducted among students of the Library and Information Science Program at Universitas Negeri Padang further demonstrate the importance of this issue. The findings indicate that AI platforms, particularly ChatGPT, Gemini, and Perplexity, have become common tools for completing assignments, understanding course materials, searching for references, and developing research ideas. Nevertheless, only a limited number of students consistently verified AI-generated information using scholarly sources before incorporating it into academic work. Most respondents relied directly on AI-generated responses because they perceived them as sufficiently accurate and capable of saving considerable time. This phenomenon indicates a discrepancy between the widespread utilization of AI and students' critical information evaluation practices, suggesting that information literacy remains an essential competency in AI-assisted learning environments.

Previous studies have extensively examined either information literacy or Artificial Intelligence in educational contexts. Information literacy has consistently been recognized as a fundamental competency that enables students to identify, evaluate, organize, and ethically utilize information throughout the learning process (Behesty, 2023). Likewise, AI technologies have been reported to improve learning effectiveness by facilitating information retrieval, supporting academic writing, and assisting students in solving complex learning tasks (Kurniawan et al., 2024). These findings indicate that both AI adoption and information literacy have become increasingly important as universities adapt to digital transformation.

Research conducted by Addin & Nelisa (2025) demonstrated that Gemini Artificial Intelligence effectively supports students' information literacy by providing rapid access to relevant academic information and facilitating learning activities. Similarly, Sari & Asmara (2025) found that Perplexity AI significantly improves the efficiency of academic information retrieval among Library and Information Science students. Although these studies confirm the educational benefits of AI, they primarily focus on AI utilization rather than examining how students' information literacy influences their ability to critically evaluate AI-generated information before academic use.

Other scholars have explored the relationship between AI and academic learning from different perspectives. Muhaemin et al. (2024) reported a positive relationship between students' information literacy and the utilization of AI text generators in completing academic tasks. Their findings indicate that students possessing stronger information literacy competencies tend to use AI more responsibly and effectively. However, the study mainly investigated correlation rather than examining the influence of AI utilization on students' information literacy competencies.

Previous research has also approached AI utilization from the perspective of technology acceptance. Studies applying the Technology Acceptance Model consistently report that perceived usefulness and perceived ease of use significantly influence individuals' intentions to adopt emerging technologies in educational environments (Pratama et al., 2022). Nevertheless, these studies generally emphasize users' behavioral intentions while paying limited attention to students' competencies in evaluating the quality and credibility of AI-generated information after technology has been adopted.

The rapid implementation of AI in higher education has simultaneously generated concerns regarding information credibility, ethical responsibility, and academic integrity. AI systems may occasionally generate inaccurate explanations, fabricated references, or misleading statements while presenting them with high linguistic confidence. Consequently, students who rely excessively on AI without verification may unintentionally incorporate unreliable information into their academic work (Lee et al., 2025). These findings reinforce previous arguments emphasizing the necessity of validating AI-generated information through authoritative academic sources before it is used in educational contexts (Fajrillah et al., 2023).

Although previous studies have contributed substantially to understanding AI utilization and information literacy, several important limitations remain. Most existing studies examine AI adoption, technology acceptance, or information literacy separately. Only limited research has comprehensively investigated the influence of AI information utilization on students' information literacy by integrating technological acceptance with information literacy competencies. Furthermore, empirical evidence concerning Library and Information Science students in Indonesian universities remains relatively limited despite their expected proficiency in information literacy.

Based on the existing literature, previous studies have not comprehensively explained how AI information utilization influences students' information literacy within academic environments through an integrated theoretical perspective. Most earlier investigations focused either on AI adoption or information literacy independently, whereas limited attention has been devoted to examining their interaction. Moreover, empirical evidence involving students of the Library and Information Science Program at Universitas Negeri Padang has not yet been reported. Therefore, this study addresses this gap by integrating the Technology Acceptance Model and the Big6 Information Literacy Model to investigate the influence of AI information utilization on students' information literacy. The novelty of this study lies in integrating the Technology Acceptance Model with the Big6 Information Literacy framework to explain students' utilization of AI-generated information within higher education. Unlike previous studies that mainly investigated technology acceptance or information literacy separately, this research simultaneously examines students' perceptions of AI usefulness and ease of use alongside their competencies in identifying information needs, evaluating information credibility, synthesizing information, and applying information ethically. Furthermore, this study provides empirical evidence from Library and Information Science students at Universitas Negeri Padang, thereby contributing new insights into AI-assisted learning within Indonesian higher education.

Based on these theoretical and empirical considerations, this study aims to analyze the influence of Artificial Intelligence information utilization on the information literacy of students in the Library and Information Science Program at Universitas Negeri Padang. The findings are expected to enrich the development of information literacy theory in the context of Artificial Intelligence while providing practical recommendations for universities, lecturers, and academic libraries in designing educational strategies that promote critical, ethical, and responsible AI utilization in higher education.

METHODS

This study employed a quantitative approach with a causal associative design to examine the influence of Artificial Intelligence (AI)-based information use on the information literacy of students in the Library and Information Science Program at Universitas Negeri Padang. The independent variable, AI information use, was measured using the Technology Acceptance Model (TAM), which includes five indicators: Perceived

Usefulness, Perceived Ease of Use, Attitude Toward Using, Behavioral Intention, and Actual System Use. The dependent variable, information literacy, was assessed using the Big6 Information Literacy Model, consisting of six indicators: Task Definition, Information Seeking Strategies, Location and Access, Use of Information, Synthesis, and Evaluation.

The study population comprised 365 active students enrolled between the 2022 and 2025 cohorts. A total of 79 respondents were selected using the Slovin formula and stratified proportional sampling to ensure proportional representation from each academic cohort. Primary data were collected through a structured questionnaire using a four-point Likert scale, while secondary data were obtained from relevant literature. Instrument validity was examined using the Pearson Product-Moment correlation, and reliability was assessed using Cronbach's Alpha. All questionnaire items were found to be valid (Sig. < 0.05), while the reliability coefficients were 0.912 for the AI information use variable and 0.908 for the information literacy variable, indicating excellent internal consistency.Data were analyzed using SPSS through descriptive and inferential statistical techniques. Prior to hypothesis testing, normality and linearity tests were conducted to ensure that the data met the assumptions for regression analysis. The research hypothesis was tested using simple linear regression, while the significance of the relationship was evaluated through the *t*-test and the coefficient of determination (R^2) to determine the contribution of AI information use to students' information literacy.

RESULTS

a. Test Normality

Table 1. Test Normality Result

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			79
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		6.98346597
Most Extreme Differences	Absolute		.098
	Positive		.098
	Negative		-.066
Test Statistic			.098
Asymp. Sig. (2-tailed)[c]			.060
Monte Carlo Sig. (2-tailed)[d]	Sig.		.061
	99% Confidence Interval	Lower Bound	.055
		Upper Bound	.067

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

Table 1. Normality Test Results shows that the Asymp. Sig. (2-tailed) value is 0.060 (> 0.05), indicating that the data are normally distributed and meet the assumption for parametric analysis.

b. Linearity Test

Table 2. Linearity Test Results

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Y * X	Between Groups	(Combined)	3152.313	25	126.093	2.916	<,001
		Linearity	1640.338	1	1640.338	37.931	<,001
		Deviation from Linearity	1511.976	24	62.999	1.457	.127
	Within Groups		2291.990	53	43.245		
	Total		5444.304	78			

source: Compiled by the researcher (2026)

Table 2. Linearity Test Results shows that the Deviation from Linearity significance value is 0.127, which exceeds 0.05, indicating a linear relationship between AI information use (X) and information literacy (Y). Therefore, the data meet the assumption for simple linear regression analysis.

c. Simple Linear Regression Test

Table 3. Simple Linear Regression Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	38.553	6.080		6.341	<,001
	X	.561	.097	.549	5.762	<,001

a. Dependent Variable: Y

source: Compiled by the researcher (2026)

Table 3. Simple Linear Regression Results shows that the constant value is 38.553 and the regression coefficient is 0.561, resulting in the regression equation Y = 38.553 + 0.561X. The positive regression coefficient indicates that each one-unit increase in AI information use (X) increases students' information literacy (Y) by 0.561 units, suggesting a positive relationship between the two variables.

b. t-Test

The t-test results show a significance value of < 0.001, which is lower than 0.05, indicating that AI information use has a significant positive effect on the information literacy of students in the Library and Information Science Study Program at Padang State University.

c. Coefficient of Determination

Table 4. Coefficient of Determination Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.549[a]	.301	.292	7.029

a. Predictors: (Constant), X

b. Dependent Variable: Y

source: Compiled by the researcher (2026)

Table 4. Coefficient of Determination Results shows an R Square value of 0.301, indicating that AI information use explains 30.1% of the variance in students' information literacy, while the remaining 69.9% is attributed to other factors not examined in this study.

DISCUSSION

The findings demonstrate that the use of Artificial Intelligence (AI) has a positive contribution to students' information literacy in the Library and Information Science Program at Universitas Negeri Padang. Overall, the level of AI information use was classified as high, indicating that students have widely integrated AI into their academic activities. This finding suggests that AI is no longer perceived merely as an emerging technology but has become an essential learning tool that supports information retrieval, concept comprehension, and academic task completion. Such a pattern reflects the increasing acceptance of AI in higher education and aligns with the growing digital transformation in academic environments.

From the perspective of the Technology Acceptance Model (TAM), the highest average score was obtained by the Perceived Ease of Use indicator, followed by Perceived Usefulness, whereas Behavioral Intention recorded the lowest average despite remaining

within the high category. These findings indicate that students perceive AI applications as easy to operate and beneficial for supporting academic activities. The accessibility of AI platforms enables students to obtain information quickly, understand complex concepts, and complete academic tasks more efficiently. Nevertheless, the comparatively lower score on Behavioral Intention suggests that although students acknowledge AI's usefulness, they remain cautious about relying on AI as their primary academic resource. This finding implies that students continue to recognize the importance of balancing AI-generated information with conventional scholarly sources.

The results also reveal that students' information literacy was generally categorized as high across all dimensions of the Big6 Information Literacy Model. Among these dimensions, Information Seeking Strategies achieved the highest average score, indicating that students tend to employ multiple information sources rather than depending exclusively on AI-generated responses. This finding demonstrates that students understand the importance of selecting appropriate information sources according to their academic needs. Such behavior reflects one of the essential principles of information literacy, namely the ability to formulate effective search strategies before evaluating and utilizing information.

Furthermore, the Task Definition dimension also demonstrated a high level of achievement, indicating that students were generally able to identify their information needs and define academic problems before conducting information searches. This competency is particularly important because effective information retrieval begins with a clear understanding of the information required. The findings suggest that AI can support students during the initial stages of information seeking by helping them clarify research topics, formulate questions, and identify relevant concepts. However, the effectiveness of AI remains dependent on students' ability to formulate appropriate prompts and critically interpret the generated responses.

Similarly, the Location and Access dimension showed favorable results, suggesting that students were capable of locating and accessing relevant academic information through AI-assisted searches. Nevertheless, AI should not be regarded as a substitute for scholarly databases or peer-reviewed literature. Instead, AI functions as a supporting tool that facilitates information discovery while requiring further verification through authoritative academic sources. Consequently, students' ability to distinguish between credible and non-credible information remains a fundamental component of effective information literacy.

The positive relationship identified in this study indicates that AI utilization contributes to improving students' information literacy rather than diminishing their academic competencies. When AI is used appropriately, it can encourage students to explore broader sources of information, develop more efficient search strategies, and better organize academic knowledge. AI therefore functions as a facilitator of learning rather than merely an automated answer generator. However, these benefits are realized only when students possess sufficient critical thinking skills to evaluate and validate AI-generated information before incorporating it into academic work.

The present findings support previous research conducted by Addin & Nelisa (2025), which reported that generative AI can enhance students' information literacy by facilitating access to relevant academic information. Likewise, the findings are consistent with Sari & Asmara (2025), who concluded that AI-based information retrieval systems improve the efficiency of academic information searching among Library and Information Science students. The consistency of these findings strengthens the argument that AI has become an effective supporting technology within higher education when accompanied by adequate information literacy competencies.

The findings are also consistent with the study by Muhaemin et al. (2024), which demonstrated a positive relationship between information literacy and the utilization of AI text generators in academic learning. Students with stronger information literacy competencies tend to utilize AI more responsibly because they are better equipped to evaluate information quality and verify AI-generated content before applying it in academic tasks. This consistency indicates that technological competence alone is insufficient; AI utilization must be accompanied by critical information literacy skills to ensure the quality and credibility of academic outcomes.

Overall, these findings reinforce the theoretical integration of the Technology Acceptance Model and the Big6 Information Literacy Model. TAM successfully explains why students willingly adopt AI technologies through perceptions of usefulness and ease of use, whereas the Big6 framework explains how students process, evaluate, and utilize AI-generated information throughout the information-seeking process. The combination of these frameworks provides a more comprehensive explanation of students' academic behavior than examining technology acceptance or information literacy independently,

thereby contributing to a broader understanding of AI-supported learning in higher education.

The present findings further demonstrate that AI should be viewed as a complementary learning technology rather than a replacement for students' independent learning processes. Although respondents reported frequent use of AI for completing assignments, understanding complex concepts, and locating academic information, they also indicated that they continued to consult journals, books, and other scholarly resources during the information-seeking process. This finding suggests that AI functions primarily as an initial facilitator that accelerates access to information while students remain responsible for verifying and synthesizing information obtained from multiple sources. Such behavior reflects the fundamental principles of information literacy, which emphasize the critical evaluation and ethical use of information rather than the simple retrieval of answers.

These findings also support the theoretical assumptions of the Technology Acceptance Model (TAM). According to TAM, users are more likely to adopt a technology when they perceive it as useful and easy to use. In this study, both Perceived Usefulness and Perceived Ease of Use achieved high mean scores, indicating that students recognized AI as an efficient and accessible academic tool. The positive perception of AI appears to encourage its integration into everyday learning activities, including information searching, concept clarification, and academic writing. Consequently, students' acceptance of AI represents an important factor contributing to its extensive utilization within higher education settings.

Nevertheless, technology acceptance alone does not guarantee responsible information use. The findings indicate that students' information literacy competencies remain essential in determining how AI-generated information is interpreted and applied. The relatively strong performance across the Big6 dimensions demonstrates that respondents generally possess the ability to identify information needs, develop search strategies, access relevant resources, synthesize information, and evaluate the quality of information before using it in academic work. This finding reinforces the argument that information literacy acts as a protective mechanism against misinformation, inaccurate AI-generated responses, and uncritical dependence on automated technologies.

The results are consistent with previous studies emphasizing the educational benefits of AI. Kurniawan et al. (2024) argued that AI enhances creativity, learning effectiveness, and information accessibility by enabling students to obtain academic explanations more

efficiently. Likewise, Ramadani & Desriyeni (2025) found that AI positively supports university students' learning experiences by improving efficiency and facilitating access to educational resources. The consistency of these findings strengthens the evidence that AI has become an increasingly valuable educational technology when used appropriately.

However, the findings should also be interpreted in light of studies highlighting the potential risks associated with AI utilization. Lee et al. (2025) emphasized that generative AI may produce hallucinated information, fabricated references, and inaccurate explanations that appear highly convincing. Similarly, Fajrillah et al. (2023) stressed the importance of validating AI-generated information before incorporating it into academic activities. The present findings indirectly support these concerns because, despite students' generally high information literacy, the widespread use of AI still requires continuous critical evaluation to prevent the acceptance of inaccurate information. Therefore, AI should complement rather than replace authoritative scholarly resources.

From a theoretical perspective, this study contributes to the growing body of knowledge by integrating the Technology Acceptance Model (TAM) with the Big6 Information Literacy Model. Previous studies have generally examined technology acceptance and information literacy separately, whereas this research demonstrates that understanding students' AI utilization requires both perspectives simultaneously. TAM explains students' willingness to adopt AI technologies, while the Big6 framework explains how students critically process and evaluate AI-generated information before applying it in academic contexts. This integrated approach provides a more comprehensive explanation of students' learning behavior in the era of Artificial Intelligence.

From a practical perspective, the findings provide several implications for higher education institutions, lecturers, and university libraries. Universities should not prohibit AI utilization but instead develop policies that encourage its ethical and responsible use. Lecturers should integrate AI literacy into classroom instruction by teaching students how to formulate effective prompts, evaluate AI-generated information, verify references, and avoid academic misconduct. Likewise, academic libraries can strengthen students' information literacy by providing workshops, training programs, and digital literacy initiatives focusing on the critical evaluation of AI-generated content. Such initiatives will help students maximize the educational benefits of AI while minimizing the associated risks.

Methodologically, this study demonstrates that combining technology acceptance variables with information literacy indicators offers a comprehensive framework for investigating students' interactions with AI. Future research may extend this model by incorporating additional variables such as critical thinking, digital literacy, academic integrity, self-regulated learning, or trust in AI systems to obtain a more holistic understanding of AI-supported learning behavior.

Despite its contributions, this study has several limitations. First, the research was conducted only among students of the Library and Information Science Program at Universitas Negeri Padang, limiting the generalizability of the findings to other academic disciplines or institutions. Second, the study employed a quantitative cross-sectional design based on self-reported questionnaire data, which may not fully capture students' actual behaviors when interacting with AI technologies. Third, the research focused exclusively on the influence of AI information use on information literacy without considering other psychological, technological, or educational factors that may also affect students' information literacy competencies.

Overall, this study confirms that AI information use positively contributes to students' information literacy when supported by appropriate critical evaluation skills. The integration of TAM and the Big6 Information Literacy Model represents the primary contribution of this research by providing a comprehensive framework for explaining both technology acceptance and information literacy within AI-assisted learning environments. These findings highlight the importance of developing educational strategies that promote not only AI adoption but also responsible, ethical, and critical information practices, thereby enabling students to utilize Artificial Intelligence effectively while maintaining academic integrity and high-quality scholarly work.

CONCLUSION

This study examined the influence of Artificial Intelligence (AI)-based information use on the information literacy of students in the Library and Information Science Program at Universitas Negeri Padang. The findings indicate that AI information use was categorized as high, demonstrating that students have extensively integrated AI into various academic activities, including information retrieval, concept comprehension, assignment completion,

and reference searching. Students' information literacy was also found to be at a high level, indicating strong competencies in identifying information needs, developing search strategies, accessing information resources, utilizing information effectively, synthesizing knowledge, and evaluating information critically. Furthermore, the inferential analysis confirmed that AI information use has a positive and statistically significant influence on students' information literacy, thereby achieving the primary objective of this study.

This research contributes to the advancement of Library and Information Science by integrating the Technology Acceptance Model (TAM) with the Big6 Information Literacy Model to explain the relationship between AI adoption and information literacy. The findings demonstrate that the educational benefits of AI can be maximized when technology acceptance is accompanied by strong information literacy competencies, enabling students to evaluate, verify, and utilize AI-generated information critically and responsibly. From a practical perspective, the results provide valuable insights for higher education institutions, lecturers, and academic libraries in designing information literacy programs and developing institutional policies that encourage the ethical and effective use of AI while maintaining academic integrity.

Based on these findings, students are encouraged to use AI as a complementary learning tool while consistently verifying AI-generated information through credible scholarly sources. Universities should strengthen AI literacy and information literacy education to foster critical thinking and responsible technology use. Future studies are recommended to include larger and more diverse samples across different academic disciplines and institutions, as well as incorporate additional variables, such as digital literacy, critical thinking, trust in AI, and academic integrity, to provide a more comprehensive understanding of AI utilization in higher education.

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