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Digital Literacy And Ai Adoption In Midwifery Education: Enhancing Career Readiness For The Society 5.0 Healthcare Landscape

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Abstract
The Society 5.0 era demands that midwifery students possess career readiness integrated with digital technology. However, the effectiveness of digital literacy and Artificial Intelligence (AI) adoption in determining the career readiness of prospective midwives still requires in-depth study. This research aims to analyze the influence of digital literacy and AI adoption on the career readiness of students at the Darussalam Martapura Midwifery Academy. This quantitative study employed an explanatory design with a Total Sampling technique involving 66 respondents. Data were collected through digital questionnaires and analyzed using multiple linear regression and t-tests. The results indicate that digital literacy has a positive and significant effect on career readiness (t count 41.459; p-value < 0.05). Conversely, AI adoption partially has no significant effect on career readiness (t count1.572; p-value > 0.05). Simultaneously, both variables contribute 96.5% to career readiness (R^2 = 0.965). Digital literacy is the primary predictor of student career readiness, while AI adoption is still perceived as a secondary tool. Educational institutions need to integrate AI into the clinical curriculum so that students can perceive the relevance of such technology in the future midwifery profession.

Keywords: *Ai Adoption, Career Readiness, Digital Literacy, Midwifery Students, Society 5.0.*

Abstrak

Era Masyarakat 5.0 menuntut agar mahasiswa kebidanan memiliki kesiapan karir yang terintegrasi dengan teknologi digital. Namun, efektivitas literasi digital dan adopsi Kecerdasan Buatan (AI) dalam menentukan kesiapan karir calon bidan masih memerlukan studi mendalam. Penelitian ini bertujuan untuk menganalisis pengaruh literasi digital dan adopsi AI terhadap kesiapan karir mahasiswa di Akademi Kebidanan Darussalam Martapura. Studi kuantitatif ini menggunakan desain eksploratif dengan teknik Total Sampling yang melibatkan 66 responden. Data dikumpulkan melalui kuesioner digital dan dianalisis menggunakan regresi linier berganda dan uji-t. Hasil menunjukkan bahwa literasi digital memiliki pengaruh positif dan signifikan terhadap kesiapan karir (nilai t 41,459; nilai p < 0,05). Sebaliknya, adopsi AI sebagian tidak memiliki pengaruh signifikan terhadap kesiapan karir (nilai t 1,572; nilai p > 0,05). Secara simultan, kedua variabel tersebut berkontribusi 96,5% terhadap kesiapan karir (R2 = 0,965). Literasi digital merupakan prediktor utama kesiapan karir mahasiswa, sementara adopsi AI masih dianggap sebagai alat sekunder. Lembaga pendidikan perlu mengintegrasikan AI ke dalam kurikulum klinis agar mahasiswa dapat memahami relevansi teknologi tersebut dalam profesi kebidanan di masa depan.

Kata kunci: Adopsi AI, Kesiapan Karir, Literasi Digital, Mahasiswa Kebidanan, Masyarakat 5.0.

INTRODUCTION

Midwifery Career Readiness in the Healthcare 4.0 Era: Digital transformation within Industry 4.0 has brought significant changes to the health sector through the concept of Healthcare 4.0. This phenomenon demands that healthcare professionals, including midwives, possess not only conventional clinical competencies but also the ability to adapt to digital medical technologies. In the vision of Society 5.0, future healthcare services will rely heavily on the integration of cyberspace and physical space to provide human-centric care. For students at the Darussalam Martapura Midwifery Academy (Akbid), career readiness is no longer merely about mastering technical childbirth procedures, but rather the professional capability to navigate a dynamic digital health ecosystem. Gaps in mastering these competencies could hinder the effectiveness of maternal and child health services in the future. (Pramesti dkk, 2024).

Digital literacy has now become a crucial competency for prospective midwives to support the implementation of Electronic Health Records (EHR) and other health information systems. It encompasses not only the technical ability to use digital devices but also the cognitive capacity to process health data ethically and accurately. Research indicates that strong digital literacy assists midwifery students in accessing the latest medical literature and minimizing the risk of medical misinformation in the digital environment. In the Society 5.0 era, digitally literate midwives are expected to provide more effective health education to the community through various digital platforms, making digital literacy a primary asset in enhancing the competitiveness of graduates in the labor market. (Nurlianti & Bahrani, 2025).

Artificial Intelligence (AI) is now beginning to penetrate the field of midwifery, ranging from algorithm-based fetal monitoring applications to the use of chatbots for antenatal education. The adoption of AI by midwifery students enables them to utilize decision support systems that can enhance the quality of midwifery care. By familiarizing themselves with interacting with AI technologies, such as ChatGPT or Gemini, to assist in the learning process and case analysis, students are prepared to become partners with intelligent technology in future work environments. Recent research emphasizes that self-efficacy in using AI technology significantly influences students' confidence in entering an automated professional world. (Juanda & Azis, 2025).

Although discussions regarding digital technology have expanded, research specifically linking digital literacy and AI adoption to student career readiness within the Society 5.0 framework remains limited. Much previous research has focused only on the technical aspects

of technology use without considering its long-term impact on students' career confidence. There is an urgent need to understand how the combination of foundational skills (digital literacy) and the utilization of cutting-edge technology (AI) can mitigate career anxiety in the digital era. This study aims to fill that gap by examining the influence of digital literacy and AI adoption on student career readiness using regression analysis. The results of this study are expected to contribute to higher education policymakers in developing curricula that are responsive to technological developments.

RESEARCH METHODS

Research Design

This study employs a quantitative approach with an explanatory design. This method aims to explain causal relationships and examine the influence between the independent variables, namely Digital Literacy (X_1) and AI Adoption (X_2), on the dependent variable, Career Readiness (Y).

Population and Sample

The population in this study consists of active students at the Darussalam Martapura Midwifery Academy (Akbid).

Operational Definition of Variables

Variables were measured using a questionnaire based on a Likert Scale (1-5):

1. Digital Literacy (X_1): The students' ability to search, evaluate, and use digital information ethically within the context of midwifery education.
2. AI Adoption (X_2): The level of acceptance and utilization of artificial intelligence technologies (such as ChatGPT/Gemini) as tools for learning and clinical case resolution.
3. Career Readiness (Y): Students' perceptions regarding the maturity of their digital competencies and their confidence in entering the healthcare workforce in the Society 5.0 era.

Data Collection Techniques

The data collection technique employed involves primary data obtained through the distribution of online questionnaires via Google Forms. These questionnaires underwent prior validity and reliability testing to ensure that each item is capable of measuring the research variables consistently.

Data Analysis Techniques

The collected data were processed using statistical software (SPSS) through the following stages:

1. Classical Assumption Test: Including normality, multicollinearity, and heteroskedasticity tests to ensure the data are suitable for regression model analysis.
2. Multiple Linear Regression Analysis: Used to measure the extent of the influence of the independent variables on the dependent variable.
3. Hypothesis Testing (t-test): Used to examine the partial (individual) influence. The hypothesis is accepted if the significance value (p-value) is < 0.05.

RESULT AND DISCUSSION

Instrument Test Results

Validity Test

The Validity Test was conducted to determine the extent to which the questionnaire items are able to measure the research variables accurately (Azizah & Chalimatusadiah, 2025). The test was performed by comparing the r count value (Pearson Correlation) with the r table value. For the sample size used, there were 66 respondents at a significance level of 5%.

Table 1. Uji Validitas Variabel

No	Variable	Item	R count	r table	Sig.	Description
1	Digital Literacy (X_1)	$X_{1.1}$	0.964	0.239	0.00	Valid
		$X_{1.2}$	0.896	0.239	0.00	Valid
		$X_{1.3}$	0.900	0.239	0.00	Valid
2	AI Adoption (X_2)	$X_{2.1}$	0.975	0.239	0.00	Valid
		$X_{2.2}$	0.872	0.239	0.00	Valid
		$X_{2.3}$	0.947	0.239	0.00	Valid
3	Career Readiness (Y)	$Y_{.1}$	0.934	0.239	0.00	Valid
		$Y_{.2}$	0.924	0.239	0.00	Valid
		$Y_{.3}$	0.924	0.239	0.00	Valid

1. Digital Literacy Variable (X_1)

The three question items, $X_{1.1}$ to $X_{1.3}$ have very high r count values, ranging from 0.896 to 0.964. Since all 0,896 to 0,964. values are greater than > 0,239 and the significance values (Sig.) are 0.000 (0.000 < 0.05), all question items for the Digital Literacy variable are declared valid.

2. AI Adoption Variable (X_2)

The items in the AI Adoption variable demonstrate a very strong level of validity, with the highest r count value found in $X_{2.1}$ at 0.975. All items have values that significantly exceed

the r table (ranging from 0.872 to 0.975); therefore, the instrument for the AI Adoption variable is declared valid.

3. Career Readiness Variable (Y)

The dependent variable, Career Readiness, shows consistent r count values above 0.924. With a Sig. value of 0.000, it can be concluded that these question items are capable of validly measuring the career readiness of Darussalam Martapura Midwifery Academy students.

Reliability Test

Reliability testing is a method to measure the extent to which a measuring tool (instrument) can provide consistent and stable results when used repeatedly under the same conditions (Azizah & Chalimatusadiah, 2025). Once the instrument is declared valid, the next step is reliability testing to ensure the questionnaire's consistency when used repetitively. A variable is considered reliable if it has a Cronbach's Alpha value > 0.60. The results of the reliability test are presented in the following table:

Table 2. Reliability Test

No	Variable	*Cronbach's Alpha*	Reliability Standards	Description
1	Digital Literacy (X1)	0.910	0.6	Reliable
2	AI Adoption (X2)	0.925	0.6	Reliable
3	Career Readiness (Y)	0.903	0.6	Reliable

1. Digital Literacy Variable (X_1)

It has a Cronbach's Alpha value of 0.910, which significantly exceeds the minimum standard of 0.6. This indicates that the question items for this variable are highly consistent in measuring students' digital literacy.

2. AI Adoption Variable (X_2)

It possesses the highest Cronbach's Alpha value at 0.925. This value, which approaches 1.0, indicates that the AI adoption instrument has an excellent level of reliability.

3. Career Readiness Variable (Y)

It has a Cronbach's Alpha value of 0.903; therefore, it is declared highly reliable for measuring the level of students' career readiness.

Calssic Assumption Test Results

Normality Test

The normality assumption is used to determine whether the residual values are normally distributed. A good regression model possesses residual values that follow a normal distribution. Therefore, the normality test is not performed on each individual variable but rather on the residual values (Budi et al., 2024). The results of the normality test can be observed in the following table:

Table 3. Normality Test

*N*ormality *Test Kolmogorov Smirnov*		
Asymp. Sig (2-tailed)	Sig.	Description
0.085	0.05	Normal

Based on Table 3, the Asymp. Sig (2-tailed) value is 0.085, which is greater than 0.05. Therefore, it can be concluded that the data under study are normally distributed.

Multicollinearity Test

The multicollinearity assumption is used to determine whether there is a high correlation between the independent variables in a multiple linear regression model. If a high correlation exists among the independent variables, the relationship between the independent and dependent variables becomes distorted (Budi et al., 2024). The results of the multicollinearity test can be observed in the following table:

Table 4. Multicollinearity Test

No	Variabel Independen	*Colinearity Statistics*	
		Tolerance	VIF
1	Digital Literacy (X1)	0.964	1.037
2	AI Adoption (X2)	0.964	1.037

Based on the Tolerance values for both variables, which are 0.964 > 0.10, and a VIF value of 1.037 < 10, it can be concluded that there is no multicollinearity among the independent variables in this research model.

Heteroscedasticity Test

In a regression model, the fulfillment of requirements is achieved when there is uniformity in the variance of residuals across observations, which is referred to as homoskedasticity (Budi et al., 2024). The results of the homoskedasticity test can be observed in the image below:

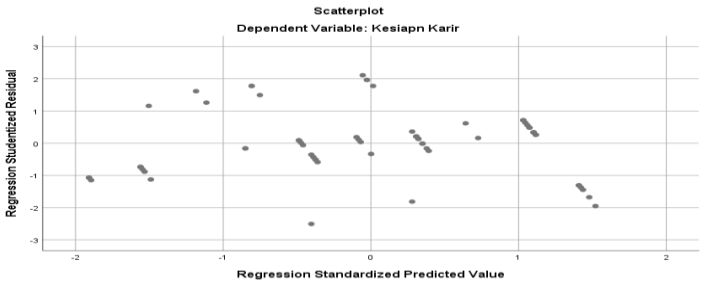

Figure 1. Uji heteroskedasticity

Based on Figure 1, it can be observed that there is no specific pattern, and the points are scattered in the heteroskedasticity test scatterplot. Therefore, it can be concluded that the residuals are homogeneous, or that there are no symptoms of heteroskedasticity.

Multiple Linear Regression Analysis and Hypothesis Testing

Regression analysis aims to describe the regression line used to establish a basis for predicting the dependent variable through one or more independent variables (Budiwanto, 2017). Regression analysis is employed to measure the influence of Digital Literacy (X_1) and AI Adoption (X_2) on Career Readiness (Y) among students of the Darussalam Martapura Midwifery Academy.

Multiple Linear Regression Analysis

The regression equation is used to determine whether there is a relationship between the independent variables and the dependent variable. The results of the regression analysis in this study are as follows:

Table 5. Hasil Regresi Linear Berganda

Variable	β
Career Readiness (Y)	1.553
Digital Literacy (X1)	0.920
AI Adoption (X2)	0.034

The following regression equation was obtained:

$$Y = 1{,}553 + 0{,}920X_1 + 0{,}023X_2$$

1. The value 1,553 is a constant; this means that if the Digital Literacy and AI Adoption variables are equal to 0, Career Readiness will remain at1,553
2. The value 0,920 is the regression coefficient for Digital Literacy; this means that if Digital Literacy increases by one unit, Career Readiness will also increase by 0,920
3. The value 0,034 is the regression coefficient for AI Adoption; this means that if AI Adoption increases by one unit, Career Readiness will also increase by 0,034
4.

Coefficient of Determination

The coefficient of determination test is used to determine how much the independent variables, namely Digital Literacy and AI Adoption, contribute to Career Readiness.

Table 6. Koefisien Determinasi

R	R Square	Adjusted R Square
0.983	0.965	0.964

Table 6 shows that the R Square value is 0.965, which means the influence of Digital Literacy and AI Adoption on Career Readiness is 96.5%, while the remaining percentage is influenced by other variables not examined in this study.

Hypothesis Testing (F-test)

The simultaneous test, or F-test, is used to determine whether there is a collective influence of several independent variables on the dependent variable. In this study, the F-test was conducted to examine the joint influence of Digital Literacy and AI Adoption on Career Readiness. If the significance value is < p-value (0.05), it means H_0 is rejected and H_1 accepted. Conversely, if the significance value is > p-value (0.05), it means H_0 is accepted and H_1 is rejected.

Table 7. Uji Simultan Regresi

ANOVA					
	Sum of Squares	df	Mean Square	F	sig.
Regression	388.573	2	194.287	879.861	.000
Residual	13.911	3	0.221		
Total	402.485	5			

Based on Table 7, it is shown that the Sig. F value (0.000) is < 0.05; therefore, H_0 is rejected. Thus, it can be concluded that Digital Literacy and AI Adoption simultaneously have a significant influence on Career Readiness.

Hypothesis Testing (t-test)

The partial test, or t-test, is used to determine whether there is an individual influence of each independent variable on the dependent variable. In this study, the t-test was conducted to examine whether Digital Literacy and AI Adoption partially influence Career Readiness. If the significance result is < p-value (0.05), then H_0 is rejected.

Table 8. Uji Parsial Regresi

Coefficientsa					
	Unstandardized Coefficients		Standardized Coefficients	t	sig.
	B	Std. Error	Beta		
(Constant)	1.553	0.375		4.143	.000
Digital Literacy	0.920	0.022	0.989	41.459	.000
AI Adoption	0.034	0.022	0.037	1.572	.121

Based on Table 8, the following results were obtained:

1. The t-test between Digital Literacy and Career Readiness shows a Sig. value of 0.000 < 0.05; therefore, H_0 is rejected. Thus, it can be concluded that Digital Literacy has a significant influence on Career Readiness.
2. The t-test between AI Adoption and Career Readiness shows a Sig. value of 0.121 > 0.05; therefore, H_0 is accepted. Thus, it can be concluded that AI Adoption does not have a significant influence on Career Readiness.

Discussion

The Influence of Digital Literacy on Midwifery Students' Career Readiness

The research indicates that Digital Literacy has a very strong positive and significant influence on the career readiness of Darussalam Martapura Midwifery Academy students. This is evidenced by a t-value of 41.459 and a significance level of 0.000. This high level of influence indicates that students' ability to manage digital information, use academic software, and maintain ethics in cyberspace has become the primary foundation of their self-confidence.

Digitally proficient students feel better prepared to handle the transition from the world of education to a healthcare work environment that is now integrated with various hospital information systems and electronic medical records.

Theoretically, these findings align with the demands of the healthcare industry in the Society 5.0 era, where midwives are expected to function as effective digital communicators. Digital literacy not only facilitates students' access to the latest medical references but also fosters an adaptive mindset toward technological changes. In the context of midwifery, career readiness is closely related to a midwife's ability to provide accurate health education amidst the surge of misinformation (hoaxes) on social media. Therefore, Digital Literacy is the most dominant predictor because it directly supports the effectiveness of modern midwifery care based on data and technology.

The Influence of AI Adoption on Midwifery Students' Career Readiness

AI Adoption was partially found to have no significant influence on career readiness, with a Sig. value of 0.121 > 0.05. This finding suggests that although students have begun adopting artificial intelligence technologies—such as ChatGPT or Gemini—to assist with academic assignments, this adoption is not yet considered a determining factor for their professional competence. Students tend to view AI merely as an administrative tool or a learning assistant, rather than a replacement for the clinical skills that form the core of the midwifery profession. This lack of significance indicates a gap between the use of smart technology and the perception of practical proficiency in the field.

This condition can be explained by the unique nature of the midwifery profession, which prioritizes "high-touch" aspects, such as human connection, empathy, and physical skills in handling childbirth. Students may feel that AI cannot yet provide a direct contribution to medical procedures that require intuition and motor experience; thus, the use of AI does not automatically increase their sense of work readiness. On the other hand, this could also be triggered by the absence of a specific curriculum that integrates AI into midwifery practice simulations on campus. Consequently, AI adoption remains high functionally for assignments but low in its contribution to professional career readiness as prospective midwives

Simultaneous Contribution and Educational Implications

Simultaneously, Digital Literacy and AI Adoption contribute 96.5% to Career Readiness, as indicated by an R Square value of 0.965. This exceptionally high figure demonstrates that the combination of basic digital proficiency and openness to future technologies almost perfectly shapes students' readiness for the professional world. Although AI is not dominant

independently, its presence strengthens the career readiness prediction model when accompanied by competent digital literacy. This proves that students who are both "digitally literate" and "open to AI" possess a much greater competitive advantage compared to those who only master one of the two.

The implication of these findings for the Darussalam Martapura Midwifery Academy is the importance of a curriculum restructuring that does not only focus on basic digital literacy but also begins to direct AI adoption toward the clinical realm. For instance, introducing the use of AI for pregnancy risk analysis based on statistical data or the use of digital assistants in patient data management. By integrating these technologies into real practice scenarios, students are expected to begin perceiving AI's relevance as a future collaboration partner. This effort will ensure that graduates are not only technically and medically prepared but also ready to lead the digital transformation in the health sector at both national and international levels.

CONCLUSION

Based on the results of the data analysis and discussion conducted with 66 student respondents at the Darussalam Martapura Midwifery Academy, the following conclusions can be drawn:

1. Digital Literacy has a positive and significant influence on Career Readiness. This is evidenced by a t-statistic (41.459) that is significantly higher than the t-table value and a significance level of 0.000. This finding emphasizes that the mastery of information technology is a key factor determining students' self-confidence levels in facing the modern healthcare work environment.
2. AI Adoption does not have a significant partial influence on Career Readiness. A significance value of 0.121 (> 0.05) indicates that although students have utilized AI technology (such as ChatGPT/Gemini), it is not yet perceived as a decisive element of their professional readiness as prospective midwives, who prioritize clinical skills.
3. Digital Literacy and AI Adoption simultaneously influence Career Readiness**.** This research model possesses a very high level of accuracy with an R Square value of 0.965, meaning that 96.5% of the career readiness variable is influenced by these two independent variables collectively.
4.

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