

The Effect of Changes and Dynamics in the Digital Environment on the Work Readiness of Management Students, Faculty of Economics and Business, Universitas Muhammadiyah Makassar in the Era of Digital Transformation

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Abstract

This study is urgent because rapid digital transformation requires students to adapt to evolving workplace demands. Understanding how digital environmental change and dynamics influence work readiness supports more effective higher education policies and graduate preparedness. This study aims to analyze the effect of digital environmental change and digital environment dynamics on the work readiness of Management students at the Faculty of Economics and Business, Universitas Muhammadiyah Makassar in the era of digital transformation. Previous studies have mainly focused on individual digital competencies, such as digital literacy, soft skills, and self-efficacy, while limited attention has been given to how broader changes and dynamics in the digital environment shape students' work readiness, particularly in higher education institutions in eastern Indonesia. This study employed a quantitative explanatory survey design. Data were collected through questionnaires distributed to 80 Management students from the 2022 cohort and analyzed using multiple linear regression with IBM SPSS Statistics 27. Digital environmental change refers to shifts in technology-based learning, communication patterns, and access to digital resources, whereas digital environment dynamics refers to the rapid, continuous, and complex development of digital systems that requires students to adapt to changing educational and workplace demands. The findings indicate that both digital environmental change and digital environment dynamics have a positive and significant effect on students' work readiness, with digital environment dynamics showing a relatively stronger contribution. The two variables explain 41.3% of the variation in work readiness. Academically, this study contributes to the work readiness literature by positioning the digital environment as a multidimensional external factor, not merely as individual digital competence. Practically, the findings suggest that universities need to strengthen digital-based learning environments, improve digital literacy programs, and develop students' adaptability skills to better prepare graduates for the evolving labor market.

Keywords: *Digital Environment Change, Digital Environment Dynamics, Work Readiness, Digital Transformation, Management Students*

Introduction

The development of digital technology has transformed various aspects of life, including the way humans interact, work, and learn. This transformation is increasingly evident through the use of cloud computing, big data, the Internet of Things (IoT), artificial intelligence (AI), and digital platforms that support more effective human activities (Giantri et al., 2025). These

changes are not limited to the industrial and business sectors but also directly affect the education sector as a key contributor to the preparation of future human resources.

The research problem arises from the gap between the demand for a digital workforce and graduates' competencies. Although digitalization has the potential to improve the quality of education, access to digital learning and competency development remains uneven. The report *The Indonesian Digital Workforce Gaps 2021–2025* recorded a shortage of more than 392,000 digital workers during the 2016–2020 period, indicating that industry demand exceeds the supply of graduates with adequate digital competencies (Gayatri et al., 2023). Furthermore, digital literacy has been proven to significantly improve the work readiness of Generation Z in Indonesia, highlighting the importance of strengthening students' digital capabilities to meet labor market expectations (Dianti et al., 2024).

The acceleration of digital transformation also directly affects students as future workers who now face rapid changes due to digital transformation development (Wulandari et al., 2024). These changes create various challenges, such as unequal access to technology and increasing demands for new competencies. This condition requires students to have high adaptability skills in order to remain relevant in the world of work. Several studies show that the digital divide remains a real issue for students, where socio-economic factors and digital literacy, including among accounting students, directly influence their ability to master technology (Weli et al., 2024). In addition, the ability to adapt to flexible work, online activities, and modern technology is a determinant of graduate competitiveness in the digital era. Research also shows that digital competence supported by an adaptive organizational culture can improve human resource performance (Pahlan et al., 2025).

Examining the relationship between digital transformation and student work readiness is an important effort to improve the quality of higher education in Indonesia, including at Universitas Muhammadiyah Makassar. Such research can provide empirical evidence regarding the extent to which digital literacy, adaptability, and online collaboration skills influence students' readiness to enter a technology-based workforce. Previous studies have demonstrated that digital literacy and career adaptability significantly influence students' work readiness, particularly among final-year students approaching graduation (Widiawati et al., 2025).

In line with the importance of digital transformation, this study analyzes changes and dynamics in the digital environment as well as student work readiness. Changes include the impact of technology on education, work, and social interaction, while dynamics relate to literacy gaps, digital access, and the rapid pace of innovation that requires individual adaptation. This is consistent with the view that youth digital literacy is essential for preparing individuals to effectively face the demands of the future labor market (Prianto & Firman, 2021).

Student work readiness in this context reflects the extent to which students are able to enter the professional workforce in a digital context, both in terms of technical competencies, interpersonal skills (soft skills), and understanding of technology-based work culture (Pakpahan & Nikmah, 2024). The interconnection between digital environmental changes and work readiness is important because rapid technological developments can improve employability when students are capable of adapting to emerging technological demands (Kudriani et al., 2023). This study illustrates how students in eastern Indonesia respond to digital transformation and how digital environmental changes shape their work readiness. This

study is expected to enrich research on student work readiness and produce educational recommendations aligned with the demands of the digital era.

This phenomenon indicates that graduates who fail to adapt to digital developments are at risk of experiencing competency gaps. In the era of rapid digital transformation, universities must produce graduates who are academically competent and prepared for the digital workforce. Therefore, this study examines how Management students at the Faculty of Economics and Business, Universitas Muhammadiyah Makassar develop work readiness in response to changing digital environments. The research is academically significant in expanding the understanding of work readiness within digital transformation and practically valuable for supporting universities and stakeholders in designing effective strategies to strengthen students' digital competencies and employability.

In response to the increasing demand for work readiness in the digital era, previous studies have consistently identified digital competence as a key determinant of students' readiness to enter the workforce (Aliyah et al., 2025). Digital skills were found to have a significant influence on the work readiness of Generation Z in Indonesia (Riyanto & Astuti, 2023). Similarly, digital literacy and soft skills were reported to positively contribute to student work readiness at Universitas Sebelas Maret (Muliasari & Sudarno, 2024). Other studies revealed that digital literacy and career planning significantly influence students' work readiness in higher education settings (Aziz & Sofya, 2025). Furthermore, self-efficacy, emotional intelligence, and digital skills have been shown to play important roles in enhancing students' readiness to enter the labor market (Aryanto & Aryandha, 2025). Although these studies provide important insights, they predominantly focus on individual-level factors such as digital literacy, digital skills, soft skills, career planning, self-efficacy, and emotional intelligence as predictors of work readiness (Riyanto & Astuti, 2023; Muliasari & Sudarno, 2024; Aziz & Sofya, 2025; Aryanto & Aryandha, 2025).

However, limited attention has been devoted to understanding how broader changes and dynamics in the digital environment influence student work readiness. Previous studies have not comprehensively examined the impact of digital disruption, technological acceleration, changes in work patterns, and digital ecosystem dynamics on students' preparedness for employment. Moreover, most studies have been conducted in urban universities and have provided limited evidence from higher education institutions in eastern Indonesia. Although awareness of digital disruption and technological capability have been identified as important factors influencing workforce preparedness, these dimensions have rarely been integrated into a comprehensive framework of student work readiness (Az Zahra & Adam, 2024). Therefore, a clear research gap exists regarding the influence of digital environmental changes and dynamics on student work readiness, particularly among Management students at universities in eastern Indonesia.

The novelty of this study lies in examining the digital environment as a multidimensional construct encompassing technological change, digital disruption, accessibility, and digital transformation dynamics, rather than focusing solely on individual digital competencies. Unlike previous studies emphasizing digital literacy or career-related factors, this research investigates how broader digital environmental changes influence students' work readiness. It also provides empirical evidence from Universitas Muhammadiyah Makassar, representing higher education institutions in eastern Indonesia. Academically, the study enriches the literature on work readiness in the digital era, while practically offering insights for universities

to develop learning strategies, digital competency programs, and industry collaborations that enhance graduate employability.

Method

This study employed a quantitative research approach to examine the influence of digital environmental changes and digital environment dynamics on student work readiness. Quantitative research utilizes numerical data to test hypotheses and systematically analyze relationships among variables through statistical procedures (Sugiyono, 2017).

The research was conducted at the Faculty of Economics and Business, Universitas Muhammadiyah Makassar, located at Jalan Sultan Alauddin No. 259, Gunung Sari, Rappocini District, Makassar City, South Sulawesi, Indonesia. The study was carried out from January to February 2026. The target respondents were Management students because they are directly exposed to the impacts of digital transformation and are preparing to enter the workforce in a technology-driven environment.

The study utilized both primary and secondary data. Primary data were collected through questionnaires distributed to respondents, while secondary data were obtained from scientific journals, books, institutional documents, and research reports related to digital transformation, digital literacy, and work readiness. These secondary sources were used to support the theoretical framework and interpretation of the findings.

The population consisted of all active Management students at the Faculty of Economics and Business, Universitas Muhammadiyah Makassar, totaling 395 students based on the 2025 academic database. A sample of 80 students was selected using probability sampling with a purposive random sampling technique. This technique was employed to ensure that respondents met the research criteria while maintaining equal opportunities for selection and minimizing sampling bias.

Data were collected through questionnaires, observations, and documentation. The questionnaire served as the primary instrument and employed a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Observation was conducted to obtain supporting information regarding students' interaction with digital learning environments, while documentation was used to gather institutional and academic data relevant to the study.

Prior to data collection, the questionnaire underwent expert validation (expert judgment) involving two experts in management and educational research methodology. The validation process aimed to assess the relevance, clarity, and appropriateness of each indicator in measuring the research variables. Revisions were made based on the experts' recommendations before the instrument was distributed to respondents.

The variables were operationally defined as follows. Digital environmental change (X_1) refers to technological transformations affecting learning activities, communication patterns, and student adaptation in the digital era. Digital environment dynamics (X_2) refer to continuous, rapid, and complex technological developments requiring individuals to adapt to evolving digital systems. Student work readiness (Y) refers to students' preparedness to enter the workforce, including digital competence, adaptability, communication skills, collaboration skills, and understanding of digital work culture.

To determine the validity of the instrument, item validity testing was conducted using Pearson Product-Moment Correlation. An item was considered valid if the significance value

was less than 0.05 and the correlation coefficient exceeded the critical value of the correlation table. Reliability testing was conducted using Cronbach's Alpha. A reliability coefficient of 0.70 or higher indicated that the instrument had acceptable internal consistency and reliability.

The feasibility of the instrument based on expert validation was calculated using the following formula:

$$\text{Feasibility Percentage} = (\text{Obtained Score} / \text{Maximum Score}) \times 100\%$$

The feasibility criteria were categorized as follows: 81–100% = Very Feasible, 61–80% = Feasible, 41–60% = Moderately Feasible, 21–40% = Less Feasible, and $\leq 20\%$ = Not Feasible. The effectiveness and practicality of the instrument were evaluated descriptively based on respondents' assessment scores using the following formula:

$$\text{Percentage Score} = (\text{Total Obtained Score} / \text{Maximum Possible Score}) \times 100\%$$

The interpretation criteria were as follows: 81–100% = Very Effective/Very Practical, 61–80% = Effective/Practical, 41–60% = Moderately Effective/Moderately Practical, 21–40% = Less Effective/Less Practical, and $\leq 20\%$ = Ineffective/Impractical.

Data analysis was conducted using descriptive statistics and multiple linear regression analysis. Descriptive statistics were used to describe respondents' characteristics and the distribution of responses for each variable. Multiple linear regression analysis was employed to examine the influence of digital environmental change (X_1) and digital environment dynamics (X_2) on student work readiness (Y). The regression model used in this study was:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

where Y represents student work readiness, β_0 is the constant, β_1 and β_2 are regression coefficients, X_1 represents digital environmental change, X_2 represents digital environment dynamics, and ε represents the error term.

Prior to hypothesis testing, classical assumption tests were conducted, including normality, multicollinearity, and heteroscedasticity tests, to ensure that the regression model met statistical assumptions. Hypothesis testing was performed using the t-test to examine the partial effect of each independent variable, the F-test to examine simultaneous effects, and the coefficient of determination (R^2) to assess the extent to which the independent variables explained variations in student work readiness. All statistical analyses were performed using SPSS software with a significance level of 0.05.

Results

Respondent Characteristics

The characteristics of respondents in this study can be observed based on gender and the 2022 cohort students. The following presents the respondent characteristics used as the sample in this study. The characteristics include:

Respondent Characteristics Based on Gender

Based on the questionnaire distribution results, respondents' answers regarding gender are as follows:

Table 1. Respondent Characteristics Based on Gender

No	Gender	Frequency	Percentage
1	Male	30	37.5%
2	Female	50	62.5%
Total		80	100%

Based on Table 1, it can be seen that the respondents are students of the Management Study Program, class of 2022. There are 30 male respondents (37.5%), while female respondents are more dominant, totaling 50 people (62.5%). It can be concluded that the majority of students in the Management Study Program, class of 2022, are female students, totaling 50 students (62.5%).

Respondent Characteristics Based on Cohort

Table 2. Respondent Characteristics Based on Cohort

No	Cohort (Year of Entry)	Respondents	Percentage
1	2022	80	100%
Total		80	100%

Based on Table 2, it is known that the proportion of respondents based on the 2022 cohort is 80 respondents or 100%.

Description of Research Variables

Frequency Analysis of Digital Environmental Change and Score Calculation

To determine respondents' responses to each indicator and the calculation results of the Digital Environmental Change variable (X1), an analysis was conducted based on questionnaire responses, as shown in the following table:

Table 3. Respondents' Responses on Digital Environmental Change (X1)

Item		STS	TS	N	S	SS	N	Total Score	Mean
1	F	0	0	0	31	49	80	369	4,61
	%	0%	0%	0%	38,75%	61,25%			
2	F	0	0	0	7	38	80	348	4,35
	%	0%	0%	0%	8,75%	47,50%			
3	F	0	0	8	37	35	80	347	4,34
	%	0%	0%	10%	46,25%	43,75%			
4	F	0	1	15	34	30	80	33	4,16
	%	0%	1,25%	18,75%	42,50%	37,50%			
5	F	1	1	6	35	37	80	346	4,33
	%	1,25%	1,25%	7,50%	43,75%	46,25%			
6	F	0	1	10	38	31	80	339	4,24
	%	0%	1,25%	12,50%	47,50%	38,75%			
7	F	0	0	7	40	33	80	346	4,33
	%	0%	0%	8,75	50%	41,25%			
8	F	0	0	7	37	36	80	349	4,36
	%	0%	0%	8,75%	46,25%	45%			
9	F	0	0	8	38	34	80	346	4,33
	%	0%	0%	10%	47,50%	42,50%			
Total Mean									4,34

Based on Table 3, it can be concluded that respondents' perceptions of variable X1 are generally in the "agree" category with an average mean score of 4.34. This indicates that most respondents provided positive responses to the statements in this variable.

Frequency Analysis of Digital Environment Dynamics and Score Calculation

To determine respondents' responses to each indicator and the calculation results of the Digital Environment Dynamics variable (X2), an analysis was conducted based on questionnaire responses, as shown in the following table:

Table 4. Respondents' responses on digital environment dynamics (X2)

Item		STS	TS	N	S	SS	N	Total Score	Mean
1	F	0	0	9	39	32	80	343	4,29
	%	0%	0%	11,25%	48,75%	40%			
2	F	0	0	8	38	34	80	346	4,33
	%	0%	0%	10%	47,50%	42,50%			
3	F	0	0	7	37	36	80	349	4,36
	%	0%	0%	8,75%	46,25%	45%			
4	F	0	0	8	41	31	80	343	4,29
	%	0%	0%	10%	51,25%	38,75%			
5	F	0	0	8	39	33	80	345	4,31
	%	0%	0%	10%	48,75%	41,25%			
6	F	0	0	10	40	30	80	340	4,25
	%	0%	0%	12,50%	50%	37,50%			
7	F	0	0	8	37	35	80	347	4,34
	%	0%	0%	10%	46,25%	43,75%			
8	F	0	0	8	38	34	80	346	4,33
	%	0%	0%	10%	47,50%	42,50%			
9	F	0	0	8	40	32	80	344	4,30
	%	0%	0%	10%	50%	40%			
Total Mean									4,31

Based on Table 4, it can be concluded that respondents' perceptions of variable X2 are generally in the "agree" category with an average mean score of 4.31. This shows that most respondents gave positive responses to each statement, indicating that the indicators in variable X2 were considered good by the respondents.

Frequency Analysis of Student Work Readiness and Score Calculation

To determine respondents' responses to each indicator and the calculation results of the Student Work Readiness variable (Y), an analysis was conducted based on questionnaire responses, as shown in the following table:

Table 5. Respondents' responses on student work readiness (Y)

Item		STS	TS	N	S	SS	N	Total Score	Mean
1	F	0	0	8	39	33	80	345	4,31
	%	0%	0%	10%	48,75%	41,25%			
2	F	0	0	8	37	35	80	347	4,34
	%	0%	0%	10%	46,25%	43,75%			
3	F	0	0	8	38	34	80	346	4,33
	%	0%	0%	10%	47,50%	42,50%			
4	F	0	0	8	36	36	80	348	4,35
	%	0%	0%	10%	45%	45%			
5	F	0	0	8	40	32	80	344	4,30
	%	0%	0%	10%	50%	40%			
6	F	0	0	8	39	33	80	345	4,31
	%	0%	0%	10%	48,75%	41,25%			
7	F	0	0	8	41	31	80	343	4,29
	%	0%	0%	10%	51,25%	38,75%			
8	F	0	0	8	38	34	80	346	4,33
	%	0%	0%	10%	47,50%	42,50%			

Item	STS	TS	N	S	SS	N	Total Score	Mean
9 F	0	0	8	37	35	80	347	4,34
%	0%	0%	10%	46,25%	43,75%			
Total Mean								4,32

Based on Table 5, it can be concluded that respondents' perceptions of variable Y are generally in the "agree" category with an average mean score of 4.32. This indicates that most respondents provided positive evaluations of the statements in this variable. Thus, it can be concluded that the indicators of variable Y are considered good by the respondents in this study.

Results of Validity and Reliability Tests

Validity Test Results

A validity test is conducted to determine the extent to which a research instrument is able to accurately measure the concept it is intended to measure. An instrument is considered valid if it is able to produce accurate measurement results in accordance with the research objectives. The validity test is used to assess whether each statement item in the questionnaire is appropriate to be used as a data collection instrument. This test is carried out by comparing the calculated r-value (rcount) with the table r-value (rtable) at a certain significance level.

In this study, the number of respondents was 80, so the degree of freedom (df) = n – 2, namely df = 80 – 2 = 78. Using a significance level of 10% (0.10), the rtable value obtained was 0.185. A statement item is declared valid if rcount > 0.185. The complete results of the validity test are presented in the following tables.

Table 6. Validity test results of variable X1

Question	Corrected Item-Total (rcount)	Standardized Value (rtable)	Description
X1.1	0.463	0.185	Valid
X1.2	0.541	0.185	Valid
X1.3	0.643	0.185	Valid
X1.4	0.515	0.185	Valid
X1.5	0.538	0.185	Valid
X1.6	0.641	0.185	Valid
X1.7	0.494	0.185	Valid
X1.8	0.672	0.185	Valid
X1.9	0.628	0.185	Valid

Based on the table above, it can be seen that the Corrected Item-Total (rcount) values for each statement are greater than the standard value (rtable), rcount > rtable. Therefore, the validity test results indicate that the variable *digital environmental change (X1)* is valid.

Table 7. Validity test results of variable X2

Question	Corrected Item-Total (rcount)	Standardized Value (rtable)	Description
X2.1	0.699	0.185	Valid
X2.2	0.531	0.185	Valid
X2.3	0.622	0.185	Valid
X2.4	0.522	0.185	Valid
X2.5	0.623	0.185	Valid
X2.6	0.566	0.185	Valid
X2.7	0.563	0.185	Valid
X2.8	0.550	0.185	Valid
X2.9	0.633	0.185	Valid

Based on the table above, it can be seen that the Corrected Item-Total (rcount) values for each statement are greater than the standard value (rtable), $r_{count} > r_{table}$. Therefore, the validity test results indicate that the variable *digital environmental dynamics* (X2) is valid.

Table 8. Validity test results of variable Y

Question	Corrected Item-Total (rcount)	Standardized Value (rtable)	Description
Y1	0.623	0.185	Valid
Y2	0.669	0.185	Valid
Y3	0.697	0.185	Valid
Y4	0.607	0.185	Valid
Y5	0.585	0.185	Valid
Y6	0.692	0.185	Valid
Y7	0.517	0.185	Valid
Y8	0.724	0.185	Valid
Y9	0.711	0.185	Valid

Based on the table above, it can be seen that the Corrected Item-Total (rcount) values for each statement are greater than the standard value (rtable), $r_{count} > r_{table}$. Therefore, the validity test results indicate that the variable *student work readiness* (Y) is valid.

Reliability Test

The reliability test is conducted on valid items to ensure the consistency of respondents' answers and to assess the stability and reliability of the questionnaire as a measurement instrument, ensuring that the instrument is suitable for data collection. The reliability test is used to determine the extent to which measurements of the same object produce consistent data. The criterion used in this test is Cronbach's Alpha. An instrument is considered reliable if the Cronbach's Alpha value is greater than 0.60. Thus, if the Cronbach's Alpha value is above 0.60, the questionnaire items are considered consistent and reliable. The reliability test results in this study are presented below.

Table 9. Cronbach's alpha values of all variables

Cronbach's Alpha	N of Items
0.737	9
0.766	9
0.823	9

Table 9 indicates that all variables have Cronbach's alpha values above 0.70 (0.737–0.823), demonstrating acceptable reliability and internal consistency. Thus, the measurement instruments are suitable for further statistical analysis.

Table 10. Item-total statistics (cronbach's alpha)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X1.1	34.2625	10.677	.341	.726
X1.2	34.5250	10.025	.390	.718
X1.3	34.5375	9.518	.510	.698
X1.4	34.7125	9.853	.323	.732
X1.5	34.5500	9.719	.349	.727
X1.6	34.5500	9.668	.517	.698
X1.7	34.7875	14.410	.325	.729
X1.8	34.4875	9.291	.539	.692
X1.9	34.5875	9.309	.468	.704
X2.1	34.1875	10.433	.591	.723
X2.2	34.0750	11.184	.385	.753

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X2.3	34.0625	10.490	.539	.730
X2.4	34.3125	11.104	.362	.757
X2.5	34.0625	10.945	.509	.736
X2.6	34.0125	11.050	.429	.746
X2.7	34.4750	10.658	.386	.755
X2.8	34.3625	10.766	.375	.757
X2.9	34.1500	10.458	.489	.737
Y1	34.9125	10.537	.486	.810
Y2	34.9500	10.630	.564	.801
Y3	34.8875	10.531	.599	.797
Y4	35.1250	10.693	.473	.812
Y5	34.9250	10.728	.442	.816
Y6	34.7125	10.511	.590	.798
Y7	35.0000	11.165	.372	.823
Y8	34.8375	10.062	.616	.794
Y9	34.7500	10.595	.623	.796

Based on the table, it can be seen that all items in both independent variables (Digital Environmental Change and Digital Environmental Dynamics) and the dependent variable (Student Work Readiness) are declared reliable because the Cronbach's Alpha values are greater than 0.60. This indicates that the questionnaire used in this study meets the reliability criteria. Therefore, the research instrument is considered capable of accurately and consistently representing the research variables.

Classical Assumption Test

Normality Test

The normality test is conducted to determine whether the data has a normal distribution pattern or not. This test is important because many statistical analyses, including regression, require normally distributed data to produce valid, accurate, and reliable results.

Table 11. Normality test results

One-Sample Kolmogorov-Smirnov Test			Unstandardized Residual
N			79
Normal Parameters ^{a,b}	Mean		.0000000
	Std. Deviation		2.54322123
Most Extreme Differences	Absolute		.086
	Positive		.086
	Negative		-.071
Test Statistic			.086
Asymp. Sig. (2-tailed) ^c			.200 ^d
Monte Carlo Sig. (2-tailed) ^e	Sig.		.152
	99% Confidence Interval	Lower Bound	.142
		Upper Bound	.161

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 605580418.

Based on the SPSS output, the normality test in this study was conducted by considering the presence of outliers that may affect the data distribution. Therefore, outliers were identified and removed to obtain a more representative distribution. After data adjustment, the normality test was conducted again. The results show a significance value of 0.200, which is greater than 0.10. This indicates that the data is normally distributed. The normality test is also supported by the Normal P–P Plot graph, which shows that the data points follow the diagonal line, confirming normal distribution.

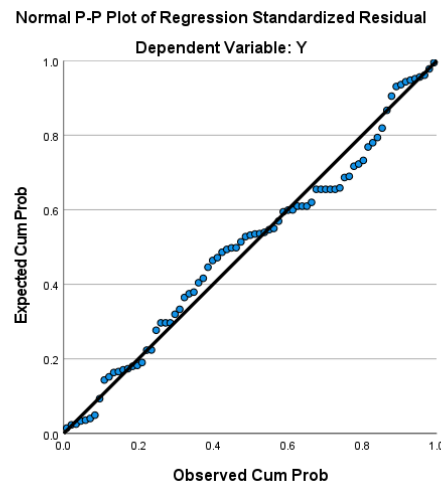


Figure 1. Normal P–P plot results

The Normal P–P Plot shows that the data distribution follows the diagonal line pattern, confirming that the data meets the assumption of normality.

Multicollinearity Test

The multicollinearity test aims to identify whether there is a high correlation between independent variables in the regression model.

Table 12. Multicollinearity test results

Coefficients ^a			
		Collinearity Statistics	
Model		Tolerance	VIF
1	(Constant)		
	Digital Environmental Change	.719	1.391
	Digital Environmental Dynamics	.719	1.391

a. Dependent Variable: Y

Based on the results, the Tolerance value for both variables is 0.719 (> 0.10) and the VIF value is 1.391 (< 10). This indicates that no multicollinearity problem exists among the independent variables.

Heteroscedasticity Test Results

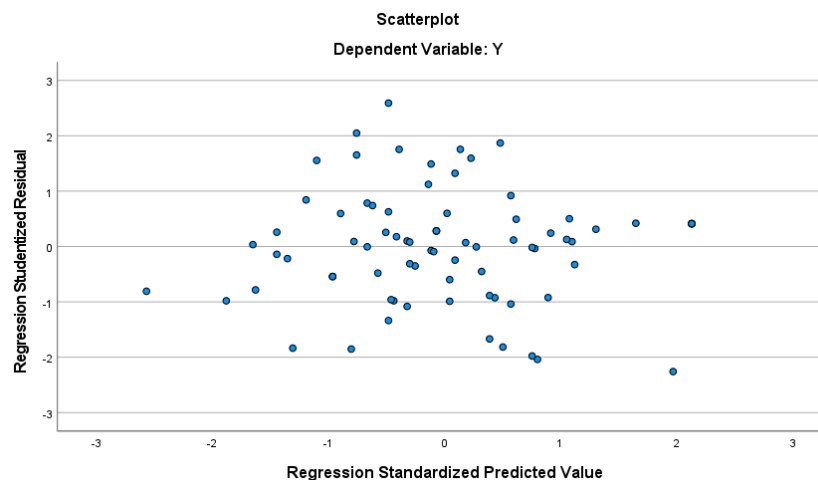
Table 13. Heteroscedasticity test results

Coefficients ^a		
Model		Sig.
1	(Constant)	.247
	Digital Environmental Change	.366
	Digital Environmental Dynamics	.181

a. Dependent Variable: Abs_RES

The significance value for the digital environmental change variable is 0.366 and for digital environmental dynamics is 0.181, both of which are greater than 0.10.

Figure 2. Heteroscedasticity test results (scatterplot)



Based on the scatterplot, the points are randomly spread and do not form a clear pattern above or below the zero line. This indicates that the regression model does not experience heteroscedasticity. Therefore, the homoscedasticity assumption is met, and the model is suitable for further analysis.

Multiple Linear Regression Test

Multiple linear regression analysis is used to determine the effect of several independent variables on one dependent variable simultaneously. Through this method, it can be seen to what extent each independent variable contributes to explaining the variation that occurs in the dependent variable.

Table 14. Multiple Linear Regression Test Results

Coefficients ^a				
Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	10.989	3.916	
	Digital Environmental Change	.342	.106	.336
	Digital Environmental Dynamics	.391	.102	.398
a. Dependent Variable: Student Work Readiness				

The regression coefficient for the variable digital environmental change (X1) of 0.342 indicates that every increase in the dynamics and changes in the digital environment will be followed by an increase in student work readiness. Meanwhile, the coefficient for the digital environmental dynamics variable (X2) of 0.391 also indicates a positive effect on student work readiness.

Based on these regression coefficients, it can be seen that the digital environmental dynamics variable (X2) has a larger coefficient value than the digital environmental change variable (X1). This shows that digital environmental dynamics has a more dominant influence on student work readiness. Nevertheless, both independent variables simultaneously still have a positive influence on the work readiness of Management students at the Faculty of

Economics and Business, Universitas Muhammadiyah Makassar in the era of digital transformation.

Hypothesis Test

t-Test Results (Partial)

The t-test aims to determine the partial effect of each independent variable on the dependent variable. Through this test, it can be determined whether each variable has a significant influence in the research model.

Table 15. t-Test results (partial)

Coefficients ^a			
	Model	t	Sig.
1	(Constant)	2.806	0.006
	Digital Environmental Change	3.241	0.002
	Digital Environmental Dynamics	3.840	0.000
a. Dependent Variable: Student Work Readiness			

Based on the partial test results (t-test), the digital environmental change variable (X1) has a significance value of 0.000, which is smaller than the threshold of 0.10, and a t-value of 3.241. These results indicate that digital environmental change has a positive and significant effect on student work readiness; therefore, the proposed hypothesis is accepted. This condition shows that the better students are at facing technological changes, keeping up with digital developments, and adapting to the demands of the digital-based job market, the higher their level of work readiness will be.

The test results for the digital environmental dynamics variable (X2) show a significance value of 0.000, which is below 0.10, with a t-value of 3.840. This finding indicates that digital environmental dynamics have a positive and significant effect on student work readiness; therefore, the hypothesis is also accepted. This reflects that the ability to understand rapid technological changes, adapt to digital developments, and utilize technology in the learning process contributes to improving students' readiness to enter the workforce.

Overall, the t-test results show that each independent variable—digital environmental change and digital environmental dynamics—has a significant partial effect on the work readiness of Management students at the Faculty of Economics and Business, Universitas Muhammadiyah Makassar in the era of digital transformation. These findings emphasize that student work readiness is strongly influenced by the ability to adapt to continuously changing digital environments and reinforce the importance of digital literacy in supporting readiness for the modern workforce.

F-Test Results (Simultaneous)

The F-test aims to determine the simultaneous effect of all independent variables on the dependent variable. This test determines whether the independent variables collectively have a significant influence in the research model. Based on the F-test (ANOVA) results, the calculated F-value is 26.729 with a significance level of 0.000, which is below the threshold of 0.10. This indicates that digital environmental change and digital environmental dynamics simultaneously have a significant effect on student work readiness. Therefore, the regression model used in this study is considered feasible, and the hypothesis is accepted.

Coefficient of Determination (R^2) Test

The coefficient of determination test is used to determine how well the model explains the variation in the dependent variable. The R^2 value represents the percentage contribution of the independent variables in explaining changes in the dependent variable, while the rest is influenced by other factors not included in the research model.

Table 17. Coefficient of determination (R^2) test results

Model	R	Model Summary		
		R Square	Adjusted R Square	Std. Error of the Estimate
1	.643 ^a	.413	.397	2.576
a. Predictors: (Constant), Digital Environmental Dynamics, Digital Environmental Change				

Based on the coefficient of determination results, the R Square value is 0.413. This indicates that 41.3% of the variation in student work readiness can be explained by digital environmental change and digital environmental dynamics. Meanwhile, the remaining 58.7% is influenced by other factors outside the research model. Thus, the model's ability to explain the dependent variable is considered moderately strong

Discussion

The findings of this study demonstrate that digital environment change and digital environment dynamics significantly influence students' work readiness. The multiple linear regression analysis, supported by the t-test, F-test, and coefficient of determination (R^2), confirms that both variables contribute positively to preparing students for the demands of the modern workforce. These findings highlight the increasing importance of digital transformation in shaping the competencies required in the contemporary labor market.

The t-test results indicate that digital environment change has a positive and significant effect on students' work readiness. This finding suggests that the increasing integration of digital technologies into educational and social environments contributes to the development of competencies needed in professional settings. The emergence of digital platforms, online collaboration tools, artificial intelligence applications, and technology-driven learning systems has transformed the way students acquire knowledge and develop skills. Consequently, students who are exposed to these technological changes tend to be more prepared to adapt to workplace requirements.

The positive relationship between digital environment change and work readiness can be explained through Human Capital Theory, which emphasizes that investments in knowledge, skills, and competencies enhance an individual's productivity and employability. Digital technologies provide opportunities for students to acquire technical skills, information literacy, communication abilities, and problem-solving competencies that are highly valued by employers. Therefore, the continuous evolution of digital technologies creates learning opportunities that strengthen students' readiness to enter the workforce.

The findings are consistent with previous studies that emphasize the importance of digital literacy in improving employability and work readiness. Digital literacy significantly contributes to an individual's preparedness for employment by enhancing technological competence and adaptability (Dianti et al., 2025). Similarly, students with higher levels of digital skills demonstrate greater confidence and readiness to face professional challenges (Muliasari & Sudarno, 2024). These studies support the argument that digital environment change acts as an external driver that encourages students to continuously develop relevant competencies.

Furthermore, the results reveal that digital environment dynamics also have a positive and significant effect on students' work readiness. Digital environment dynamics refer to the rapid pace of technological development, continuous innovation, and frequent changes in digital systems and work processes. The positive regression coefficient indicates that students who are capable of adapting to these dynamic conditions tend to exhibit higher levels of work readiness.

This finding can be interpreted through the lens of Adaptability Theory, which suggests that individuals who successfully adjust to changing environments are more likely to perform effectively in uncertain situations. In today's digital economy, organizations increasingly seek employees who can respond quickly to technological disruptions, learn new systems efficiently, and remain productive in rapidly changing work environments. Therefore, exposure to digital dynamics encourages students to develop flexibility, resilience, and lifelong learning capabilities, which are essential components of work readiness.

The significant effect of digital environment dynamics is supported by previous studies highlighting the importance of adaptability and psychological readiness. Self-efficacy, motivation, and adaptability significantly influence students' preparedness for employment (Tiyanti et al., 2025). Individuals who possess strong adaptive capabilities are better equipped to respond to workplace challenges and technological changes (Tiyanti et al., 2025). Likewise, digital literacy, practical experience, and adaptive skills collectively contribute to improving work readiness (Putri et al., 2025). These findings reinforce the notion that dynamic digital environments not only present challenges but also create opportunities for students to strengthen their competencies.

The simultaneous test (F-test) further confirms that digital environment change and digital environment dynamics collectively influence students' work readiness. The significance of the regression model indicates that these variables should not be viewed independently. Instead, they interact in shaping students' preparedness for employment. Digital environment change provides access to technological resources and learning opportunities, while digital environment dynamics require students to continuously adapt to evolving conditions. Together, these factors create a comprehensive framework that supports the development of work-ready graduates.

The interaction between these variables reflects the reality of the modern workforce, where technological innovation and continuous change occur simultaneously. Students are not only expected to understand digital technologies but also to adapt to ongoing developments. Consequently, educational institutions must focus not only on teaching technical competencies but also on fostering adaptability, critical thinking, creativity, and problem-solving skills. Such competencies are increasingly recognized as essential for success in the digital economy.

The coefficient of determination (R^2) indicates that digital environment change and digital environment dynamics explain a substantial proportion of the variance in students' work readiness. This finding demonstrates that digital factors play a significant role in shaping students' preparedness for employment. However, the remaining unexplained variance suggests that other factors outside the research model also contribute to work readiness.

Several studies have identified additional determinants of work readiness, including work experience, internship participation, communication skills, emotional intelligence, self-efficacy, career planning, and professional networking. Soft skills such as teamwork, leadership, and interpersonal communication are also considered critical components of employability.

Therefore, although digital environmental factors are important predictors, work readiness remains a multidimensional construct influenced by a combination of technological, psychological, educational, and social factors.

From a practical perspective, the findings of this study provide important implications for higher education institutions. Universities should strengthen digital-based learning strategies by integrating emerging technologies into curricula and promoting experiential learning opportunities. Educational programs should focus on enhancing digital literacy, technological competence, and adaptive learning skills to ensure that graduates are prepared for rapidly evolving workplace demands. Furthermore, collaboration between universities and industry partners can facilitate the development of practical skills that align with labor market expectations.

For policymakers, the results suggest the need for educational policies that support digital transformation in higher education. Investments in digital infrastructure, online learning platforms, and technology-based training programs can help students acquire competencies that are increasingly demanded in the workforce. In addition, policies promoting lifelong learning and continuous skill development can contribute to improving graduate employability in the long term.

The findings also have implications for students themselves. In an increasingly digitalized labor market, students must actively develop their technological competencies and cultivate adaptive learning habits. Continuous self-development, participation in digital training programs, and engagement with emerging technologies can enhance their competitiveness and readiness for employment.

Overall, the results of this study confirm that digital environment change and digital environment dynamics are significant determinants of students' work readiness. Digital transformation creates opportunities for skill development, while dynamic technological environments encourage adaptability and continuous learning. The combination of these factors contributes significantly to preparing students for the challenges of the digital workforce. These findings support previous research emphasizing the critical role of digital competencies and adaptability in employability and suggest that work readiness in the digital era depends not only on academic achievement but also on an individual's ability to effectively respond to technological change and environmental uncertainty.

Conclusion

This study aimed to examine the effect of digital environment change and digital environment dynamics on students' work readiness. The results confirm that both variables have a positive and significant influence on work readiness. The partial test shows that digital environment change significantly affects students' work readiness ($t = 3.241$; $p = 0.002$), while digital environment dynamics also has a significant effect ($t = 3.840$; $p = 0.000$). Furthermore, the simultaneous test indicates that both variables jointly influence work readiness ($F = 26.729$; $p = 0.000$). The coefficient of determination ($R^2 = 0.413$) reveals that 41.3% of the variation in students' work readiness can be explained by the two independent variables, while the remaining 58.7% is influenced by other factors outside the model.

These findings confirm that the research objectives have been achieved and that adaptation to digital transformation, technological developments, and dynamic digital environments plays an important role in preparing students for the workforce. The study

highlights the need for higher education institutions to strengthen digital-based learning, improve digital literacy, and develop students' adaptability to technological change.

The practical implication of this study is that universities should integrate digital competencies and adaptive learning strategies into their curricula to enhance graduate employability. However, this study is limited by the inclusion of only two explanatory variables and the focus on a single study program. Future research is recommended to incorporate additional factors such as self-efficacy, soft skills, work experience, and motivation, as well as to expand the research scope across different institutions and employ mixed-method approaches to obtain more comprehensive insights into students' work readiness.

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