

The Influence Of Digital Literacy 5.0, Grit, Soft And Hard Skills On Work Readiness Mediated By Career Adaptability (A Study Of Students In The Department Of Geography, FMIPA UI)

Putri Aprilia Kurniasih¹, Mohammad Abdul Mukhyi²

^{1,2} Gunadarma University

Email Corresponding

Author: putriapriak741@gmail.com, mukhyi@staff.gunadarma.ac.id

Abstract

The Industrial Revolution 5.0 demands that students have work readiness supported by digital literacy 5.0, grit, soft skills, hard skills, and the ability to adapt to career changes. This study aims to analyze the influence of Digital Literacy 5.0, Grit, Soft and Hard Skills on Work Readiness and the role of Career Adaptability as a mediating variable of students in the Department of Geography, Faculty of Mathematics and Natural Sciences, University of Indonesia. The study used a quantitative approach with a causal design. The study population consisted of 544 students from the 2020 to 2023 intake, with 155 respondents selected through purposive sampling. Data were collected using an online questionnaire with a Likert scale of 1 to 7 and analyzed using Structural Equation Modeling Partial Least Squares through SmartPLS 4. The results showed that Digital Literacy 5.0, Grit, Soft Skills, Hard Skills, and Career Adaptability had a positive and significant effect on Work Readiness. Career Adaptability also significantly mediated the influence of these four variables on Work Readiness. The research conclusion shows that improving students' Work Readiness needs to be done through strengthening digital literacy 5.0, grit, soft skills, hard skills, and career adaptability capacity in an integrated manner.

Keywords: Digital Literacy 5.0, Grit, Soft Skills, Hard Skills, Work Readiness, Career Adaptability



INTRODUCTION

In the era of the Industrial Revolution 5.0, technology is evolving alongside humans to create a resilient, safe, and well-being-oriented work environment (Breque, M., De Nul, L., & Petridis, A., 2021). Productivity is also influenced by ergonomic and human-oriented work design. Research by Muttaqin, I. (2025) shows that adapting the work environment to human capabilities and utilizing modern technology can improve worker efficiency, health, comfort, and satisfaction.

Digital transformation demands that the workforce not only master academic material, but also technology and work flexibility. Putra, YI, Idrus, A., Friman, & Sofyan. (2026) showed that digital literacy is the most influential element in shaping students' work readiness. In Indonesia, this condition is crucial because the open unemployment rate in 2025 will still reach 4.31% for Diploma I/II/III graduates and 5.39% for university graduates, indicating challenges in workforce absorption. Students in the Department of Geography, the Faculty of Mathematics and Natural Sciences, University of Indonesia (UI) possess competencies in spatial analysis, GIS, remote sensing, cartography, field surveys, and environmental and regional analysis. These competencies open up work opportunities in various sectors, but technological advancements require graduates to also master GIS software, spatial data analysis, programming, and the ability to adapt to new technologies.

Work readiness issues are also evident in the high proportion of graduates who are not actively seeking work or are still seeking work but are uncertain about finding one in the near future. This situation highlights the challenges in the transition from education to the workforce and the need to improve work readiness to meet the demands of the evolving workforce.

Work readiness can be influenced by Digital Literacy 5.0, Grit, Soft Skills, and Hard Skills. Winarno, W., Ninghardjanti, P., Subarno, A., & Choerul Umam, M. (2024) showed a positive and significant contribution of digital literacy to work readiness, while Diva, V., & Satwika, P.A. (2024) showed a significant influence of grit on work readiness. Prikshat, V., Montague, A., Connell, J., & Burgess, J. (2020) showed that the deficit of soft and hard skills is the cause of the low work readiness of graduates.

However, mastering these factors does not necessarily improve work readiness without good Career Adaptability. Career adaptability helps students plan and adjust to changes and face career challenges. Diva & Satwika (2024) showed that career adaptability has a significant effect on work readiness. This study aims to analyze the influence of Digital Literacy 5.0, Grit, Soft Skills, and Hard Skills on Work Readiness and the role of Career Adaptability as a mediating variable. The urgency lies in the effort to understand the factors that influence the work readiness of students in the Department of Geography, FMIPA UI, while the novelty lies in the integration of these four factors in



one model with Career Adaptability as a mediating variable that is still limited to research on students in the Department of Geography, FMIPA UI.

METHOD

This study uses a quantitative approach with a causal research type to analyze the influence of Digital Literacy 5.0, Grit, Soft Skills, and Hard Skills on Work Readiness with Career Adaptability as a mediating variable (Sugiyono, 2023).

The research instrument was an online questionnaire via Google Form with a Likert scale of 1 to 7. The research variables included Digital Literacy 5.0, Grit, Soft Skills, Hard Skills, Work Readiness, and Career Adaptability with indicators referring to Winarno et al. (2024), Diva & Satwika (2024), Prikshat et al. (2020), and Orr et al. (2023). Data analysis used SEM-PLS with the help of SmartPLS 4 through testing the outer model and inner model (Hair et al., 2021; Ghozali & Kusumadewi, 2023).

The study population was 544 students of the Department of Geography, Faculty of Mathematics and Natural Sciences, University of Indonesia, from the class of 2020 to 2023. The sample was determined using non-probability sampling with a purposive sampling method based on the criteria of active students from the class of 2020 to 2023. The Yamane formula produced a minimum of 149 respondents, while the data obtained were 155 respondents.

The research procedure was carried out through problem identification, variable determination, instrument development, data collection through an online questionnaire, data analysis, and conclusion drawing. The SEM-PLS analysis included evaluating the validity and reliability of the outer model and testing the relationships between variables in the inner model using the path coefficient, R-square, F-square, Q-square, and bootstrapping (Hair et al., 2021; Ghozali & Kusumadewi, 2023; Sihombing et al., 2024).

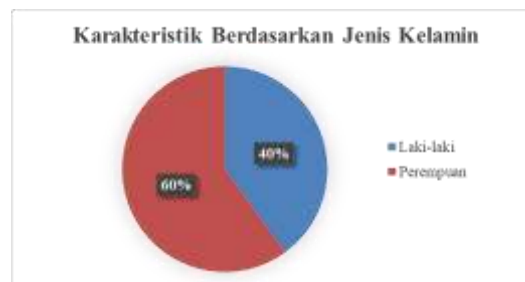
Results and Discussion

Descriptive Analysis



Picture 1 Respondent Age

Based on Figure 1, the majority of respondents were aged 22–23 years. This indicates that most respondents were final-year students preparing to enter the workforce.



Picture 2 Respondent Gender

Based on Figure 2, the majority of respondents were female. This dominance indicates the high level of female student involvement in Geography, which requires analytical skills, quantitative data processing, and numerical thinking.



Picture 3 Respondent Group

Based on Figure 3, the majority of respondents were from the Class of 2022, predominantly aged 22–23. Students in this class were generally in their final semester and had both academic and practical experience, such as practicums, fieldwork, internships, and final assignments, thus being deemed sufficient to assess work readiness.



Picture 4 Respondent Semester

Based on Figure 4, the majority of respondents are in Semester 8 and most are from the Class of 2022. As final-year students, they have generally completed most of their lectures, practicums, field activities, internships, and final assignments, thus possessing sufficient knowledge and skills to assess their work readiness.

Table 1 Interval Class

Category	Weight
Strongly Disagree	155 – 287.86
Don't agree	288.86 -421.72
Somewhat Disagree	422.72 - 555.58
Neutral	556.58 - 689.44
Somewhat Agree	690.44 - 823.3
Agree	824.3 - 957.16
Strongly agree	958.16 - 1,091.02

Table 2 Respondents' Responses to the Digital Literacy 5.0 Variable

Statement Items	Weight Assessment	Score							Total Score
		ST S	TS	AT S	N	US	S	SS	
Statement 1	Frequency	1	5	26	55	37	26	5	685
	Mark	1	10	78	220	185	156	35	
Statement 2	Frequency	0	4	21	50	59	19	2	694
	Mark	0	8	63	200	295	114	14	
Statement 3	Frequency	1	4	21	39	58	24	8	718
	Mark	1	8	63	156	290	144	56	

Statement 4	Frequency	0	5	29	52	42	22	5	682
	Mark	0	10	87	208	210	132	35	
Statement 5	Frequency	0	6	12	48	60	18	11	725
	Mark	0	12	36	192	300	108	77	
Statement 6	Frequency	0	5	21	54	43	27	5	701
	Mark	0	10	63	216	215	162	35	
Statement 7	Frequency	0	2	20	47	54	21	11	725
	Mark	0	4	60	188	270	126	77	
Amount									4930
Average Score of Statement									704.29

Based on Table 2, a total score of 4,930 was obtained from seven items in the Digital Literacy 5.0 variable with a total of 155 student respondents. The average score of 704.29 is in the somewhat agree category, indicating that the majority of respondents view digital literacy 5.0 as a fairly important competency in preparing for entering the workforce.

Table 3 Respondents' Responses to the Grit Variable

Statement Items	Weight Assessment	Score							Total Score
		STS	TS	ATS	N	US	S	SS	
Statement 1	Frequency	0	3	22	49	47	24	10	717
	Mark	0	6	66	196	235	144	70	
Statement 2	Frequency	0	5	15	43	61	25	6	724
	Mark	0	10	45	172	305	150	42	
Statement 3	Frequency	0	3	25	52	48	21	6	697
	Mark	0	6	75	208	240	126	42	
Statement 4	Frequency	0	3	23	43	51	25	10	722
	Mark	0	6	69	172	255	150	70	
Statement 5	Frequency	0	3	18	51	50	26	7	719
	Mark	0	6	54	204	250	156	49	
Statement 6	Frequency	0	6	14	46	57	25	7	722
	Mark	0	12	42	184	285	150	49	
Statement 7	Frequency	0	6	24	57	42	20	6	684
	Mark	0	12	72	228	210	120	42	

Statement Items	Weight Assessment	Score							Total Score
		STS	TS	ATS	N	US	S	SS	
Amount									4985
Average Score of Statement									712.14

Based on Table 3, the Grit variable obtained a total score of 4,985 from seven items with 155 respondents and an average of 712.14 in the somewhat agree category. This indicates that students view grit, tenacity, and consistency as quite important in improving work readiness. The highest score of 724 was found for the statement "I continue to strive to achieve my work targets even though the results are not immediately visible," while the lowest score of 684 was found for the statement "I am consistent in pursuing my goals," which indicates that consistency in achieving long-term goals remains a challenge for some students.

Table 4 Respondents' Responses to Soft Skills Variables

Statement Items	Weight Assessment	Score							Total Score
		STS	TS	ATS	N	US	S	SS	
Statement 1	Frequency	0	6	22	58	47	18	4	681
	Mark	0	12	66	232	235	108	28	
Statement 2	Frequency	1	4	17	47	57	22	7	714
	Mark	1	8	51	188	285	132	49	
Statement 3	Frequency	0	5	25	51	46	23	5	692
	Mark	0	10	75	204	230	138	35	
Statement 4	Frequency	1	3	21	47	51	22	10	715
	Mark	1	6	63	188	255	132	70	
Statement 5	Frequency	2	8	16	65	41	20	3	672
	Mark	2	16	48	260	205	120	21	
Statement 6	Frequency	1	2	19	60	46	20	7	701
	Mark	1	4	57	240	230	120	49	
Statement 7	Frequency	2	1	20	51	50	26	5	709
	Mark	2	2	60	204	250	156	35	
Amount									4884
Average Score of Statement									697.71

Based on Table 4, the Soft Skills variable obtained a total score of 4,884 from seven items with 155 respondents and an average of 697.71 in the somewhat agree category. This indicates that students view soft skills, such as communication,



cooperation, and adaptation, as quite important in improving work readiness. The highest score of 715 was found for the statement "I feel ready to face various tasks and responsibilities at work," while the lowest score of 672 was found for the statement "I am confident in working together with colleagues or a team to complete tasks," which indicates that teamwork skills still need to be improved.

Table 5 Respondents' Responses to the Hard Skills Variable

Statement Items	Weight Assessment	Score							Total Score
		STS	TS	ATS	N	US	S	SS	
Statement 1	Frequency	0	2	19	51	47	29	7	723
	Mark	0	4	57	204	235	174	49	
Statement 2	Frequency	0	5	14	57	50	20	9	713
	Mark	0	10	42	228	250	120	63	
Statement 3	Frequency	1	8	19	53	45	25	4	689
	Mark	1	16	57	212	225	150	28	
Statement 4	Frequency	1	5	25	52	51	11	10	685
	Mark	1	10	75	208	255	66	70	
Statement 5	Frequency	0	5	19	60	45	18	8	696
	Mark	0	10	57	240	225	108	56	
Statement 6	Frequency	0	2	17	50	53	25	8	726
	Mark	0	4	51	200	265	150	56	
Statement 7	Frequency	0	2	20	49	50	27	7	721
	Mark	0	4	60	196	250	162	49	
Amount									4953
Average Score of Statement									707.57

Based on Table 5, Hard Skills scored 4,953 with an average of 707.57, in the somewhat agree category. The highest score of 726 indicates the skills to learn new software, while the lowest score of 685 indicates that software mastery in the field of study still needs improvement.

Table 6 Respondents' Responses to the Work Readiness Variable

Statement Items	Weight Assessment	Score							Total Score
		STS	TS	ATS	N	US	S	SS	
Statement 1	Frequency	0	1	26	48	49	23	8	711
	Mark	0	2	78	192	245	138	56	
	Frequency	0	4	26	49	47	25	4	695

Statement 2	Mark	0	8	78	196	235	150	28	
Statement 3	Frequency	0	5	23	49	49	21	8	702
	Mark	0	10	69	196	245	126	56	
Statement 4	Frequency	0	2	23	54	51	17	8	702
	Mark	0	4	69	216	255	102	56	
Statement 5	Frequency	0	6	34	39	55	17	4	675
	Mark	0	12	102	156	275	102	28	
Statement 6	Frequency	1	7	24	43	52	25	3	690
	Mark	1	14	72	172	260	150	21	
Statement 7	Frequency	0	4	27	51	37	32	4	698
	Mark	0	8	81	204	185	192	28	
Amount									4873
Average Score of Statement									696.14

Based on Table 6, Work Readiness scored 4,873 with an average of 696.14, in the somewhat agree category. The highest score of 711 indicates the ability to solve problems independently, while the lowest score of 675 indicates that the skills to adapt to the work environment still needs improvement.

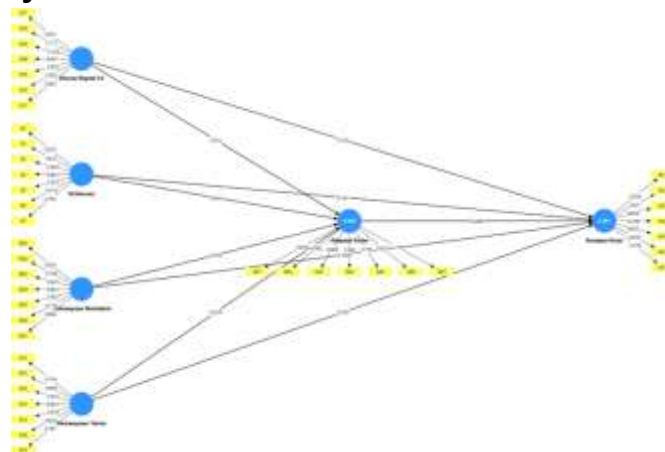
Table 7 Respondents' Responses to Career Adaptability Variables

Statement Items	Weight Assessment	Score							Total Score
		STS	TS	ATS	N	US	S	SS	
Statement 1	Frequency	1	5	16	56	45	23	9	709
	Mark	1	10	48	224	225	138	63	
Statement 2	Frequency	0	4	25	47	53	21	5	697
	Mark	0	8	75	188	265	126	35	
Statement 3	Frequency	0	6	21	55	48	21	4	689
	Mark	0	12	63	220	240	126	28	
Statement 4	Frequency	1	6	22	39	63	17	7	701
	Mark	1	12	66	156	315	102	49	
Statement 5	Frequency	0	1	23	44	50	33	4	723
	Mark	0	2	69	176	250	198	28	
Statement 6	Frequency	2	6	24	59	34	22	8	680
	Mark	2	12	72	236	170	132	56	
Statement 7	Frequency	0	2	27	44	49	29	4	708
	Mark	0	4	81	176	245	174	28	

Statement Items	Weight Assessment	Score							Total Score
		STS	TS	ATS	N	US	S	SS	
Amount									4907
Average Score of Statement									701

Based on Table 7, Career Adaptability scored 4,907 with an average of 701, in the somewhat agree category. The highest score of 723 indicates students' skills to adapt to work changes, while the lowest score of 680 indicates that the skills to adapt work methods to new work demands still needs improvement.

Research Data Analysis Results



Picture 5 Outer Model

Table 8 Convergent Validity Test Results (Outer Loading)

	Digital Literacy 5.0	Grit	Soft Skills	Hard Skills	Work Readiness	Career Adaptability
DL1	0.831					
DL2	0.771					
DL3	0.798					
DL4	0.831					
DL5	0.825					
DL6	0.826					
DL7	0.813					
G1		0.833				
G2		0.812				
G3		0.845				

	Digital Literacy 5.0	Grit	Soft Skills	Hard Skills	Work Readiness	Career Adaptability
G4		0.843				
G5		0.823				
G6		0.775				
G7		0.791				
SS1			0.824			
SS2			0.798			
SS3			0.821			
SS4			0.833			
SS5			0.802			
SS6			0.776			
SS7			0.866			
HS1				0.774		
HS2				0.803		
HS3				0.810		
HS4				0.823		
HS5				0.804		
HS6				0.832		
HS7				0.791		
WR1					0.835	
WR2					0.827	
WR3					0.835	
WR4					0.799	
WR5					0.823	
WR6					0.829	
WR7					0.778	
CA1						0.815
CA2						0.802
CA3						0.805
CA4						0.808
CA5						0.779
CA6						0.823
CA7						0.779

Based on Table 8, all indicators meet the convergent validity criteria, having outer loading values between 0.771 and 0.866. According to Hair et al. (2021), an indicator is considered valid if its outer loading value is ≥ 0.70 , thus all items are considered valid and suitable for further analysis.

Table 9 Convergent Validity (AVE) Test Results

	Average Variance Extracted (AVE)
Digital Literacy 5.0	0.663
Grit	0.669
Soft Skills	0.668
Hard Skills	0.649
Work Readiness	0.670
Career Adaptability	0.643

Based on Table 9, all constructs meet the convergent validity criteria because they have an AVE value ≥ 0.50 . According to Hair et al. (2021), this value indicates that each construct is able to explain more than 50% of the indicator variance, thus all variables are declared valid and suitable for further analysis.

Table 10 Discriminant Validity Test Results (Fornell-Larcker Criterion)

	Digital Literacy 5.0	Grit	Soft Skills	Hard Skills	Work Readiness	Career Adaptability
Digital Literacy 5.0	0.814	0.095	0.123	0.196	0.387	0.384
Grit		0.818	0.243	0.022	0.420	0.480
Soft Skills			0.818			0.480
Hard Skills			0.008	0.805		0.387
Work Readiness			0.441	0.418	0.818	0.710
Career Adaptability						0.802

Based on Table 10, all constructs have met discriminant validity based on the Fornell-Larcker Criterion, as the root mean AVE value for each construct is greater than its correlation with other constructs (Hair et al., 2021). In the Cross-Loadings test, each

indicator must also have the highest loading value on the construct it measures compared to other constructs, so that the indicator better represents the original construct.

Table 11 Discriminant Validity Test Results (Cross Loadings)

	Digital Literacy 5.0	Grit	Soft Skills	Hard Skills	Work Readiness	Career Adaptability
DL1	0.831	0.107	0.128	0.175	0.356	0.329
DL2	0.771	0.075	0.119	0.073	0.241	0.264
DL3	0.798	0.087	0.057	0.189	0.265	0.319
DL4	0.831	0.032	0.182	0.166	0.319	0.311
DL5	0.825	0.099	0.078	0.153	0.309	0.278
DL6	0.826	0.030	0.047	0.122	0.310	0.316
DL7	0.813	0.106	0.088	0.213	0.377	0.355
G1	0.088	0.833	0.239	-0.009	0.306	0.381
G2	0.107	0.812	0.249	-0.010	0.316	0.384
G3	0.035	0.845	0.206	0.028	0.365	0.430
G4	0.143	0.843	0.213	0.026	0.357	0.414
G5	0.116	0.823	0.178	0.051	0.398	0.418
G6	0.009	0.775	0.157	-0.042	0.285	0.354
G7	0.034	0.791	0.147	0.067	0.360	0.354
SS1	0.125	0.288	0.824	0.015	0.373	0.424
SS2	0.148	0.186	0.798	-0.025	0.321	0.421
SS3	0.076	0.118	0.821	0.029	0.422	0.356
SS4	0.069	0.143	0.833	0.015	0.349	0.449
SS5	0.068	0.210	0.802	-0.038	0.331	0.325
SS6	0.099	0.177	0.776	0.016	0.357	0.348
SS7	0.115	0.265	0.866	0.026	0.368	0.407
HS1	0.192	- 0.016	-0.033	0.774	0.304	0.301
HS2	0.120	0.010	0.054	0.803	0.312	0.257
HS3	0.120	0.046	0.071	0.810	0.377	0.325
HS4	0.187	- 0.012	-0.043	0.823	0.395	0.321
HS5	0.140	0.031	0.051	0.804	0.365	0.326
HS6	0.177	- 0.008	-0.020	0.832	0.295	0.289

	Digital Literacy 5.0	Grit	Soft Skills	Hard Skills	Work Readiness	Career Adaptability
HS7	0.169	0.068	-0.036	0.791	0.284	0.350
WR1	0.363	0.379	0.312	0.304	0.835	0.592
WR2	0.371	0.363	0.344	0.350	0.827	0.575
WR3	0.288	0.372	0.429	0.327	0.835	0.586
WR4	0.258	0.322	0.399	0.303	0.799	0.523
WR5	0.276	0.307	0.387	0.474	0.823	0.658
WR6	0.341	0.329	0.289	0.343	0.829	0.576
WR7	0.320	0.334	0.365	0.271	0.778	0.541
CA1	0.335	0.444	0.358	0.320	0.517	0.815
CA2	0.312	0.390	0.346	0.308	0.576	0.802
CA3	0.290	0.382	0.421	0.315	0.569	0.805
CA4	0.313	0.340	0.435	0.362	0.626	0.808
CA5	0.286	0.374	0.410	0.297	0.503	0.779
CA6	0.339	0.439	0.403	0.327	0.637	0.823
CA7	0.274	0.313	0.306	0.228	0.538	0.779

Based on Table 11, all indicators have met the discriminant validity criteria through the Cross-Loadings test, as each indicator has the highest loading value on the construct it measures (Hair et al., 2021). In the HTMT test, the discriminant validity criterion is met if the HTMT value is < 0.90, while for conceptually different constructs, a value of < 0.85 is recommended.

Table 12 Discriminant validity test results (Heterotrait-Monotrait Ratio - HTMT)

	Digital Literacy 5.0	Grit	Soft Skills	Hard Skills	Work Readiness	Career Adaptability
Digital Literacy 5.0		0.111	0.137	0.211	0.417	0.417
Grit			0.265	0.061	0.455	0.522
Soft Skills						0.521
Hard Skills			0.073			0.421
Work Readiness			0.480	0.449		0.772

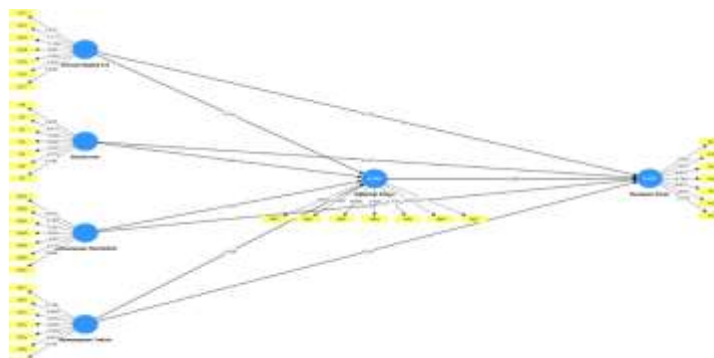
Career Adaptability						
----------------------------	--	--	--	--	--	--

Based on Table 12, all constructs met the discriminant validity criteria through the HTMT test, as the HTMT values ranged from 0.061 to 0.772, all below the 0.90 threshold (Hair et al., 2021). Thus, each construct can be empirically distinguished from the others and is suitable for use in further analysis.

Table 13 Reliability Test Results

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average Variance Extracted (AVE)
Digital Literacy 5.0	0.915	0.920	0.932	0.663
Grit	0.917	0.920	0.934	0.669
Soft Skills	0.917	0.919	0.934	0.668
Hard Skills	0.910	0.912	0.928	0.649
Work Readiness	0.918	0.919	0.934	0.670
Career Adaptability	0.907	0.910	0.926	0.643

Based on Table 13, all constructs meet the reliability criteria with Cronbach's Alpha values ranging from 0.907 to 0.918, Composite Reliability (rho_a) ranging from 0.910 to 0.920, and Composite Reliability (rho_c) ranging from 0.926 to 0.934, all above 0.70 (Hair et al., 2021). Thus, all constructs have high internal consistency, and the research instrument is deemed reliable for further analysis.

Picture 6 Inner Model

Based on Figure 6, the R-square and Q-square values indicate that the model has good explanatory power and predictive relevance. Therefore, the inner model has met the evaluation criteria, and the research model is suitable for proceeding to the hypothesis testing stage.

Table 14 Path Coefficient Test Results (direct effect)

	Original sample (O)	T statistics (O/STDEV)	P values
Digital Literacy 5.0 -> Work Readiness	0.153	2,974	0.003
Grit -> Work Readiness	0.167	2,797	0.005
Soft Skills -> Work Readiness	0.194	3,749	0.000
Hard Skills -> Work Readiness	0.232	3,712	0.000
Career Adaptability -> Work Readiness	0.388	5,281	0.000

Based on Table 14, all direct relationships between variables are positive and significant, with a T-statistic > 1.96 and a P-value < 0.05 (Ghozali & Kusumadewi, 2023). Hard skills is the independent variable with the most dominant direct influence on Work Readiness, while Digital Literacy 5.0 has the lowest influence, although still positive and significant. Thus, all direct influence hypotheses are accepted.

Table 15 Path Coefficient Test Results (indirect effect)

	Original sample (O)	T statistics (O/STDEV)	P values
Digital Literacy 5.0 -> Career Adaptability -> Work Readiness	0.094	3,341	0.001
Grit -> Career Adaptability -> Work Readiness	0.140	3,969	0.000
Soft Skills -> Career Adaptability -> Work Readiness	0.139	4.105	0.000

Hard Skills -> Career Adaptability -> Work Readiness	0.127	3,978	0.000
---	-------	-------	-------

Based on Table 15, all indirect relationships through Career Adaptability have a positive and significant effect because the T-statistics value is > 1.96 and P-values < 0.05 (Ghozali & Kusumadewi, 2023). The highest indirect effect is found in Grit on Work Readiness through Career Adaptability, while the lowest is in Digital Literacy 5.0. Thus, Career Adaptability is proven to play a significant role as a mediating variable, so all indirect effect hypotheses are declared accepted.

Table 16 R-Square Test Results

	R-square	R-square adjusted
Work Readiness	0.587	0.573
Career Adaptability	0.566	0.554

Based on Table 16, the R-Square value indicates that the model's explanatory power is in the moderate category (Ghozali & Kusumadewi, 2023). Work Readiness can be explained by 58.7% of the exogenous variables, while Career Adaptability can be explained by 56.6%, with the remainder influenced by factors outside the model. Thus, the inner model has adequate explanatory power and is suitable for further analysis.

Table 17 F-Square Test Results

	Digital Literacy 5.0	Grit	Soft Skills	Hard Skills	Work Readiness	Career Adaptability
Digital Literacy 5.0					0.047	0.127
Grit					0.050	0.283
Soft Skills					0.066	0.277
Hard Skills					0.101	0.240
Work Readiness						

	Digital Literacy 5.0	Grit	Soft Skills	Hard Skills	Work Readiness	Career Adaptability
Career Adaptability					0.158	

Based on Table 17, all F-Square values are above the minimum threshold of 0.02, indicating a significant contribution to the endogenous variables. According to Ghazali & Kusumadewi (2023), values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively. Thus, each exogenous variable makes an adequate contribution to the endogenous variables and supports further model testing.

Table 18 Q-Square Test Results

	Q ² predict	RMSE	MAE
Career Adaptability	0.538	0.691	0.557
Work Readiness	0.493	0.722	0.574

Based on Table 18, all endogenous variables have Q-Square values above 0, indicating that the model has predictive relevance to the endogenous variables (Ghozali & Kusumadewi, 2023). Thus, the research structural model has good predictive ability and is suitable for use in further analysis.

DISCUSSION

1. The Influence of Digital Literacy 5.0 on Work Readiness

Digital Literacy 5.0 has a positive and significant impact on Work Readiness, although it has the lowest impact. This indicates that students are quite capable of utilizing digital resources, but their ability to search, select, and process information still needs improvement. This finding is supported by Winarno et al. (2024) and Putra et al. (2026).

2. The Influence of Grit on Work Readiness

Grit has a positive and significant impact on Work Readiness. Grit, persistence, consistency, and persistence help students navigate the obstacles and demands of the workplace. These findings are supported by Diva & Satwika (2024).

3. The Influence of Soft Skills on Work Readiness

Soft Skills have a positive and significant impact on work readiness. Communication, collaboration, interpersonal skills, and emotional intelligence help



students adapt and face the demands of the workplace. These findings are supported by Febriyana et al. (2023) and Wu et al. (2026).

4. The Influence of Hard Skills on Work Readiness

Hard Skills has a positive and significant effect and is the independent variable with the highest influence on Work Readiness. Mastery of concepts, practical skills, tools, methods, and work procedures supports the effectiveness and accuracy of task completion. These results are supported by Wu et al. (2026).

5. The Influence of Career Adaptability on Work Readiness

Career Adaptability has a positive and significant impact on Work Readiness and is the most dominant variable. The ability to adapt to changes in tasks, the environment, and work demands helps students navigate the world of work. This finding is supported by Diva & Satwika (2024).

6. The Influence of Career Adaptability Mediating Digital Literacy 5.0 on Work Readiness

Digital Literacy 5.0 through Career Adaptability has a positive and significant impact on Work Readiness, with the lowest indirect effect. Mastery of digital technology and AI also shapes career adaptability before improving work readiness. These results are supported by Dewantara et al. (2025).

7. The Influence of Career Adaptability Mediating Grit on Work Readiness

Grit through Career Adaptability has a positive and significant impact on Work Readiness and has the highest indirect effect. Grit and consistency help strengthen career adaptability, thereby increasing work readiness. These results are supported by Andini et al. (2025).

8. The Influence of Career Adaptability Mediating Soft Skill on Work Readiness

Soft Skills through career adaptability have a positive and significant impact on work readiness. Communication, collaboration, interpersonal skills, problem-solving, and emotional intelligence help students adapt to the demands and dynamics of the workplace.

9. The Influence of Career Adaptability Mediating Hard Skill on Work Readiness

Hard Skills through Career Adaptability has a positive and significant impact on work readiness. Mastery of concepts, practical skills, tools, technologies, methods, and work procedures helps students adapt to the changing needs of the workplace.

CONCLUSION

Based on the research results, Digital Literacy 5.0, Grit, Soft Skills, Hard Skills, and Career Adaptability are proven to have a positive and significant effect on the Work Readiness of students in the Department of Geography FMIPA UI. Hard Skills are the independent factor that provides the strongest direct influence, while Career Adaptability



is the most dominant variable in improving Work Readiness. In addition, Career Adaptability is proven to be able to mediate the influence of Digital Literacy 5.0, Grit, Soft Skills, and Hard Skills on Work Readiness in a positive and significant manner. These findings indicate that readiness to enter the world of work is not only determined by mastery of digital and hard skills, but also by grit, soft skills, and students' capacity to adapt to changes and career demands. Practically, the research results can be input for the Department of Geography FMIPA UI to strengthen practice-based learning, mastery of geospatial software and technology, development of soft skills, and career development programs that encourage student adaptability.

This study has limitations because it only involved 155 students from the Department of Geography, Faculty of Mathematics and Natural Sciences, University of Indonesia (FMIPA UI), from the 2020 to 2023 intakes, using a purposive sampling technique. Therefore, the results cannot be generalized to students from other study programs or universities. Furthermore, the study used an online questionnaire with respondent perception data and only included four main variables, along with Career Adaptability as a mediator. Therefore, other factors could potentially influence Work Readiness. Future research is recommended to expand the scope of respondents, use a more diverse sample size and institutional characteristics, and consider other variables such as internship experience, self-efficacy, organizational experience, professional networks, and readiness for artificial intelligence developments. Longitudinal research or a mixed-method approach can also be used to gain a deeper understanding of the process of developing students' work readiness.

REFERENCES

- Andini, S. O. D., Fitriana, D., & Arlotas, R. K. (2025). Grit as a predictor of career adaptability in fresh graduates. *Journal of Psychology and Instruction*, 9(2), 108–117. <https://doi.org/10.23887/jpai.v9i2.92476>
- Breque, M., De Nul, L., & Petridis, A. (2021). *Industry 5.0: Towards a sustainable, human-centric and resilient European industry*. Publications Office of the European Union. <https://doi.org/10.2777/308407>
- Dewantara, H., Inanna, I., Pahrul, P., & Rahmi, N. (2025). Multiliteracy and work readiness: The central role of career adaptability in the digital era. *Quantitative Economics and Management Studies*, 6(6), 928–940. <https://doi.org/10.35877/454RI.gems4541>
- Diva, V., & Satwika, P. A. (2024). Work readiness of final year students observed from grit and career adaptability. *Jurnal Kajian Bimbingan dan Konseling*, 9(2), 115–121. <https://doi.org/10.17977/um001v9i22024p115-121>



- Febriyana, N., Indrawati, H., & Makhdalena, M. (2023). The influence of emotional intelligence, industrial work practices, soft skills, and self-efficacy on students work readiness. *Journal of Educational Sciences*, 7(3), 499–517. <https://doi.org/10.31258/jes.7.3.p.499-517>
- Ghozali, I., & Kusumadewi, K. A. (2023). *Partial least squares: Konsep, teknik dan aplikasi menggunakan program SmartPLS 4.0 untuk penelitian empiris*. Yoga Pratama.
- Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
- Idzani Muttaqin. (2025). Human-centered ergonomic design in Industry 5.0: Enhancing productivity and worker wellbeing. *Jurnal Riset Teknologi Pencegahan Pencemaran Industri*, 16(1), 41–50. <https://doi.org/10.21771/jrtppi.2025.v16.no1.p41-50>
- Orr, P., Forsyth, L., Caballero, C., Rosenberg, C., & Walker, A. (2023). A systematic review of Australian higher education students' and graduates' work readiness. *Higher Education Research & Development*, 42(7), 1714–1731. <https://doi.org/10.1080/07294360.2023.2192465>
- Prikshat, V., Montague, A., Connell, J., & Burgess, J. (2020). Australian graduates' work readiness: Deficiencies, causes and potential solutions. *Higher Education, Skills and Work-Based Learning*, 10(2), 369–386. <https://doi.org/10.1108/HESWBL-02-2019-0025>
- Putra, Y. I., Idrus, A., Firman, & Sofyan. (2026). Enhancing work readiness through technopreneurship and digital literacy: A study of information technology students. *Jurnal Penelitian Pendidikan IPA*, 12(2), 339–349. <https://doi.org/10.29303/jppipa.v12i2.14411>
- Sihombing, P. R., Arsani, A. M., Oktaviani, M., Nugraheni, R., Wijaya, L., & Muhammad, I. (2024). *Aplikasi SmartPLS 4.0 untuk statistisi pemula*. Minhaj Pustaka.
- Sugiyono. (2023). *Metode penelitian kuantitatif, kualitatif, dan R&D* (Edisi 2). Alfabeta.
- Winarno, W., Ninghardjanti, P., Subarno, A., & Choerul Umam, M. (2024). The effect of digital literacy and self-efficacy on the job readiness: A case of office administration education students. *Jurnal Pendidikan Progresif*, 14(2), 1269–1279. <https://doi.org/10.23960/jpp.v14.i2.202491>
- Wu, E., Jalaludin, D., & Azhar, Z. (2026). Accounting graduates' work readiness in the digital era: A dual-perspective analysis of technical, information technology, and soft skill competencies. *International Journal of Management Education*, 24(3), Article 101487. <https://doi.org/10.1016/j.ijme.2026.101487>

