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Digital Competence and Adaptability:

Keys to Career Readiness in the Era of Artificial Intelligence

ABSTRACT

This research aims to determine the influence of Digital Competence and Adaptive Capability on the Career Readiness of Students at the Faculty of Economics and Business. The population of this research was 372 students from the Faculty of Economics and Business with a sample size of 79 using the Slovin formula with purposive sampling technique. This research is quantitative descriptive. The data collection method in the research uses primary data, namely questionnaires via form and secondary data. The data analysis technique uses multiple linear regression analysis with SPSS software ver 25. Based on the findings, it shows that partially the Digital Competence variable and the Adaptive Capability variable have an effect on Career Readiness. And simultaneously the Digital Competence and Adaptive Capability variables on Career Readiness in students at the Faculty of Economics and Business. This linear regression model with independent variables (Digital Competence and Adaptive Capability), has proven to be very effective in explaining the dependent variable (Career Readiness) because it approaches the value of one (1). These findings provide an important contribution in designing more effective curriculum development strategies to improve student career readiness in the digital era.

Keywords: Digital Competence, Adaptive Capability, Career Readiness

INTRODUCTION.

Artificial Intelligence in the education sector over the last 25 years, most have focused on solving the problem of learning effectiveness. Artificial Intelligence is considered capable of encouraging increased learning efficiency by showing similar learning progress in a shorter time (Roll & Wylie, 2016). According to Trilling & Fadel (Island et al., 2021) highlight that learning in the 21st Century needs to have skills which are divided into 1. Skills in life and career, 2. Learning and innovative skills, 3. Skills in using social media and technology. So learning in the 21st century must pay attention to knowledge and skills in order to be able to compete in various aspects of life.

One of the primary hurdles in the education realm lies in crafting curricula tailored to the demands of the workforce. In doing so, it becomes imperative to ensure that the curriculum remains current and aligns with the vernacular employed in professional settings (Ketamo et al., 2019). While this task may seem straightforward, the challenge arises when the majority of curricula are steeped in academic jargon, potentially overlooking key terms essential for students or learners seeking employment opportunities. The presence of the role of artificial intelligence is expected to be able to build a real-time understanding of the skills, competencies, knowledge and abilities sought in the workplace. This understanding is depicted as a map, facilitating several crucial functions. Firstly, it enables comprehension of the current and future skills requirements. Secondly, it directs the enhancement of existing curricula. Thirdly, it offers guidance to students or learners regarding their academic paths. Lastly, it offers insights into enhancing the competitiveness of the university's (Kolmos et al., 2016). The presence of AI-driven tools and methodologies not only facilitates labor market analysis and curriculum design but also promotes the integration of intellectual assets in the strategic planning of applied sciences universities. This integration is likely to elevate the caliber of graduates, aligning them more closely with the demands of the professional sphere and fostering greater career preparedness (Williams & Wake, 2022).

Today's careers are becoming less structured and more boundaryless, so individuals need to develop relevant psychological strengths to overcome the challenges of diverse career transitions. Preparing for a career stands out as a significant developmental milestone during adolescence, a subject extensively studied among college students as well. This emphasis on early career stages gains particular relevance in light of the increasing trend of prolonged education, leading to delayed entry into the workforce (Koivisto et al., 2011). Adequate career readiness holds crucial importance, considering that early career experiences significantly shape future professional trajectories, as outlined in the life course perspective of career development. Early career research predominantly seeks to identify factors contributing to an individual's career maturity and their readiness to navigate meaningful career decisions (Marciniak et al., 2022). This underscores the necessity for individuals to demonstrate sufficient maturity, readiness, along with relevant attitudes and competencies, in managing career development tasks. The emerging concept of readiness further enriches prior research by introducing adaptability as a complementary attribute to career maturity, alongside readiness, expanding previous notions that primarily focused on problem-solving abilities in career contexts (Lent, 2013). Moreover, newer conceptualizations of readiness often incorporate several aspects previously associated with maturity and readiness, such as self-confidence and effective planning strategies.

Utilizing artificial intelligence to bolster education stands as a significant avenue for cultivating essential competencies among students (Huang, 2021). Competencies are individual characteristics that underlie performance or behavior in the workplace. From this mindset, next Martoyo (2015) developing competency dimensions consisting of; knowledge, abilities, attitudes, work styles, personality, basic values, attitudes, beliefs and leadership styles that will influence employee performance. Competency standards are a measure of a person's observed abilities which include knowledge, skills and attitudes in completing a job or task in accordance with established performance standards. In the era of artificial intelligence, digital competence is required.

Digital competence encompasses the abilities and habits essential for effectively utilizing new technologies in various contexts such as learning, employment, and leisure activities. It involves comprehending the significant impacts of digital technology on society and personal life, as well as the motivation to actively engage in the digital realm responsibly. Beswick & Fraser, 2019 (in Sari et al., 2023) underscore that at the heart of 21st-century skills lies the imperative of individuals possessing digital competencies. Given its significance, there's a growing necessity to introduce suitable artificial intelligence methodologies in education to enhance students' core competencies (Tuomi, 2018). Artificial intelligence can aid in developing at least two competency concepts: knowledge competency, which encompasses skill and cultural competencies, and team competency, which involves teamwork and human-tool collaboration competencies. Additionally, it contributes to enhancing learning competency, which includes cognitive and independent learning competencies.

Another aspect that is needed in facing the Era of Artificial Intelligence to be able to survive in the world of work and encourage the optimization of career readiness, a person must encourage their adaptive abilities, discover new markets and technologies continuously; processing new information, exploring and exploiting new knowledge at the same time are all important for innovation (Wei & Lau, 2010). Adaptive capability helps someone improve knowledge integration and directly influences career readiness (Zhou et al., 2016). Competitive advantage arising from human capital can be described as human capital superiority enhanced by process excellence. To build human capital in a fast-paced and unpredictable market, a more dynamic view of how competitive advantage may change over time is required.

The dynamic capability perspective is related to the distribution of resources, in this case human resources are not static and the company environment is always changing and brings new problems and unpredictable needs, so dynamic capability which allows the company to respond and adapt to change is very important in the company's success (Sasmoko et al., 2019). Ployhart & Bliese (2015) states that

individual adaptability represents an individual's ability, skills, disposition, willingness, and/or innovation, to change or adapt to different tasks, social features, and environments. Adaptability involves adapting to the developmental tasks of education, training, job transitions, and personal trauma by solving problems that are usually unfamiliar, often unclear, and always complex. Therefore, these capabilities can be considered as a company's adaptive capabilities, which help facilitate the company's learning, change, and adaptation. This research seeks to analyze how digital competence and adaptability relate to career readiness in the Artificial Intelligence Era among Students at the Faculty of Economics and Business, Universitas Muhammadiyah Jember.

METHOD

The research method uses quantitative descriptive research. This research is focused on examining the influence of digital competency variables and adaptability on career readiness in the Era of Artificial Intelligence. In this study, the independent variables consist of Digital Competence (X1) and Adaptive Ability (X2), while the dependent variable is career readiness (Y). The study's population comprises all 372 students enrolled in the Faculty of Economics and Business at Universitas Muhammadiyah Jember. Utilizing the Slovin formula, a sample of 79 students was selected, comprising 59 students from the Management study program and 20 students from the Accounting study program. Sampling was carried out by purposive sampling, with the following criteria: first, students majoring in management and secondly students had entered the 7th semester of study or more. The data collection technique uses primary data, namely questionnaires via Gform and secondary data. The data that has been collected is analyzed using statistical analysis tools, namely multiple linear regression analysis. The software used to analyze this research data is SPSS version 25.

The instrument test in this research consists of validity and reliability tests. After fulfilling the instrument test, a classic assumption test is carried out consisting of a normality test; multicollinearity test and heteroscedasticity test. To test each variable partially in research using the t test, and to test variables simultaneously using the F test, it is also necessary to measure the level of the model's ability to explain the dependent variable with the coefficient of determination (R²).

RESULTS AND DISCUSSION

The distribution of questionnaires among students at the Faculty of Economics and Business, Universitas Muhammadiyah Jember, yielded respondent characteristics. Regarding gender distribution, the data shows that 53 respondents (67.1%) were female, while 26 respondents (32.9%) were male. The results show that the majority of respondents in this study are female, this shows that women tend to have good collaborative skills and female students often have high sensitivity to diversity and inclusiveness issues.

Most of the respondents were aged 21-23 years as many as 56 students (70.9%), while the 18-20 year age group was 19 students (24.1%). The 24-26 year age group has the lowest percentage, namely 5.1%, with only 4 students. The research results show that the dominant age of students at the Faculty of Economics and Business, Universitas Muhammadiyah Jember is in the range of 21-23 years. This indicates that students are at the stage of personal development, education and preparation for entering the world of work, while the majority of students have reached a sufficient level of emotional maturity to face challenges in the work environment.

The characteristics of respondents were also considered based on the type of study program at the Faculty of Economics and Business, Universitas Muhammadiyah Jember, with a division of Management Study Program of 59 students and Accounting Study Program of 20 students. It is hoped that the proportional approach in determining the characteristics of this study program can ensure that the research results provide an accurate and representative picture of the overall population.

Table 1. Results of Validity Test and Reliability Test

Digital Competence		Adaptive Capability		Career Readiness	
Items	Correlation	Items	Correlation	Items	Correlation
1	0.793	1	0.943	1	0.930
2	0.921	2	0.937	2	0.903
3	0.896	3	0.91	3	0.944
4	0.865	4	0.908	4	0.908
5	0.881	5	0.903	5	0.946
6	0.889				
Cronbach Alpha					
Digital Competence	0.938				
Adaptive Capability	0.954				
Career Readiness	0.959				

The validity test outcomes indicate that all statement items for each variable meet the validity criteria. This is evidenced by the calculated r value being higher than the table r value, specifically exceeding 0.22. These findings affirm that the variables are appropriate for elucidating the questionnaire statements.

The outcomes of the reliability test indicate that the Digital Competence variable yielded a Cronbach Alpha value of 0.938, the Adaptive Capability variable scored 0.954, and Career Readiness attained 0.959. These findings demonstrate that all variables surpass the threshold of 0.60 for Cronbach's alpha, suggesting that respondents' answers in this study exhibit reliability, reflecting high consistency and stability over time.

Classic assumption test to ensure that the data meets a number of basic assumptions necessary for the results of statistical analysis to be considered valid. The classic assumption test in this research consists of: The Normality Test is carried out with the aim of finding out whether the data is distributed normally or not.

Figure 1. Normality Test

The figure depicts the results obtained from the PP Regression Plot Standardized Residual section SPSS version 25 showing that the data is distributed normally because the points are spread out and follow a diagonal line.

To evaluate the presence of multicollinearity is there a correlation between the independent variables. Decision making about the presence of multicollinearity is made by comparing the Tolerance and VIF values. The optimal model must meet the tolerance threshold of at least 0.1 and the VIF value is less than or equal to 10. The analysis results show that the Digital Competence and Adaptive Capability variables have a tolerance value of 0.163, which is greater than the threshold of 0.1, and the

VIF value of 6.121, which is less than 10. This finding provides an indication that multicollinearity was not detected in this model.

Heteroscedasticity test to test whether in the regression model there is inequality of variance from the residuals of one observation to another. One of the most accurate ways to detect heteroscedasticity is to use the Glejser Test. Namely, if the significance value is greater than 0.05 then there is no heteroscedasticity, whereas if the significance value is smaller than 0.05 then there is heteroscedasticity. Result above shows that the variable Digital Competence and Adaptive Capability have a Sig value. greater than 0.05 as 0,973 and 0,391, it can be concluded that in this regression model there is no heteroscedasticity problem.

The multiple linear regression model was employed to examine the extent of influence exerted by the independent variables, namely Digital Competence (X1) and Adaptive Capability (X2), on Career Readiness (Y). The multiple linear regression equation is as follows:

$$Y = 1.244 + 0.242X_1 + 0.655X_2 + e$$

A constant value of 1.244 indicates that when the Digital Competence (X1) and Adaptive Capability (X2) variables are 00 or constant, Career Readiness will experience a positive influence of 1.244. The Digital Competence variable (X1) has a positive influence on Career Readiness (Y) with a coefficient of 0.242 indicating that an increase in one unit of Digital Competence will contribute to an increase in Career Readiness of 0.242. This means that increasing Digital Competence can increase Career Readiness among students at the Faculty of Economics and Business, Universitas Muhammadiyah Jember. Meanwhile, the Adaptive Capability variable (X2) also has a positive influence on Career Readiness (Y) with a coefficient of 0.655. This shows that increasing one unit of Adaptive Capability will result in an increase in Career Readiness of 0.655 indicating that increasing Adaptive Capability will also increase Career Readiness in students at the Faculty of Economics and Business, Universitas Muhammadiyah Jember.

Partial Test (t test) The t test is used to partially test each variable (Ghozali, 2018). The t test can be done by comparing the t table and calculated t values. If the calculated t value > t table then it is stated that H_0 is rejected and H_a is accepted, and vice versa if the calculated t value < t table then it is stated that H_0 is accepted and H_a is rejected (Ghozali, 2018). Apart from comparing the calculated t and t table values, this can be done by comparing the significance level of 0.05% (Ghozali, 2018). The following are the partial test results in this research:

Table 2. Results of Partial Tests and Simultaneous Tests

Variable	t statistics	t table	Sig.	Information	F Statistics	F Table	Information
Digital Competence (X1)	2,866	1,991	0.005	Accepted	264,817	3.12	Accepted
Adaptive Capability (X2)	6,608	1,991	0,000	Accepted			

Table 2 shows the results that the first hypothesis namely digital competence (X1), has an effect on Career Readiness (Y) is accepted. This is indicated by the t-statistic value of 2.866 which is greater than the t table value of 1.991, with a significance level of less than 0.05. These results show that students at the Faculty of Economics and Business, Universitas Muhammadiyah Jember need to pay attention to digital competence, especially in the Artificial Intelligence Era because of very rapid technological developments and digital transformation that are changing business and employment. By paying attention to digital competence, students can prepare for a future career full of challenges. Digital

competency here is not only about the abilities of individual students, but also the ability of students who can work with digital tools and platforms well which can improve collaborative abilities in the workplace. This research strengthens the research results Strate (2023) states that students with good digital competencies have better career readiness. Civilcharran & Maharaj (2019) Research findings show that there is a positive and significant relationship between digital competence in educational institutions and competence in the world of work. Potgieter et al. (2023) examining the influence of digital era employability competencies on work readiness.

The second hypothesis regarding the influence of Adaptive Capability (X2) on Career Readiness (Y) is also accepted. This can be seen from the t-statistic value of 6.608, which is significantly higher than the t-table value of 1.991, with a significance value that is smaller than the 0.05 significance level. Thus, it can be concluded that students' adaptability in the era of Artificial Intelligence has a very important impact on career preparation. Students who can understand and respond quickly to these changes will have an advantage in facing increasingly technical job demands. Adaptation in the era of Artificial Intelligence also includes mental readiness to accept and adopt innovation and change. Students who have an open attitude towards new learning will be better prepared to face the ongoing industrial revolution. Therefore, special attention is needed to develop the adaptive capabilities of students at the Faculty of Economics and Business, Universitas Muhammadiyah Jember to ensure their readiness to face the dynamics and changes occurring in the world of work which is increasingly influenced by AI technology. The results of this study support research Zhou et al. (2016) conducting research on the relationship between career success and adaptation readiness. Potgieter et al. (2020) explored the career agility aspects of technology adaptation, agile learning, and career navigation as potential explanatory mechanisms of individual career adaptability.

The results of the simultaneous test (F Test) in table 3 show that the third hypothesis is accepted, namely that the variables digital competence (X1) and adaptive capability (X2) together have an effect on Career Readiness (Y) as proven by comparing the statistical F value of 264.817 which is greater compared to the F table value of 3.12. The results show that Adaptation in the AI era requires continuously updating digital skills. Students who can continue to improve their AI technology skills will be better prepared to face dynamic changes in industry needs.

Table 4. Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.935a	.875	.871	1,494

a. Predictors: (Constant), Adaptive Capability, Digital Competence

Table 3 displays the results of the coefficient of determination (R²) which aims to evaluate the extent of the influence of the independent variables (Digital Competence and Adaptive Capability) on Career Readiness (Y), taking into account the value of adjusted R². The closer to one (1) the adjusted R Square value, the better the model's ability to explain the dependent variable (Ghozali, 2018). With an Adjusted R Square of 0.871 or 87.1%, which is almost close to one, it can be concluded that the regression model with the independent variables (Digital Competence and Adaptive Capability) used is very effective in explaining the dependent variable (Career Readiness). The remaining 12.9% of students' Career Readiness at the Faculty of Economics and Business, Universitas Muhammadiyah Jember is influenced by other factors such as interest, self-confidence and other variables.

CONCLUSION

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The results of the analysis above show that the Digital Competence variable partially influences Career Readiness and the Adaptive Capability variable partially influences Career Readiness. Simultaneously, the Digital Competence and Adaptive Capability variables influence Career Readiness. Therefore, researchers recommend that in designing the curriculum for the Faculty of Economics and Business, Universitas Muhammadiyah Jember, it is necessary to consider increasing the focus on developing Digital Competence and Adaptive Capability skills, and this can be used as study material in compiling the curriculum. It is hoped that these recommendations can help students face career challenges more confidently and effectively in the era of ever-growing digitalization.

Additionally, the research suggests that educational institutions should foster collaborations with industry professionals to ensure that the curriculum remains relevant and reflective of current market demands. This can also include offering workshops, internships, and real-world projects that enhance students' practical experiences, thereby solidifying their career readiness.

For future research, scholars are encouraged to explore the long-term impact of enhancing Digital Competence and Adaptive Capability on actual career outcomes for graduates. Additionally, investigating other variables that may influence Career Readiness could provide a more comprehensive understanding of how to prepare students effectively. Engaging in longitudinal studies that track students post-graduation could yield valuable insights into the effectiveness of these curriculum changes over time. Ultimately, the goal is to empower students to face career challenges with confidence and adaptability in a rapidly evolving digital landscape.

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