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ENHANCING JOB COMPETITIVENESS: HOW WORK READINESS MODERATES THE EFFECT OF UPSKILLING AMONG GEN Z STUDENTS

Muhammad Aliyyuddin Salim[1], Wahyu Eko Pujianto[2], Novi Handayani[3]
[1] Prodi Manajemen, Institusi Universitas Nahdlatul Ulama' Sidoarjo
[2] Prodi Manajemen, Institusi Universitas Nahdlatul Ulama' Sidoarjo
[3] Prodi Manajemen, Institusi Universitas Nahdlatul Ulama' Sidoarjo

E-mail Correspondence: 31422031.student@unusida.ac.id

Abstract
In the face of the digital disruption era and rapid industrial transformation, students as future workers are required to have high competitiveness to be able to compete in the global job market. One strategy that can be implemented is through upskilling, which involves enhancing existing skills to align with industry demands. This study aims to analyze the impact of upskilling on the job competitiveness of Gen Z students in East Java and to test the moderating role of work readiness in this relationship. The theoretical foundation of this study is based on Human Capital Theory, which emphasizes the importance of investing in education and training to enhance individual productivity. This study employs a descriptive quantitative approach using a survey method via an online questionnaire administered to 310 respondents selected through purposive sampling. Data were analyzed using Structural Equation Modeling (SEM) based on Partial Least Squares (SmartPLS 4.0). The results indicate that upskilling has a positive and significant impact on job competitiveness. However, work readiness does not significantly moderate this relationship. These findings suggest that although students have high work readiness, this does not always strengthen the impact of upskilling if it is not accompanied by relevant and contextual training tailored to the needs of the job market. Therefore, strategic integration between skill development and work readiness is essential to enhance students' competitive advantage in the digital job market.

Keywords: upskilling, job competitiveness, work readiness, Gen Z students, Human Capital Theory

Abstrak
Dalam menghadapi era disrupsi digital dan transformasi industri yang cepat, mahasiswa sebagai calon tenaga kerja dituntut untuk memiliki daya saing tinggi agar mampu bersaing di pasar kerja global. Salah satu strategi yang dapat dilakukan adalah melalui upskilling, yaitu peningkatan keterampilan yang sudah dimiliki agar sesuai dengan tuntutan industri. Penelitian ini bertujuan untuk menganalisis pengaruh upskilling terhadap job competitiveness mahasiswa Gen Z di Jawa Timur serta menguji peran moderasi work readiness dalam hubungan tersebut. Landasan teoritis dalam penelitian ini didasarkan pada Human Capital Theory yang menekankan pentingnya investasi dalam pendidikan dan pelatihan untuk meningkatkan nilai produktivitas individu. Penelitian ini menggunakan pendekatan kuantitatif deskriptif dengan metode survei melalui kuesioner daring kepada 310 responden yang dipilih secara purposive sampling. Data dianalisis menggunakan teknik Structural Equation Modeling (SEM) berbasis Partial Least Squares (SmartPLS 4.0). Hasil penelitian menunjukkan bahwa upskilling memiliki pengaruh positif dan signifikan terhadap job competitiveness. Namun, work readiness tidak memoderasi hubungan tersebut secara signifikan. Temuan ini menunjukkan bahwa meskipun mahasiswa memiliki kesiapan kerja yang tinggi, hal tersebut tidak selalu memperkuat dampak upskilling jika tidak diiringi dengan pelatihan

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yang relevan dan kontekstual terhadap kebutuhan dunia kerja. Oleh karena itu, integrasi strategis antara pengembangan keterampilan dan kesiapan kerja perlu diperhatikan dalam rangka meningkatkan keunggulan kompetitif mahasiswa di pasar kerja digital.

Kata Kunci: upskilling, job competitiveness, work readiness, mahasiswa Gen Z, Human Capital Theory

I. INTRODUCTION

Common Ground

Job competitiveness is the main aspect in knowing the readiness of individuals to enter the world of work which is increasingly digitized and influenced by changing times (Irfan et al., 2022). Tight competition requires job seekers, especially Generation Z, to have a competitive advantage that is not only related to technology, but also the ability to adapt to the dynamic world of work (ILO, 2020). In the digital era, the level of job competition is highly dependent on an individual's ability to adapt to technological developments and changes to global industries (Kim et al., 2021). Generation Z, as the group that will dominate the workforce, must continue to improve competencies through learning relevant skills (Mansour et al., 2022). Studies from the International Labour Organization (ILO, 2020) show that highly competitive workers have characteristics such as readiness to learn, strong digital skills, and critical thinking ability. In contrast, individuals who are unable to improve their competitiveness are at risk of career stagnation, difficulty finding a job in their field of expertise, or prolonged unemployment (Jones-Kavalier & Flannigan, 2020).

Complication

There has been a lot of research on job competitiveness, with various factors contributing to the readiness of individuals in the world of work. Research on job competitiveness shows that digitalization and automation have changed job market conditions, so individuals need to have flexible and adaptive skills (Bunduchi et al., 2022). Although upskilling is often considered the main solution, there are still gaps in its effectiveness especially among Gen Z, such as the mismatch between the skills acquired and industry needs (ILO, 2020). Research by Nasution and Irham (2024) shows that occupational skills training can improve competencies, but its success depends on suitability, methods, interactivity and post-training support. In addition, individual motivation for upskilling is influenced by local social and economic factors (Laguna-Muggenburg et al., 2021). Work readiness is also important in strengthening the effect of upskilling on job competitiveness. However, some studies show mixed results. Priyono & Nankervis (2019) revealed that there is a mismatch between graduates' competencies and industry needs in Indonesia, which shows the importance of work readiness in bridging the gap, while a study by Magallanes (2024) emphasized the importance of students' active involvement in campus activities. However, previous studies only examined the direct effect of skills training on competitiveness without considering *work readiness* as a moderating factor.

Although work readiness is recognized as an important skill in the digital era (Vrana, 2021), no studies have examined how work readiness moderates the relationship between upskilling and work competitiveness. Students with high work readiness tend to be more flexible and competitive than those who rely solely on technical skills (Garrido et al., 2022). The difference in findings in previous studies makes it important to conduct this research and fill the gap by exploring how work readiness moderates the effect of upskilling in improving Gen Z's employability.

Concern

Previous studies have been unsuccessful in designing a comprehensive and practical strategic model to improve job competitiveness among Gen Z students through upskilling. Many studies highlight that upskilling is becoming increasingly important in the face of changes caused by technological advancements (Pradhan & Saxena, 2023). However, there is still a gap in understanding how work readiness can act as a moderating factor in the effectiveness of upskilling programs on students' employability. The theory used in this study is Human Capital Theory (Becker, 1962), which explains that investment in skills and education can increase the competitiveness of individuals in the labor market. In this context, upskilling helps in improving the skills already possessed to remain competitive in the job market (Goos et al., 2011). Therefore, this study aims to complement

the existing literature by analyzing how work readiness moderates the relationship between upskilling and *job competitiveness* among Gen Z students.

Course of Action

To answer the research question, this study analyzes how *work readiness* moderates the effect of *upskilling* on *job competitiveness* among Gen Z students in East Java. First, this study develops a theory based on the *Human Capital Theory* (Becker, 1962), which explains that investment in skills can increase the competitiveness of individuals in the labor market. Second, this research uses a quantitative method with a survey approach. Questionnaires will be distributed to students in East Java who have participated in *upskilling* programs, either through formal training or independent experience in improving their skills. Third, the unit of analysis in this study focuses on students who are preparing to enter the workforce and who have entered the workforce . Respondents were selected using *purposive sampling* techniques to ensure that the data obtained were relevant to the research objectives. Fourth, data analysis was carried out using *Partial Least Squares Structural Equation Modeling* (PLS-SEM) with the help of SmartPLS 4.0 software. This method was chosen because it can test the moderating relationship between *work readiness*, *upskilling*, and *job competitiveness* more comprehensively (Hair et al., 2019). This research is expected to provide new insights regarding how work readiness can strengthen the impact of upskilling on student job competitiveness. In addition, the results of this study can be a reference for educational institutions in designing training programs that are more adaptive to industry needs in the digital era.

Contribution

This study makes several contributions, both theoretically and practically. Theoretically, this study enriches the study of job competitiveness by integrating the perspective of Human Capital Theory (Becker, 1962). This theory emphasizes that investment in skills such as upskilling can improve individual competitiveness in the labor market, job readiness and productivity of young workers (Pradhan & Saxena, 2023). This research provides insights for educational institutions, particularly in East Java, in developing curricula that are more responsive to labor market demands. The results of this study can assist universities in designing more effective digital skills-based training strategies, as has been implemented in various global higher education programs (Teixeira et al., 2021). Empirically, this study fills a gap in the literature that has not explored how work readiness can strengthen the relationship between upskilling and student employability. Previous studies have mostly addressed the relationship between skills training and work readiness without considering the moderating role of work readiness. Therefore, this study contributes theoretically to deepen the understanding of how skills development can enhance work competitiveness in the context of the younger generation. Practically, this study provides guidance for universities in adjusting learning methods and training strategies to improve students' readiness to face the challenges of an increasingly competitive world of work.

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II. LITERATURE REVIEW

Theoretical foundation

Human Capital Theory

Human Capital Theory introduced by Becker (1962) states that individuals can increase their productivity value through investment in education, training, and work experience. Human capital includes the knowledge, skills, and abilities that a person has and is an important asset in achieving a competitive advantage in the job market (Saqib et al., 2023). In the context of Gen Z students, investment in upskilling is considered a strategy to strengthen human capital to face the challenges of an increasingly dynamic world of work (Mansour et al., 2022). Therefore, this theory is an important basis in explaining how training and continuous learning can improve students' employability.

Upskilling refers to the enhancement of existing skills with new or significantly improved knowledge or skills to enable individuals to continue to succeed in the same profession or line of work (Brinegar & Masino, 2021). In the modern work environment, characterized by rapid technological advances and changing job roles, the concept of upskilling has become an important strategy for improving *organizational agility* (Gaur, 2020). Skills can degrade and become obsolete over time, so upskilling is essential at all levels of the organizational hierarchy. It is imperative for employees to become more knowledgeable, skilled and experienced for any organization to continue to thrive in the new normal. Organizations must continuously identify the need to upgrade skills (Basher, 2021).

Work Readiness

According to Irfan & Putri (2022), work readiness is the ability, skills and work attitudes that are in accordance with the demands of society and in accordance with the potential of students or students in various types of certain jobs that can be directly applied to the world of work. Therefore, after graduating, students do not need a long time to adapt to the work environment, because they have been supported by physical maturity, mental maturity, and learning experiences that are in accordance with their needs (Juariah, 2019).

Job Competitiveness

Job competitiveness refers to the extent to which individuals are able to compete for and retain jobs in a competitive work environment (Garrido et al., 2022). Factors such as skills, technological knowledge, experience, and adaptability play an important role in determining individual competitiveness in the job market (Bunduchi et al., 2022). In the digital era, students are required to be more proactive in developing relevant work competencies so as not to be left behind in the midst of rapid labor market transformation and disrupting old patterns (Kim et al., 2021).

Hypothesis Development

Upskilling and Job Competitiveness

In the face of digital disruption and rapid changes in the world of work, upskilling is crucial. Upskilling refers to upgrading existing skills for higher roles (World Economic Forum, 2020). This strategy is important to improve job competitiveness, especially for Gen Z students who are in the transition from education to the world of work. According to Suleman et al. (2023), training and continuous learning play an important role in preparing young workers for a competitive job market. Students who take part in upskilling programs tend to have higher job readiness, especially when the skills developed are aligned with industry needs. In addition, Qin et al. (2021) found that investment in upskilling increases confidence, flexibility and competitiveness in the face of global competition.

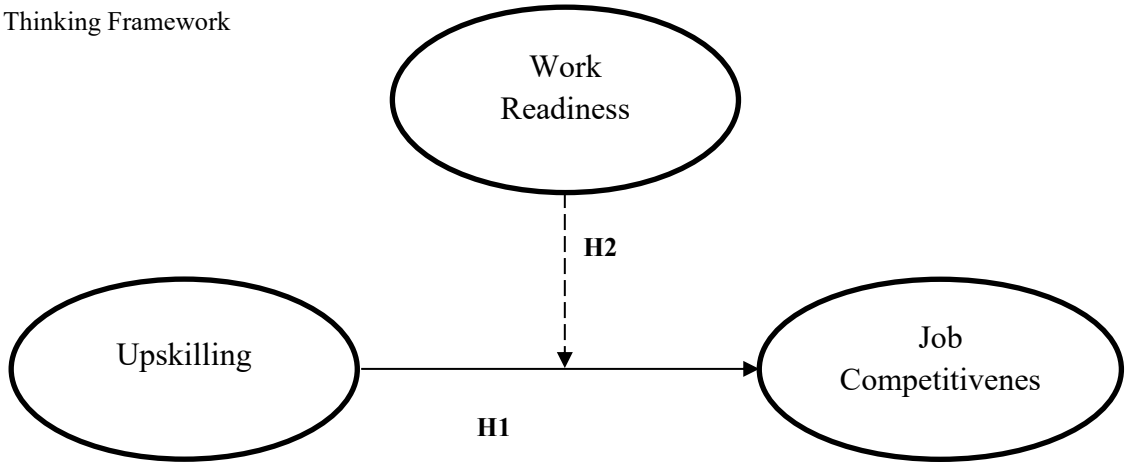
H1: Upskilling has a positive effect on job competitiveness.

Upskilling, Work Readiness, and Job Competitiveness

Work readiness refers to the extent to which graduates are considered to have attitudes and characteristics that make them ready to succeed in the work environment (Irwansyah et al., 2020). The concept encompasses a combination of personal characteristics, work competencies, social intelligence, and organizational understanding required to adapt and contribute effectively in the workplace (Caballero et al., 2011). Students with high levels of *work readiness* are more likely to be able to apply the new skills acquired through *upskilling* to the real work environment. This includes adaptability, effective communication, and problem solving which are integral parts of *work* readiness. A study by Rahmadani et al. (2022) showed that the development of *soft skills*, such as communication and teamwork, as well as participation in organizational activities, significantly improved students' work readiness. In addition, research by Naufalin et al. (2023) emphasized that a structured internship program can improve students' *work readiness*, which in turn strengthens the effectiveness of *upskilling* in improving work competitiveness.

H2: Work Readiness strengthens the influence of upskilling on job competitiveness.

Thinking Framework



III. RESEARCH METHODOLOGY

This study uses a quantitative approach with the aim of knowing the extent of the influence of upskilling on job competitiveness among Gen Z students in East Java, as well as how the moderating role of work readiness in this context. This approach was chosen because it is able to provide a systematic and measurable description of the relationship between the variables studied. This research is descriptive quantitative, focusing on number-based data collection through the distribution of structured questionnaires to predetermined respondents. The data used is divided into primary data and secondary data. Primary data was obtained directly from Gen Z students through online questionnaires, while secondary data was obtained from relevant literature, such as scientific journals, academic books, and previous research reports. Data collection was conducted on students and college students who live in the East Java region. The research instrument development process was carried out in three stages. In the first stage, researchers developed constructs based on the theories and variables used in the study. The second stage, the preparation of the questionnaire was carried out by adjusting items that were relevant and easily understood by students. The third stage, the distribution of questionnaires was carried out online using Google Form to respondents who met the criteria, namely Gen Z students (aged 18-27 years), actively attending lectures, having experience participating in training or competency improvement activities and preparing to enter the world of work or who have entered the world of work.

The sample selection was carried out using purposive sampling technique so that the respondents fit the characteristics of the study. Using the item x 10 method, with the number of items in the questionnaire as many as 31, the minimum number of samples required is 310 students. Data testing in this study was carried out through two main models, namely the outer model to test the validity and reliability of constructs, and the inner model to analyze the relationship between variables. Validity is tested using the factor loading value and Average Variance Extracted (AVE), while reliability is tested through the Composite Reliability and Cronbach's Alpha values (Hair et al., 2019). To determine the extent to which the independent variables can explain the dependent variable, the R-Square value in the structural model is used. In addition, the bootstrapping technique is used to test the significance of the relationship between variables through the t-statistic value. The measurement scale used is a 5-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree, to measure respondents' perceptions of each statement in the questionnaire. The data obtained was then analyzed using SmartPLS 4.0 (Partial Least Squares) software because it is suitable for analyzing complex models involving the moderating role of work readiness on the relationship between upskilling and job competitiveness of Gen Z students.

IV. RESULT/FINDING

RESEARCH RESULTS

Based on the value of the distribution of the questionnaire results that have been distributed, explained in table 1 shows a description of the respondents with a total of 310 respondents.

Table.1 Distribution of Respondents

	Variable	Frequency	Percentage
Gender	Male	163	53%
	Female	147	47%
Age	17 to 20 years old	83	26%
	21 to 24 years old	154	50%
	25 to 27 years old	73	24%
Profession	Student	206	67%
	Private Employee	7	2%
	Other	97	31%

Convergent Vadlidity and Reability

The validity test is a process to assess the extent to which a research instrument is able to accurately measure the intended variable. An instrument with high validity indicates that the tool is precise in making measurements. An instrument is declared valid if the outer loadings value exceeds 0.7, and the average value is considered good enough if it is above 0.5, which indicates that the instrument adequately represents the construct being measured (Hair et al., 2019). Meanwhile, the reliability test aims to evaluate the extent to which the instrument produces consistent and reliable data. The instrument is said to be reliable if the Cronbach's Alpha value exceeds 0.6 (Hair et al., 2019).

Table 2. Validity and Reliability Test

Item Measurements	**Factor Loadings**	**Cronbach Alpha**	**Composite Reliability**	**AVE**
Work Readiness				
I believe that a university education will make it easier for me to find a job.	0.823	0.966	0.968	0.599
I feel that the information and skills I acquire will help me complete tasks better.	0.753			
I consider my skills when choosing a suitable job.	0.738			
I am open to receiving other people's views as input for self-development.	0.717			
I am interested in jobs that require high accuracy and concentration.	0.800			
I believe that concentration is necessary to produce productive work.	0.708			

I feel happy if someone points out my mistakes at work, because it helps me improve.	0.759			
I try to be patient when dealing with angry coworkers.	0.734			
I recognize other people's ability to adapt to new environments.	0.835			
I easily adjust to the culture and norms in the new environment.	0.778			
I am responsible for every job I do.	0.790			
I am willing to correct my work if there are mistakes.	0.746			
I am used to being fast and responsive in carrying out tasks.	0.788			
I often read books related to my field of expertise.	0.734			
I utilize various media to stay abreast of developments in my field.	0.780			
I am willing to work anywhere, both inside and outside the office, with the skills I acquired at university.	0.798			
I feel that my knowledge and skills make it easier for me to adapt to the work environment.	0.762			
I try to maintain efficiency when working in a group.	0.784			
I enjoy attending training related to my competencies.	0.803			
I strive to continuously improve my knowledge and skills to deliver the best performance.	0.838			
I am motivated to expand my knowledge even outside the university environment.	0.763			
Upskilling				
My organization provides upskilling programs for employees.	0.780	0.821	0.825	0.651
My organization finances upskilling programs for employees.	0.799			
There are incentives that motivate me to participate in upskilling in the organization.	0.841			
I have the same opportunity as other colleagues to participate in the upskilling program.	0.806			
Job Competitiveness				
I like competition.	0.767	0.866	0.873	0.596

I am a competitive individual.	0.788
I enjoy competing against opponents.	0.787
I do not like to compete with others.	0.763
I get satisfaction from competing with others.	0.727
I find the competitive situation unpleasant.	0.799

All outer loadings values show good convergent validity because they have values above 0.7, so they can be declared valid. Meanwhile, the Cronbach's Alpha value also shows that the instrument is reliable, because the value exceeds 0.50.

R Square

The coefficient of determination (R Square) on endogenous constructs shows the proportion of variation in the dependent variable that can be explained by the independent variables in the regression model. Based on the criteria proposed by Chin (1998), an R Square value of 0.67 indicates a strong level of explanation, 0.33 is considered moderate, and 0.19 is considered weak.

Table 3. R-Square

	R Square	**Adjusted R Square**
Job Competitiveness	0.682	0.679

The results of data processing show that the R-Square value for the job competitiveness construct is 0.682 (68.2%), so the results obtained by the r-square value of the job competitiveness variable are included in the strong category.

VIF Test

VIF is used to evaluate collinearity. VIF is declared free if the value is <5 (Hair et al., 2019).

Table 4. VIF

	VIF
U -> JC	1.672
WR -> JC	2.365
WR x U -> JC	2.184

Based on the table above, the VIF value is less than 5, so the level of multicolonier between variables is low. These results strengthen the results of indicator estimates in SEM PLS which are Unbiased (robust).

Hypothesis Test

According to Hair et al. (2019), the path coefficient value is ideally in the range -1 to 1, where the greater the value (closer to 1 or -1), the stronger the relationship between exogenous and endogenous variables. To test the hypothesis between variables, t-value or p-value statistical analysis is used. The relationship between variables is considered significant if the calculated t-value exceeds 1.96 (t table value) or the p-value is less than 0.05.

Table 5. Hypothesis Test

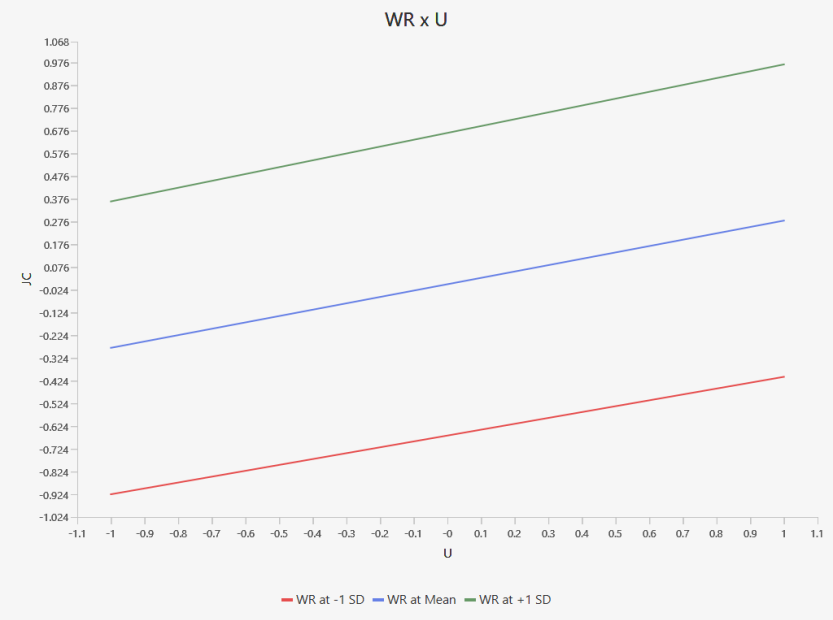
Path Coefficient (Mean, STDEV, T-Values, P-Values)

Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistic (| O/STDEV)|	P values
H1: Upskilling (X) -> Job Competitiveness (Y)	0.280	0.280	0.052	5.395	0.000
H2: Upskilling (X) -> Work Readiness -> Job Competitiveness (Y)	0.022	0.022	0.021	1.005	0.315

The results of hypothesis testing show that upskilling has a positive and significant effect on job competitiveness with a coefficient of 0.280, t-statistic of 5.395, and p-value of 0.000, indicating that effective upskilling can improve job competitiveness. In addition, work readiness weakens the relationship between upskilling and job competitiveness with a coefficient of 0.022, t-statistic 1.005, and p-value 0.315, indicating that work readiness weakens the positive impact of upskilling on job competitiveness.

Moderation Test

The moderation test results show that *work readiness* does not significantly affect the relationship between *upskilling* and *job competitiveness*. The red line shows the relationship between upskilling and job competitiveness when work readiness is at a low level (-1 SD). The blue line shows the relationship between upskilling and job competitiveness when work readiness is at an average level. The green line shows the relationship between upskilling and job competitiveness when work readiness is at a high level (+1 SD). This means that although visually there is an increasing trend in the effect of upskilling on job competitiveness at higher levels of work readiness, the results are not statistically significant.



V. DISCUSSION

This study analyzes the effect of upskilling on job competitiveness, with the moderating role of work readiness. The results show that upskilling has a positive effect on job competitiveness. This finding supports previous research that upskilling through continuous training can help individuals, especially generation Z, to be better prepared for the competitive job market (Suleman et al., 2023; Qin et al., 2021). Upskilling helps Gen Z students improve technical and non-technical skills required by the industry, such as critical thinking, problem-solving, and mastery of technology. Upskilling helps students build a position as a future workforce that is adaptive and flexible in facing changes in the world of work. This finding supports the Human Capital theory proposed by Becker (1962), which states that investment in improving skills and knowledge is an important asset to increase the value of productivity and individual competitiveness. In a digitized world of work, upskilling is a form of personal investment that allows students to meet industry standards and adapt to technological changes. For example, communications students who consistently participate in digital content or public speaking training will be more competitive when entering the workforce than those who do not. This shows that upskilling programs have a real positive impact on improving job competitiveness.

Furthermore, the results showed that work readiness did not significantly moderate the relationship between upskilling and job competitiveness. Although visually there is a tendency that students with high work readiness have a stronger relationship between upskilling and job competitiveness, the effect is not consistently proven. This indicates that work readiness is not always able to strengthen the positive impact of upskilling on job competitiveness. This finding is not in line with previous studies by Naufalin et al. (2024) and Rahmadani et al. (2022) which states that work readiness can strengthen the effect of training on readiness to enter the world of work. One possible cause is that the upskilling followed by students has not been fully integrated with the needs of the world of work, or has not been accompanied by work readiness which includes emotional maturity, work ethic, and contextual understanding of the work environment. From a theoretical perspective, this result shows that work readiness as a form of human capital does not necessarily function as an effective reinforcement if it is not accompanied by the quality and context of appropriate training. Within the framework of Human Capital Theory (Becker, 1962), this result illustrates that the combination of investment in skills and work readiness must be strategically aligned in order to generate competitive advantage. For example, students who feel mentally prepared and have a positive attitude towards the world of work, but only attend general or irrelevant training, still do not show a significant increase in employability.

VI. CONCLUSION AND RECOMMENDATION

This research reveals that upskilling has an important role in increasing job competitiveness among Gen Z students, especially in the East Java region. Upskilling is an effective strategy for students to improve their skills and strengthen their competitiveness in facing the challenges of an increasingly competitive world of work. By participating in relevant and sustainable training, students can equip themselves with competencies that are in line with industry needs, such as digital skills, communication, and problem solving. Therefore, strengthening upskilling programs in higher education is an important step to prepare students for the job market. Meanwhile, work readiness is not proven to significantly moderate the relationship between upskilling and job competitiveness. This means that students' work readiness is not strong enough to strengthen the positive impact of the upskilling program on their job competitiveness. This suggests that although students have conceptual job readiness, without practical experience and contextual learning support, its influence on job competitiveness is still limited. Engagement in real work experience, project-based training, or internship programs needs to be increased to strengthen job readiness more thoroughly.

This study has limitations that need to be considered. First, the focus of the study only includes Gen Z students in the East Java region, so the results may not fully reflect the conditions of students in other regions who have different social, cultural and economic backgrounds. Future research is recommended to expand the coverage area to other regions with more diverse characteristics to test the generalizability of these findings. In addition, future research can also add other variables such as digital literacy, self-regulated learning, or career motivation to gain a more thorough understanding of the factors that influence job competitiveness. It is hoped that further research can make a practical contribution in designing educational strategies that are more relevant and adaptive to the needs of today's workforce.

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