

Preparing Generation Z for the Future Workforce: The Interplay of Digital Literacy and Sustainable Mindset

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Abstract: This study aims to analyse the influence of digital literacy and a sustainable mindset on the work readiness of vocational high school students. This study used a quantitative approach with Partial Least Squares-Structural Equation Modelling (PLS-SEM) as the analytical technique. This study focuses on students of public vocational high schools in Surakarta, with a total of 306 respondents, of whom 287. Data collection was conducted using a closed questionnaire with a 1-5 Likert scale. The research instrument was adapted from previous studies, then tested for validity and reliability. The results of the hypothesis test indicate that digital literacy has a positive and significant effect on students' work readiness (t-statistic = 9.307, p = 0.000). These findings indicate that students with good digital literacy tend to feel more prepared to enter the world of work. In addition, a sustainable mindset was also found to have a positive and significant effect on the work readiness of vocational high school students (t-statistic = 7.265, p = 0.000). These findings indicate that awareness and a sustainable mindset are becoming increasingly relevant competencies in the modern workplace. These findings confirm that students' digital literacy can influence their work readiness. Not only that, but students' awareness of a sustainability mindset also influences their work-readiness. Based on these findings, vocational schools are advised to consistently focus on digital literacy through technology-based learning and to instill sustainability values through environmentally oriented school projects or activities. An introduction to sustainability values is necessary, given the increasing attention from government and industry to environmental sustainability.

Keywords: digital literacy, Generation Z, sustainable mindset, vocational school, work readiness.

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■ INTRODUCTION

Vocational education is strategically positioned to prepare learners for direct entry into the labor market by equipping them with job-relevant competencies and practical skills. However, in many developing countries, including Indonesia, this promise has not been fully realized. National labor statistics indicate that graduates of vocational secondary schools (*Sekolah Menengah Kejuruan/SMK*) consistently experience higher unemployment rates than

graduates of general education. According to data from *Badan Pusat Statistik* (2024), SMK graduates have the highest unemployment rate among educational levels in Indonesia, reaching approximately 9.01%. This persistent pattern suggests that vocational education systems continue to face structural challenges in translating training into effective work readiness.

Previous studies attribute the relatively high unemployment among SMK graduates to multiple interrelated factors. Beyond the

imbalance between the growing number of vocational graduates and industry's limited absorption capacity, research highlights qualitative issues in competency development. Hidayati et al. (2021) note that although SMK curricula are formally aligned with labor market needs, industry standards often exceed graduates' actual competencies. Other studies identify insufficient adaptation to technological developments, limited digital literacy, weak engagement with labor market dynamics, and inadequate access to certification and workplace training as contributing factors to employability gaps among vocational graduates (Perkasa et al., 2024; Safitri & Rezza, 2025). These findings indicate that employability challenges in vocational education cannot be explained solely by labor supply-demand mismatches but are also linked to the nature and breadth of competencies developed during schooling.

At the same time, contemporary labor markets are undergoing profound transformations driven by globalization, rapid technological change, and the growing imperative of sustainable development. These forces are reshaping job requirements and redefining what it means to be "work-ready" in the 21st century (Dzhancharova et al., 2024; Otieno & Busili, 2024). While vocational education has traditionally emphasized technical proficiency, recent evidence suggests that technical skills alone are no longer sufficient. Employers increasingly demand graduates who are digitally competent, adaptable, capable of continuous learning, and aware of sustainability-related practices embedded in modern organizational contexts (Jatmoko et al., 2023; Marouli, 2021; van Laar et al., 2020).

International policy frameworks reinforce this shift. UNESCO (2023) and the World Economic Forum emphasize that challenges related to relevance, quality, and responsiveness remain persist in Technical and Vocational Education and Training (TVET) systems. The

Future of Jobs Report (World Economic Forum, 2025) projects that by 2030, technological and green transformations will significantly increase demand for skills related to digital technologies, data analytics, artificial intelligence, and environmental stewardship. These trends underscore the need for a more holistic conception of employability, one that integrates digital competence with sustainability-oriented mindsets rather than treating them as peripheral or optional attributes.

Empirical evidence from the OECD Programme for the International Assessment of Adult Competencies (PIAAC) further highlights the limitations of relying on formal educational attainment as a proxy for employability. PIAAC findings demonstrate that individuals' actual cognitive, problem-solving, and digital skills, along with their ability to apply these skills effectively in workplace contexts, are critical determinants of employment outcomes, productivity, and well-being (OECD, 2017). The survey also reveals persistent challenges related to school-to-work transitions, skill mismatch, unequal access to lifelong learning, and heightened risks of skill obsolescence in digitally mediated work environments. Collectively, these insights reinforce the argument that employability must be understood as a multidimensional capacity encompassing technical, cognitive, and adaptive competencies aligned with broader societal transformations.

This perspective is further articulated in the OECD Education 2030 framework, which conceptualizes 21st-century skills as an integrated set of cognitive, social, emotional, and ethical competencies required to navigate complex and uncertain futures. These include critical and creative thinking, problem-solving, digital and information literacy, collaboration, adaptability, global competence, and sustainability-oriented responsibility (OECD, 2019). Central to this framework are transformative competencies that

enable individuals not only to perform tasks effectively but also to reconcile economic, social, and environmental tensions and to take responsible action in a rapidly changing world. From this standpoint, employability extends beyond technical proficiency to a holistic capacity that integrates digital competence, lifelong learning, and sustainability-oriented dispositions.

Within employability theory, work readiness is similarly conceptualized as a multifaceted construct encompassing knowledge, skills, meta-skills (such as learning to learn), and personal dispositions that enable individuals to obtain, maintain, and thrive in employment (Yorke & Knight, 2006). Work readiness thus emerges from the interaction of cognitive, affective, and behavioral resources rather than from any single attribute. Complementing this view, the European DigComp framework conceptualizes digital competence as a multidimensional capability that extends beyond technical skills to include information and data literacy, communication and collaboration, content creation, safety, and digital citizenship (European Commission, 2013). Empirical validation of digital competence instruments further supports this integrated conceptualization in higher education and professional contexts (Fan & Wang, 2022).

The UNESCO framework for Education for Sustainable Development (ESD) emphasizes the development of internalized values, systems thinking, and long-term orientation as foundations for responsible action across social, economic, and ecological domains (UNESCO, 2017). Building on this foundation, the concept of a sustainability mindset focuses on how individuals internalize sustainability values and translate them into everyday decisions and behaviors (Ives et al., 2020). The Sustainability Mindset Indicator operationalizes this construct through interconnected domains including ecological worldview, systems perspective, emotional intelligence, and spiritual self-awareness, which

collectively support adaptive and responsible engagement in complex environments (Rimanoczy & Klingenberg, 2021).

Empirically, these frameworks suggest that digital literacy and a sustainability mindset are complementary dimensions of human capital that enhance work readiness in a rapidly changing world. Digital competence supports employability by enabling job performance in digitalised workplaces, enhancing information problem-solving and communication (Đorđević et al., 2025; Tee et al., 2024). A sustainability orientation contributes to employability indirectly by fostering long-term thinking, ethical decision-making, adaptability to green technologies, and alignment with employer demands for corporate social responsibility and environmental stewardship (Bhattacharya et al., 2023; Massoudi & Zaidan, 2025).

Empirical studies suggest that digital competence and a sustainability mindset represent complementary dimensions of human capital relevant to contemporary employability. Digital competence enhances work readiness by supporting effective job performance in digitalized workplaces, facilitating information problem-solving, and enabling collaboration in technology-mediated environments (Đorđević et al., 2025; Tee et al., 2024). Meanwhile, a sustainability-oriented mindset contributes to employability by fostering ethical judgment, long-term thinking, adaptability to green technologies, and alignment with employers' expectations related to corporate social responsibility and environmental stewardship (Bhattacharya et al., 2023; Massoudi & Zaidan, 2025).

Empirical evidence indicates that both competencies remain insufficiently developed among vocational students. Studies report that sustainability-related competencies and green skills have not been systematically embedded in vocational curricula, leading to graduates whose capabilities fall short of labor-market expectations

(Saputri & Ediyono, 2022). Similarly, research on vocational education consistently identifies limited digital literacy among students, with negative implications for learning outcomes and readiness for technology-driven workplaces. For instance, Setiawan et al. (2023) found that vocational students in Central Java exhibited low levels of digital and vocational information literacy, which significantly influenced academic performance. Other studies confirm the positive contribution of digital literacy to vocational student competencies while simultaneously highlighting persistent gaps in curricular integration (Suriyani et al., 2025).

Although research on digital literacy, sustainability mindset, and work readiness is expanding, most studies have focused on university students or adult workers, rather than vocational secondary school populations (Bhattacharya et al., 2023; Tee et al., 2024; van Laar et al., 2020). Within the Indonesian context, research on vocational secondary school students has broadly examined technical skills, curriculum alignment, or internship outcomes, with limited attention to how emerging competencies such as digital literacy and sustainability mindset shape work readiness (Hidayati et al., 2021; Saputri & Ediyono, 2022; Setiawan et al., 2023). Consequently, population-specific evidence remains scarce, particularly for students expected to enter the workforce immediately after graduation. Addressing this gap, the present study

advances an integrative theoretical perspective by positioning work readiness as a multidimensional construct that encompasses not only technical and cognitive adaptability but also sustainability-oriented dispositions. By examining how digital literacy and a sustainability mindset relate to vocational students' work readiness, this study contributes to a more nuanced conceptualization of employability in vocational education that aligns with contemporary transformations in work and society. Therefore, this study proposes the following research questions:

RQ1: Does digital literacy positively influence the work readiness of vocational students?

RQ2: Does a sustainable mindset positively influence vocational students' work readiness?

■ METHOD

Research Design & Participants

This study used a quantitative approach and PLS-SEM analysis. PLS-SEM analysis techniques have been widely used in educational research, especially in causal research, due to their reliability. This technique is suitable for determining the relationships among digital literacy, sustainable mindset variables, and work readiness among vocational school students. Therefore, this study developed the hypothesis as presented in Figure 1:

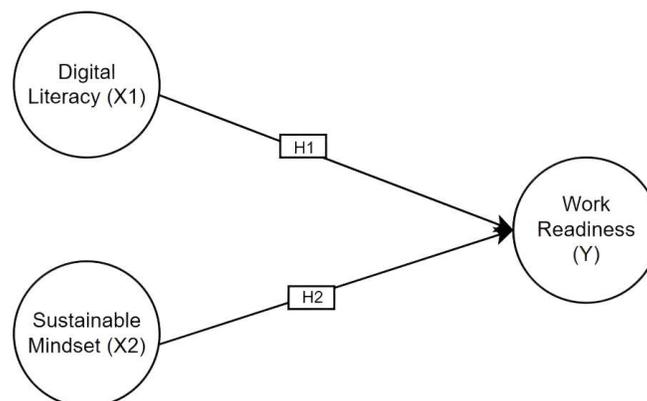


Figure 1. Conceptual framework

H1: Digital literacy skills influence the work-readiness of vocational secondary school students.

H2: A sustainable mindset influences the work-readiness of vocational secondary school students.

Furthermore, this study utilized vocational secondary schools in Surakarta that were willing to participate. The selection of vocational school students is certainly aimed at graduates who are ready to work, because vocational schools focus more on practical learning than theory. Surakarta was chosen because it is one of the major cities in Central Java province, and the diverse demographics of the respondents will certainly

enhance the study's contextual relevance and generalizability.

Sampling was conducted using purposive sampling with specific criteria, a technique used to ensure relevance to the research topic and variables. The research respondents were students in their final year or Grade 12. This was adjusted to the variable of work readiness, as Grade 12 students would have gained significant experience and practical skills that would certainly affect their work readiness. A total of 306 responses were collected during September-October 2025. The collected data met the requirements for PLS-SEM analysis (Hair et al., 2019).

Table 1. The demographic characteristics of the participants

Variable	Frequency	Percentage (%)
Gender		
Male	14	5
Female	273	95
Age		
16	12	4
17	187	65
18	88	31
Career Aspirations		
Employee	116	40
Entrepreneur	171	60

From the distributed questionnaires, 306 responses were received. After data cleaning for completeness and consistency, 287 valid responses were retained for analysis. Demographic characteristics of the participants are detailed in Table 1.

Research Instrument

Quantitative research requires appropriate measurement instruments for hypothesis testing; therefore, this study used instruments compiled based on the variables under study. Each variable has several indicators used to measure its construct, namely Digital Literacy (DL),

Sustainable Mindset (SM), and Work Readiness (WR), with answer options using a 1-5 Likert scale (Strongly agree (5) – Strongly disagree (1)).

Digital literacy variables were measured using a non-test instrument, a questionnaire adapted from Fan et al. (2022). This instrument measured five main dimensions, namely information skills, communication skills, creation skills, digital safety skills, and digital empathy skills. Information skills reflect an individual's ability to effectively search for, evaluate, and use digital information; communication skills measure the ability to communicate and interact ethically and productively in a digital environment; creation

skills reflect the ability to produce and modify digital content; digital safety skills relate to awareness of security, privacy, and personal data protection; while digital empathy skills measure sensitivity and empathy in digital interactions. This instrument consists of 10 statement items. The

reliability test shows that Cronbach's alpha for each dimension exceeds 0.700, and the Composite Reliability exceeds 0.700, so the instrument is declared reliable. An example of an instrument statement is: "I am skilled at using digital software to complete learning tasks."

Table 2. Final statement instrument

Item	Statement
KR1	My education at vocational school made it easier for me to find a job.
KR2	The skills I acquired helped me complete tasks more easily.
KR3	I consider skills when choosing a job.
KR4	I am able to concentrate to produce productive work.
KR5	I am ready to work anywhere with the skills I acquired at school.
KR6	My knowledge helps me to adapt to the work environment.
KR7	The skills I possess make it easier for me to adapt to the work environment.
KR8	I am happy to receive training in my field of expertise.
KR9	The skills I have acquired help me complete tasks more easily.
LD1	I am able to find the information I need on the Internet.
LD2	I am able to search for and access information in a digital environment.
LD3	I am skilled at using digital software to complete learning tasks.
LD4	I know how to communicate with others through various digital means.
LD5	I know various ways to create and edit digital content (e.g., videos, photos, text, animations).
LD6	I am able to identify harmful behaviour that can affect me on social media.
LD7	When sharing digital information, I am able to protect my privacy and security.
LD8	Before engaging in digital activities (e.g., uploading photos or commenting), I consider the potential consequences.
LD9	I am able to put myself in other people's shoes in a digital environment.
LD10	I seek information first before commenting on a topic.
SM1	I understand the connection between human activity and environmental damage.
SM2	I realise that my small actions can have a big impact on the environment.
SM3	I believe that today's decisions affect the quality of life of future generations.
SM4	I am accustomed to thinking about sustainability in my life plans.
SM5	I believe creativity is important for sustainability.
SM6	I am open to trying new ideas to solve problems.
SM7	I feel that I am part of the universe, not separate from it.
SM8	I feel motivated to contribute to creating a sustainable world.
SM9	I practise self-awareness to be more sensitive to others and the environment.

The Sustainable Mindset variable was measured using a non-test instrument adapted from Rimanoczy & Klingenberg (2021). This instrument was developed as a reflective measurement tool and tested through expert judgement to ensure content validity and

construct appropriateness. The four main dimensions measured include ecological worldview, which reflects understanding and concern for the interrelationship between humans and the environment; systems perspective, which measures the ability to think holistically and long-

term; emotional intelligence, which relates to emotional awareness in responding to sustainability issues; and spiritual intelligence, which reflects values, meaning, and transcendental awareness in the context of sustainability. This instrument consists of nine statement items. An example of a statement in the instrument is: “I understand the interrelationship between human activities and environmental damage.”

The Work Readiness variable was measured using a non-test instrument, a questionnaire adapted from Sul-toni et al. (2022), with a Cronbach’s alpha of 0.878. This instrument consisted of nine items, 9 items measuring 5 main indicators: previous experience, maturity level, mental and emotional state, intelligence, and self-development efforts. Previous experience refers to the pre-work experience of vocational school students gained through industrial and office internships and classroom learning; although limited, this experience is still considered initial preparation for work readiness. An example of an instrument statement is: “The skills I have acquired help me complete tasks more easily.”

The initial research instrument was developed based on relevant prior instruments, yielding 91 statements. The instrument was reduced in stages through theoretical and empirical considerations. In the first stage, the items were translated into Indonesian and evaluated for their suitability to the construct’s conceptual definition, relevance to the research context, and alignment with respondent characteristics, resulting in a reduction to 47 statements. The next stage involved empirical testing of the instrument on 30 respondents using SPSS version 25 with item-total correlation validity criteria $e \geq 0.50$ and Cronbach’s Alpha reliability $e \geq 0.70$. The test results showed that 19 items did not meet the validity criteria and were therefore removed. In addition, the final adjustments also considered the comprehensibility of the language and the

relevance of the item context to the respondents. Based on the entire selection process, a final research instrument consisting of 28 valid and reliable statements was obtained and was ready to be used in the main data collection Table 2.

Data Analysis Technique

This study employed Partial Least Squares–Structural Equation Modeling (PLS–SEM), an appropriate technique for analyzing relationships among latent variables in social research contexts. According to Hair et al. (2019), PLS–SEM is suitable when the study involves complex latent constructs, moderate sample sizes, and aims to predict causal relationships between variables. The analysis included two primary stages: the measurement model (outer model) and the structural model (inner model). The outer model examined convergent and discriminant validity to ensure that indicators accurately represented their constructs. The inner model evaluated the strength of relationships among latent variables using R–Square (R^2), VIF, and overall model fit.

Hypothesis testing was performed using the bootstrap method with 5,000 resamples to obtain accurate estimates of the significance of the relationships. This approach enabled the identification of both direct and indirect effects with high statistical reliability.

■ RESULT AND DISCUSSION

Outer Model

This step aims to ensure that the research instrument used is both reliable and valid, meeting the established criteria of validity and reliability. Prior to proceeding with hypothesis testing, it is essential to confirm that each item of the instrument accurately measures the intended construct. In PLS–SEM, validity is assessed by examining the outer loadings and the *Average Variance Extracted* (AVE). According to Hair et al. (2019), an indicator is considered valid when its outer loading value exceeds 0.5. Based on SmartPLS 4.0 analysis (Table 3), all items in

the research instrument demonstrated loading factor values above 0.5. This finding indicates that each indicator has a strong correlation with its respective construct, thereby confirming its convergent validity.

Furthermore, validity was assessed using the AVE, which represents the proportion of variance in the indicators that is explained by the latent construct. The results show that all AVE values exceed the minimum threshold of 0.5. These findings provide further evidence of the instrument's strong validity, as reflected in its loadings and AVEs. Once validity has been

established, the next step is to assess the instrument's reliability. Reliability refers to the extent to which an instrument yields consistent results across repeated measurements. According to the criteria proposed by Hair et al. (2019), an instrument is considered reliable when both the Cronbach's Alpha and Composite Reliability (CR) values exceed 0.7. The analysis results presented in Table 3 indicate that all constructs meet this threshold. Therefore, it can be concluded that the research instrument is reliable and appropriate for subsequent stages of structural model analysis.

Table 3. Outer model testing

Variable	Construct	Outer loading	Cronbach Alpha	Composite Reliability	AVE
Work Readiness	KR1	0.899	0.953	0.955	0.727
	KR2	0.860			
	KR3	0.868			
	KR4	0.812			
	KR5	0.868			
	KR6	0.866			
	KR7	0.811			
	KR8	0.891			
	KR9	0.789			
Digital Literacy	LD1	0.864	0.961	0.963	0.741
	LD2	0.889			
	LD3	0.883			
	LD4	0.886			
	LD5	0.891			
	LD6	0.884			
	LD7	0.888			
	LD8	0.777			
	LD9	0.903			
	LD10	0.729			
Sustainable Mindset	SM1	0.905	0.961	0.962	0.763
	SM2	0.892			
	SM3	0.884			
	SM4	0.910			
	SM5	0.874			
	SM6	0.863			
	SM7	0.807			
	SM8	0.882			
	SM9	0.842			

Subsequently, a model fit assessment was conducted to evaluate the adequacy of the structural model used in this study. The results are presented in Table 4.

Table 3 indicates that the Standardized Root Mean Square Residual (SRMR) value is 0.043, which is below the recommended threshold of 0.08. This value suggests that the

Table 4. Model fit

	Saturated Model	Estimated Model
SRMR	0.043	0.043
d ULS	0.745	0.745
d G	0.784	0.784
Chi-square	1196.093	1196.093
NFI	0.877	0.877

structural model provides a good fit between the empirical data and the proposed model. In addition, the Normed Fit Index (NFI) value of 0.877 further supports the conclusion that the research model exhibits an acceptable degree of goodness-of-fit. Therefore, these two indicators confirm that the structural model in this study meets the established fit criteria and is suitable for subsequent stages of analysis.

Inner Model and Hypothesis Testing

The next stage is to test the structural model (inner model) to assess the influence of exogenous variables on endogenous variables, using R^2 and

VIF values to analyse multicollinearity. The analysis results show that the R-Square (R^2) value is 0.883 (Table 5), which means that the model has excellent explanatory power. This value indicates that the endogenous variable, namely student work readiness, can be explained by 88.3% by the exogenous variables, namely digital literacy and sustainable mindset. However, in social research, this value needs to be interpreted critically. A high R^2 value is likely influenced by the homogeneity of the respondents' characteristics. Therefore, these findings need to be understood in the context of the sample characteristics and the research design used.

Table 5. R-Square value

	R-Square	R-Square Adjusted
KR	0.883	0.883

Multicollinearity was evaluated using the Variance Inflation Factor (VIF) value. According to Hair et al. (2019), a VIF value below 5 indicates that multicollinearity is not a significant problem. Based on Table 6, all indicators have VIF values ranging from 2.281 to 4.990, which are still below the recommended threshold. These results indicate that there are no multicollinearity

issues in the research model, so that the independent variables can be used reliably in further statistical analysis.

Hypothesis testing was conducted, consisting of two main hypotheses in this study. The testing procedure employed bootstrapping with SmartPLS version 4.0. The statistical results are presented in Table 7.

Table 6. Multicollinearity test

Indicator	VIF	Indicator	VIF	Indicator	VIF
KR1	4.391	LD1	3.698	SM1	4.890
KR2	3.261	LD2	4.625	SM2	4.229

KR3	3.703	LD3	3.745	SM3	3.730
KR4	2.603	LD4	4.585	SM4	4.990
KR5	3.413	LD5	4.773	SM5	3.590
KR6	3.747	LD6	3.957	SM6	3.848
KR7	2.439	LD7	3.859	SM7	2.454
KR8	4.619	LD8	2.850	SM8	4.263
KR9	2.281	LD9	4.777	SM9	3.104
		LD10	2.311		

Table 7. Hypothesis testing

Hypotesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics (O/STDEV)	P-values
LD -> KR	0.542	0.543	0.058	9.307	0.000
SM -> KR	0.424	0.423	0.058	7.265	0.000

Based on these findings, the first hypothesis (H1) indicates that digital literacy (LD) has a positive and significant effect on students' work readiness (KR), with a *t*-statistic value of 9.307 and a *p*-value of 0.000 (< 0.05). This result demonstrates that higher levels of digital literacy among students are associated with greater work readiness.

Meanwhile, the second hypothesis (H2), which examines the effect of sustainable mindset (SM) on students' work readiness (KR), also shows a positive and significant relationship, with a *t*-statistic value of 7.265 and a *p*-value of 0.000 (< 0.05). These findings confirm that fostering a sustainable mindset among students plays a substantial role in enhancing their preparedness to enter the workforce (Figure 2).

Hypothesis 1: Digital literacy (X1) influences the work readiness (Y) of vocational school students

Focusing on the first hypothesis (H1), the confirmation that digital literacy positively and significantly influences work readiness (*t*-statistic = 9.307; *p* = 0.000) reinforces the findings of various previous studies that identify digital literacy as a critical component in the workforce readiness of Generation Z. Research by Endeli et al. (2025)

also found that digital literacy has a significant influence on the work readiness of vocational students. The findings of this study also differ from previous findings, which stated that digital literacy does not affect the work-readiness of vocational students (Aryasandy et al., 2025; Naufalin et al., 2024). These differing findings are likely influenced by differences in respondent characteristics, regional contexts, and the research instruments used. This study involved vocational high school students in Java with relatively higher exposure to technology. In contrast, the study by Aryasandy et al. (2025) involved vocational high school students outside Java, and the study by Naufalin et al. (2024) used university students as respondents. The differences in research findings are influenced by socio-economic factors in Java, particularly in Surakarta, where internet access and digital infrastructure are well developed. This certainly supports the improving of students' digital literacy. Not only that, these research findings are supported by more progressive education policies aimed at producing graduates who are ready for work, so classroom learning will certainly lead to the use of the latest technology. Furthermore, digital literacy in this study was operationalized through five

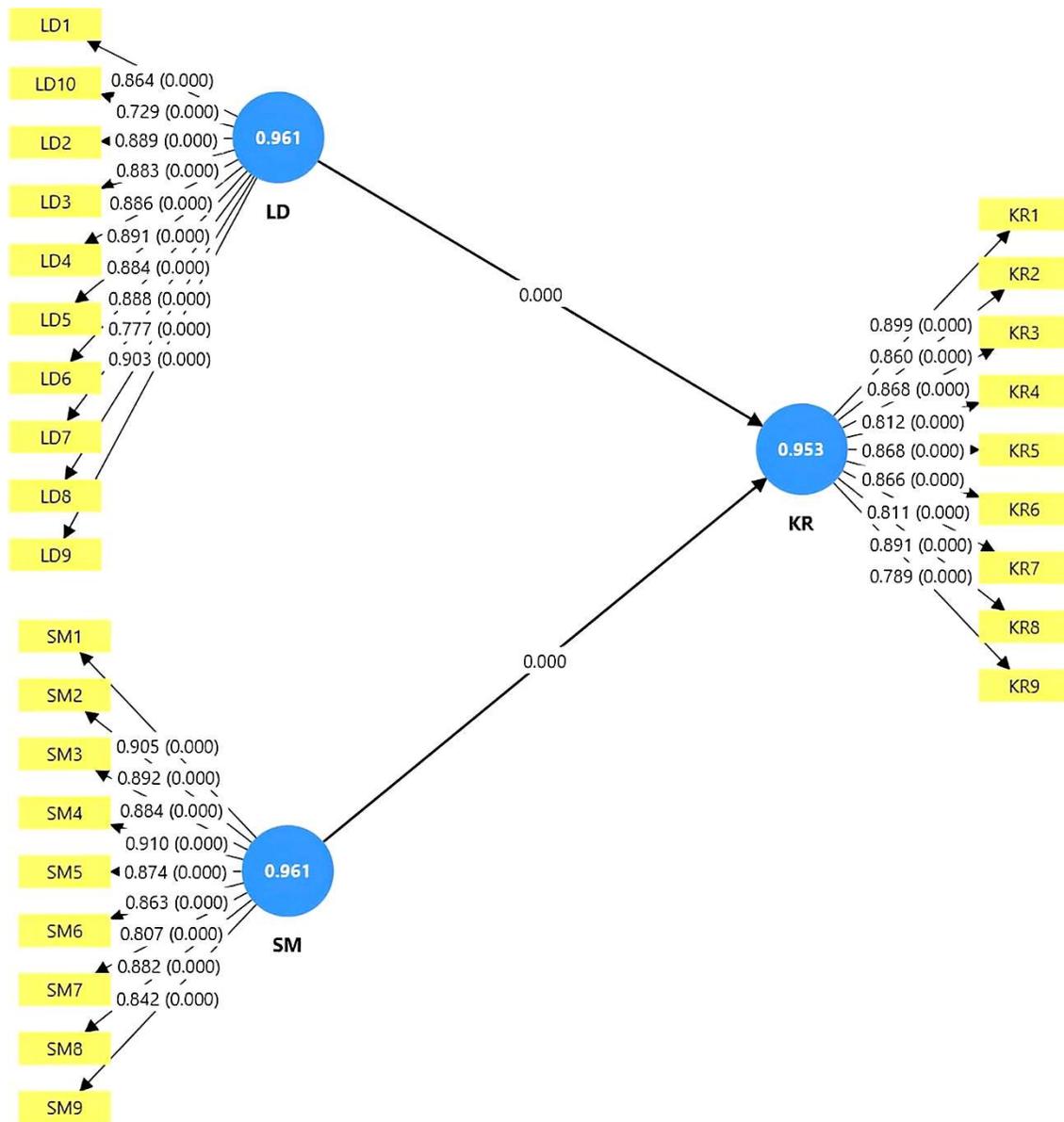


Figure 2. Research model after bootstrapping test

comprehensive dimensions: information, communication, content creation, security, and digital empathy, which reflect the demands of the modern workplace. In the context of vocational education, digital literacy has evolved from a supporting skill to an essential core skill for graduate work readiness (Adegbite, 2024; Winarno et al., 2024).

Hypothesis 2: A sustainable mindset influences the work readiness of vocational school students

Another significant finding is the confirmation of the second hypothesis (H2), which reveals that Sustainable Mindset (SM) has a positive and significant effect on work readiness (t -statistic = 7.265; p = 0.000). This contribution

is particularly noteworthy, as prior research has often linked “sustainability” to corporate strategy or employee well-being, but rarely conceptualized it as a mindset that predicts work readiness at the student level (Smaldone et al., 2025). This finding is highly relevant, as today’s industries seek not only digitally competent workers but also those with systemic perspectives aligned with Environmental, Social, and Governance (ESG) principles (Farinha & de Fátima Pina, 2025; Li et al., 2025). The measurement of SM in this study, encompassing systems perspective, ecological worldview, emotional intelligence, and spiritual intelligence, suggests that “work-ready” students are those who possess resilience, self-awareness, and collaborative capacity. This sustainable mindset serves as a strategic differentiator, consistent with the “sustainable work readiness” framework, which emphasizes the ability to build long-term, sustainable careers.

The findings of this study provide insight that digital literacy and a sustainable mindset play an important role in improving the work readiness of vocational school students, in line with the vocational education tagline ‘Ready to Work’, which emphasizes the adaptability of graduates to the needs of the job market (Islamiah et al., 2022). Vocational education in Surakarta consistently contributes to improving the quality of human resources through various practice-based programmes (Rahmawati & Suranto, 2024), such as industrial and office fieldwork practices (PKL), which not only improve students’ work-readiness but also broaden their understanding of the realities of the world of work. Student involvement in internship programmes, particularly in technology-based environments such as Techno Parks or start-ups, can strengthen digital literacy through direct experience in technology management, utilization, and innovation. Additionally, the implementing link-and-match policies between schools and industry helps ensure that graduates’ competencies align with the needs of the business and industrial

sectors. Furthermore, the vision of the respondent schools, which emphasises the development of a sustainable mindset, has influenced the learning process and school culture, encouraging students to internalise sustainability values in both their daily lives and the workplace.

■ CONCLUSION

This study concludes that there is a positive and significant relationship between digital literacy and sustainable mindset with vocational students’ work readiness. The results of this analysis indicate that a high level of digital literacy goes hand in hand with the ability to adapt to technological changes and modern work demands. Meanwhile, a sustainable mindset is closely related to environmental awareness and social responsibility, which are added values in the contemporary world of work.

This study has several limitations, including the use of purposive sampling, limited coverage to one city, a respondent distribution dominated by female students, which may introduce bias, and a relatively high coefficient of determination (R^2). Therefore, generalization of the study’s findings must be done with caution. The dominance of respondents of one gender must certainly be considered so that, in the future, study programmes will be more diverse. This condition indicates the need for a balanced gender composition to ensure more comprehensive findings. Future research is recommended to use random sampling techniques, expand the geographical scope, and adopt a qualitative approach to explore in greater depth how digital literacy and the development of a sustainable mindset affect students’ work-readiness.

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