International Journal of Data and Network Science 10 (2026) 1127–1136

Contents lists available at GrowingScience

International Journal of Data and Network Science

homepage: www.GrowingScience.com/ijds

Digital literacy capability as a technological enabler of decent work: A structural model of employability

Made Ermawan Yoga Antara[a*] and I Wayan Karmana[b]

[a]*Universitas Pendidikan Nasional, Indonesia*
[b]*Politeknik Negeri Bali, Indonesia*

C H R O N I C L E

Article history:
Received March 1, 2026
Received in revised format March 24, 2026
Accepted April 12 2026
Available online
April 12 2026

Keywords:
Digital literacy
Employability
Career
Unemployment

A B S T R A C T

Unemployment is a major problem that needs to be addressed immediately by the government. One Employment Data shows that the unemployment rate in Indonesia for the 2025 period reached 7,278,307, of which 67 percent are filled by Generation Z who have just graduated. The future of the next generation of the Indonesian nation is at stake due to the difficulty in obtaining decent work. This study aims to determine the influence of perceived employability and psychological capital on career decisions (work volition) of college students. The selection of colleges in Bali as the research location is based on the fact that job competition in Bali is increasing, as evidenced by the continued increase in job seekers from outside Bali competing with Balinese residents in the labor market. College students are currently in a transition phase from the academic world to the professional world, so this study will be a relevant reference in their career decisions. Research method: Based on data from the Central Statistics Agency, the population of college students in Bali is 150,382. Using the proportional random sampling technique, the research sample size was 399 respondents. Data analysis used the Structural Equation Modeling-Partial Least Squares method, which consists of research instrument testing, structural model testing, and research hypothesis testing. The results show that perceived employability has a positive effect on digital literacy and work volition, psychological capital has a positive effect on digital literacy and work volition. Digital literacy, besides being found to have a positive influence on work volition and decent work, is also able to mediate the relationship between employability and psychological capital on work volition. The research results provide strategic recommendations for universities and the government in addressing the domino effects caused by unemployment, such as poverty, health problems, and unethical behavior.

© 2026 by the authors; licensee Growing Science, Canada.

1. Introduction

Public welfare is a dream for all nations worldwide, including Indonesia (Suliswanto, 2024). In 2015, the UN launched the 2030 Agenda as a global blueprint for achieving sustainable development targets by 2030. This agenda contains 17 Sustainable Development Goals (SDGs), of which goal eight addresses decent work and economic growth (Sari et al., 2022). Indonesia itself has also launched the vision of Golden Indonesia 2045, aiming for Indonesia to become a developed and prosperous nation (Thawley et al., 2024).

The year 2030 is fast approaching, but the desired prosperity has not yet been fully realized. Data from the Ministry of Manpower in Table 1 shows that the number of unemployed graduates in Indonesia reached 7,278,307 in February 2025 (Satu Data Ketenagakerjaan, 2025). This figure is significantly disproportionate compared to the number of registered job openings, which is only around 17,617. Before the Covid-19 pandemic, two job seekers competed for a single position, but now up to 16 job seekers compete for the same position. 67 percent of the unemployed are from Generation Z, numbering 4.9 million people (Kompas, 2025). The Indonesian government has attempted to increase employability by introducing a national internship program to provide structured work experience for college graduates, but not all internships result in real employment opportunities after the internship ends (Portal Informasi Indonesia, 2025).

* Corresponding author
E-mail address madeermawan@undiknas.ac.id (M. E. Y. Antara)

ISSN 2561-8156 (Online) - ISSN 2561-8148 (Print)
© 2026 by the authors; licensee Growing Science, Canada.
doi: 10.5267/j.ijdns.2026.4.014

Table 1
Unemployment in Indonesia in 2025

Characteristics		Gender		
		Male	**Female**	**Total**
Highest education completed	Elementary School	778.611	465.048	1.243.659
	Middle School	814.812	364.375	1.179.187
	High School	1.254.730	784.163	2.038.893
	High School Vocational	1.129.481	499.036	1.628.517
	Diploma/Academy	117.232	60.167	177.399
	University (S1/S2/S3)	485.699	524.953	1.010.652
	Total	**4.580.565**	**2.697.742**	**7.278.307**
Group of Age	15-19 years	622.048	400.139	1.022.187
	20-24 years	1.510.731	1.017.010	2.527.741
	25-29 years	890.372	428.927	1.319.299
	30-34 years	426.899	192.901	619.800
	35-39 years	217.118	133.975	351.093
	40-44 years	201.047	131.888	332.935
	45-49 years	197.561	88.471	286.032
	50-54 years	163.086	79.678	242.764
	55-59 years	194.403	68.229	262.632
	60-64 years	86.310	67.171	153.481
	65 years +	70.990	89.353	160.343
	Total	**4.580.565**	**2.697.742**	**7.278.307**

Source: BPS, 2025, processed by Pusdatik Kemnaker

Generation Z is characterized by prioritizing quality work. They will reject jobs without career security and are willing to change jobs if they feel working conditions do not meet their expectations (Trifan & Pantea, 2024). Gen Z believes they have the freedom and ability to choose, change, and manage their career paths (Ma & Fang, 2024). The Psychology of Working Theory explains that career choice and an individual's ability to make career decisions are referred to as work volition (Masdonati et al., 2022). The subsequent process of individual career development will result in meaningful and decent work (Su & Chan, 2023). Perceived employability plays a crucial role in supporting one's career construction process. Perceived employability is an individual's perception of their ability to obtain a job or find a better one (Bargsted et al., 2021). Research in the USA and Hong Kong found that perceived employability influences future careers. With high perceived employability, individuals feel they have more control over their career development; in other words, perceived employability will encourage work volition (Cheung et al., 2020). Similar results were obtained in a study in South Korea, which confirmed that perceived employability significantly influences work volition (Kwon, 2019). However, different results were obtained by (Carkit & Yalçın, 2025), where no correlation was found between perceived employability and work volition. Based on Human Capital Theory, an individual's capacity to make career choices is supported not only by self-confidence in job opportunities but also by resources, which are important factors in achieving success (Aslam et al., 2024). This factor is referred to as psychological capital (Baluku et al., 2021). A German study revealed that psychological capital positively impacts work volition (Zyberaj et al., 2022). However, a different finding was revealed by Huang & Mano (2025), where psychological capital did not affect work volition.

The globalization of science and technology has resulted in increasing job demands (Skare & Soriano, 2021). Mastery of technology is a factor of competitive advantage in the digital era (Antara et al., 2024a). Job seekers must possess various competencies to be accepted into employment, one of the most important being mastery of digital technology (Rios et al., 2020). According to Shah et al. (2023), digital skills play a crucial role in fostering work volition in the workplace. Individuals with adequate digital literacy have a greater chance of securing employment than those without (Bejaković & Mrnjavac, 2020). The researcher's urgency in selecting universities in Bali as the research location is based on the increasing job competition in Bali. This is evidenced by the continued increase in job seekers from outside Bali competing with Balinese residents in the labor market, necessitating an understanding of the internal factors that are crucial in guiding students' career paths. Furthermore, students who are Generation Z, are currently in a transition phase from academia to the professional workforce, so this research will serve as a relevant reference in their career decisions. This study can also serve as a foundation for the Balinese regional government's policy direction in addressing the domino effects of unemployment, such as poverty, health problems (physical and mental), crime, and others. The integration of digital literacy into a comprehensive research model to connect individuals' internal psychological factors in achieving decent work is the first novelty of this research. The synthesis of the Psychology of Working Theory and Human Capital Theory as a theoretical foundation for explaining the interrelationships between factors within a comprehensive model is the next novelty.

2. Literature Review

2.1 The Underlying Theory

Psychology of Working Theory serves to explain the essential elements in the process of obtaining decent work and illustrates how doing decent work leads to employee need fulfillment, job satisfaction, and well-being (Masdonati et al., 2022). Human Capital Theory explains that individuals and societies derive economic benefits from investments in human resources. Although types of human capital investments generally include health and nutrition, education is the primary human capital

investment in empirical analysis. Education contributes significantly to improved health. In addition, education controls population growth and improves overall quality of life (Macaulay, 2025).

2.2 Perceived Employability

Perceived employability is an individual's perception of their likelihood of finding a new job. Employability reflects how individuals view opportunities in the labor market. Individuals with high employability believe it is easy to find a new job. Individual characteristics, such as skills and attitudes, as well as contextual characteristics, such as the labor market, determine employability (Oliveira & Silva, 2024).

2.3 Psychological Capital

Psychological capital is a condition of positive psychological development of an individual characterized by (1) having self-confidence (efficacy) to exert effort in carrying out tasks; (2) making positive attributions (optimism) about success and achievement; (3) persistently pursuing goals (hope); and (4) persisting and bouncing back when encountering obstacles (resilience). In summary, the first-order psychological resources that form PsyCap include hope, efficacy, resilience, optimism, or the HERO within oneself (Chaffin et al., 2023).

2.4 Work Volition

Work volition, according to the Merriam-Webster dictionary, is defined as “the power to choose or determine” (Ma & Fang, 2024). Kim (2025) then extends this basic definition to the realm of work and defines work volition as the perceived capacity to make work choices despite various constraints.

2.5 Decent Work

Decent work was originally conceptualized by the International Labour Organization (ILO) in Geneva, Switzerland, to ensure the provision of decent and productive employment opportunities for men and women, in conditions of equality, freedom, security, and dignity. Decent work is a multidimensional concept and applies to both the formal and informal sectors of an economy (Duffy et al., 2020). The goal of decent work is to create better jobs in the global economy without burdening those who work (Carkit & Yalçın, 2025).

2.6 Digital Literacy

Digital literacy is a set of habits in which young people use information technology for learning, working, and playing (Skare & Soriano, 2021). This definition is general, but it illustrates a major paradox in contemporary education: the skills needed in an increasingly technological and changing workplace are not learned in school, but rather outside the school environment. The University of Illinois at Urbana-Champaign provides a broad definition of digital literacy that includes: (1) the ability to use digital technology, communication tools, or networks to find, evaluate, use, and create information; (2) the ability to understand and use information in a variety of formats from a variety of sources presented through computers; and (3) a person's ability to perform tasks effectively in a digital environment (Bejaković & Mrnjavac, 2020). Digital literacy includes the ability to read and interpret media, to reproduce data and images through digital manipulation, and to evaluate and apply new knowledge gained from the digital environment (Cole et al., 2024; Antara et al., 2024b).

2.7 Research Hypotheses

A study of college students in the United States and Hong Kong found that perceived employability had a positive and significant correlation with work volition (Cheung et al., 2020). The results showed that if students possess personal resources, they will feel more capable of making career decisions despite obstacles Kwon (2019).

H_1: *Perceived employability has a significant effect on work volition.*

A study of active final-year business students from various universities in Malaysia found evidence of graduate employability, demonstrating a positive correlation with digital literacy (Baluku et al., 2021). This study provides further insight into how employability is not solely dependent on job readiness but also on other factors, such as technical skills, work experience, and personality (Jaganathan et al., 2025).

H_2: *Perceived employability has a significant effect on digital literacy.*

Zyberaj et al.'s (2022) research on employees in German companies in the engineering, healthcare, education, banking, and IT industries during the COVID-19 pandemic found a positive correlation between psychological capital and work volition. Psychological capital is a crucial resource for employees' abilities to cope with shock during a crisis (Huang et al., 2021).

H_3: *Psychological capital significantly influences work volition.*

An empirical study of micro-entrepreneurs in three provinces in Indonesia: the Special Region of Yogyakarta, West Java, and West Sumatra, found that aspects of psychological capital contribute to driving entrepreneurs' digital innovation in business (Kadiyono & Sulistiobudi, 2024). This suggests that individuals with higher levels of psychological capital tend to possess digital literacy, which is essential for entrepreneurial endeavors (Helsper & Smahel, 2020).

H_4: *Psychological capital has a significant influence on digital literacy.*

A Swedish study found that technological literacy is linked to work volition, for example, in terms of goals. With good digital literacy, students can increase their competitiveness and readiness to enter the professional world. Furthermore, digital literacy indicators, such as digital collaboration skills, are important assets for adapting to the dynamics of work in the era of digital transformation (Jian et al., 2025). By improving digital literacy and providing career guidance, Generation Z will be better prepared to face the challenges of the ever-evolving world of work (Ingerman & Collier-Reed, 2011).

H5: *Digital literacy has a significant influence on work volition.*

The results of a study by Yazan et al. (2025) in Samsun, a city on the northern coast of Turkey, identified that work volition positively predicts future decent work and plays a mediating role in the relationship between economic constraints and marginalization and future decent work. Research among low-income Turkish female students showed that work volition is positively correlated with future decent work. These findings emphasize the importance of fostering work volition and increasing social support to improve access to decent work for marginalized young Turkish women (Jian et al., 2025).

H6: *Work volition has a significant effect on decent work.*

The results of the study indicate that perceived employability has a positive effect on work volition. This indicates that strengthening perceived employability, such as digital skills and work readiness, significantly increases students' motivation to work. These findings underscore the importance of targeted programs to improve students' employability from an early age, such as career guidance, pre-employment training, and mentoring. Improving these aspects can increase their willingness to enter the workforce, thereby reducing youth unemployment (Nisa, 2026).

H7: *Digital literacy mediates the effect of perceived employability on work volition.*

The results of a study in Hong Kong indicate that students with adequate personal resources (psychological capital) feel empowered to make career decisions, even if they encounter obstacles along the way (Cheung et al., 2020). Universities need to offer training programs and workshops and monitor each component of PsyCap through pre- and post-training comparisons. They should also evaluate the effectiveness of these programs in increasing PsyCap and, ultimately, work volition (Nozimjon, 2025).

H8: *Digital literacy mediates the effect of psychological capital on work volition.*

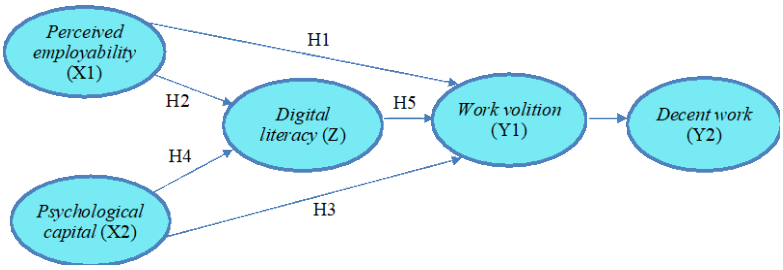

Fig. 1. Research Framework

3. Research Methods

3.1 Research Location

This research was designed as an explanatory, or quantitative, confirmatory study that correlates exogenous variables (perceived employability and psychological capital), endogenous variables (work volition and decent work), and mediators (digital literacy). This research took place in all regencies and cities in Bali. The reason for selecting Bali Province as the research location is based on the increasing job competition in Bali. This is evidenced by the continued increase in job seekers from outside Bali competing with Balinese residents in the labor market. Therefore, it is important to understand the internal factors that are important in guiding students' career paths. Furthermore, students who are Generation Z are currently in the transition phase from academia to the professional world, so the results of this study will serve as a relevant reference in their career decisions.

3.2 Population and Sample

This research was conducted at several universities in Bali Province, focusing on university students. According to data from the Bali Provincial Statistics Agency, the student population of universities (public and private) under the Ministry of Higher Education, Science, and Technology is 150,382 (BPS Bali, 2024). From this population, using the proportional random sampling technique using the Slovin formula with a 5% error rate, the number of research samples obtained was 399 respondents (Rose et al., 2023). A questionnaire instrument with a 5-point Likert scale was used to collect data. Each questionnaire item was given answer choices ranging from 1 (strongly disagree) to 5 (strongly agree). The measurement indicator for the perceived employability variable was adapted from Wiśniewska et al. (2021). The measurement indicator for the psychological capital variable was adapted from research by Huang et al. (2021). Digital literacy was measured with

an indicator adapted from research by Helsper & Smahel (2020). Work volition was measured with an indicator based on the study by Kim & Lee (2022), and the indicator for decent work was adapted from the study by Conigliaro (2021).

$$n = \frac{N}{1 + N_e{}^2}$$

Note: n = sample, N = population, e = error rate 1%, 5%, 10%. The researcher chose 5% to correspond to the significance level (alpha 5%).

3.3 Data Analysis

The research data were analyzed using the Structural Equation Modeling-Partial Least Squares (SEM-PLS) method with SmartPLS software, and SPSS was used for descriptive statistics, specifically a general overview of respondent characteristics. The data analysis stages were divided into instrument testing, structural model testing, and research hypothesis testing. Instrument validity was tested based on factor loading values, average variance extracted, the Fornell-Larcker criterion, and the heterotrait-monotrait ratio. Instrument reliability was tested based on composite reliability and Cronbach's alpha (Sarstedt et al., 2020). The structural model testing stage was measured by examining the coefficient of determination (R^2), goodness of fit (GoF), and predictive relevance (Q^2). The hypothesis testing stage was based on the probability values and t-statistics of each path. The alternative hypothesis (Ha) was accepted if the probability value was less than 0.05 and the t-statistic was greater than 1.96 (Hair Jr et al., 2021).

4. Results And Discussions

4.1 Result of Validity & Reliability

Based on the SEM-PLS test results, it can be seen in Table 2 that all instruments meet the requirements for convergent validity, namely significant loading factors (p value <0.05) and AVE values >0.5 (shown in Table 5). Furthermore, Tables 3 and 4 present discriminant validity that has been met because the square root of the average variance extracted (AVE) for each construct is higher than its correlation with other constructs (Fornell-Larcker), and the HTMT values are all below 0.90. Meanwhile, the reliability test is presented in Table 5, where the Composite Reliability and Cronbach's Alpha all meet the requirements of greater than 0.7.

Table 2
Convergent Validity (Outer Loadings)

Indicator	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
X1.1 ← PE (X1)	0.807	0.805	0.032	25.211	0.000
X1.2 ← PE (X1)	0.600	0.598	0.060	10.015	0.000
X1.3 ← PE (X1)	0.801	0.794	0.039	20.458	0.000
X1.4 ← PE (X1)	0.782	0.780	0.033	23.951	0.000
X1.5 ← PE (X1)	0.689	0.687	0.049	14.134	0.000
X2.1 ← PC (X2)	0.886	0.885	0.023	38.871	0.000
X2.2 ← PC (X2)	0.947	0.946	0.011	87.179	0.000
X2.3 ← PC (X2)	0.585	0.583	0.085	6.846	0.000
X2.4 ← PC (X2)	0.654	0.648	0.076	8.548	0.000
Y1.1 ← WV (Y1)	0.886	0.884	0.022	40.625	0.000
Y1.2 ← WV (Y1)	0.795	0.788	0.052	15.224	0.000
Y1.3 ← WV (Y1)	0.804	0.796	0.047	17.200	0.000
Y1.4 ← WV (Y1)	0.768	0.771	0.035	21.763	0.000
Y1.5 ← WV (Y1)	0.779	0.781	0.033	23.555	0.000
Y2.1 ← DW (Y2)	0.857	0.845	0.045	18.943	0.000
Y2.2 ← DW (Y2)	0.802	0.789	0.066	12.162	0.000
Y2.3 ← DW (Y2)	0.725	0.694	0.100	7.261	0.000
Y2.4 ← DW (Y2)	0.711	0.716	0.062	11.475	0.000
Y2.5 ← DW (Y2)	0.671	0.668	0.074	9.051	0.000
Z.1 ← DL (Z)	0.822	0.822	0.042	19.392	0.000
Z.2 ← DL (Z)	0.949	0.951	0.012	79.727	0.000
Z.3 ← DL (Z)	0.951	0.952	0.012	79.133	0.000

Source: data processed (2026)

Table 3
Discriminant Validity (Fornell-Larcker)

Variable	DL (Z)	DW (Y2)	PC (X2)	PE (X1)	WV (Y1)
DL (Z)	0.909				
DW (Y2)	0.249	0.756			
PC (X2)	0.726	0.228	0.783		
PE (X1)	0.601	0.260	0.597	0.740	
WV (Y1)	0.572	0.409	0.570	0.586	0.807

Source: data processed (2026)

Table 4
Discriminant Validity (Heterotrait Monotrait Ratio-HTMT)

Variable	DL (Z)	DW (Y2)	PC (X2)	PE (X1)	WV (Y1)
DL (Z)					
DW (Y2)	0.299				
PC (X2)	0.875	0.339			
PE (X1)	0.719	0.320	0.772		
WV (Y1)	0.631	0.482	0.691	0.678	

Source: data processed (2026)

Table 5
Reliability Test

Variable	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
DL (Z)	0.893	0.898	0.935	0.827
DW (Y2)	0.811	0.821	0.869	0.572
PC (X2)	0.770	0.804	0.859	0.613
PE (X1)	0.789	0.793	0.857	0.548
WV (Y1)	0.866	0.875	0.903	0.652

Source: data processed (2026)

Inner Model Measurement

After passing the validity and reliability tests, the research model's predictive capabilities were examined. Table 6 presents a fairly good coefficient of determination, as the R^2 for work volition is 0.44, meaning 44% is influenced by PE, PC, and DL variables, with the remainder being influenced by other factors. Predictive relevance Q^2 and Goodness of Fit are obtained based on calculations using the formula:

$$Q^2 = 1 - \left(1 - R_1^2\right)\left(1 - R_2^2\right)\left(1 - R_3^2\right) \quad (1)$$

$$\text{GoF} = \sqrt{\text{Average } R^2 \times \text{Average AVE}} \quad (2)$$

The Q^2 results of 0,63 and GoF 0,35 imply that the research model has good predictive ability.

Table 6
R Square

Variable	R Square	R Square Adjusted
DL (Z)	0.571	0.566
DW (Y2)	0.167	0.162
WV (Y1)	0.440	0.430

Source: data processed (2026)

Table 7
Path Analysis

	Path Coefficients	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
H_1	PE (X1) → WV (Y1)	0.325	0.331	0.097	3.369	0.001
H_2	PE (X1) → DL (Z)	0.260	0.258	0.070	3.720	0.000
H_3	PC (X2) → WV (Y1)	0.216	0.216	0.093	2.316	0.021
H_4	PC (X2) → DL (Z)	0.571	0.578	0.071	8.077	0.000
H_5	DL (Z) → WV (Y1)	0.219	0.223	0.086	2.565	0.011
H_6	WV (Y1) → DW (Y2)	0.409	0.412	0.096	4.278	0.000
H_7	PE (X1) → DL (Z) → WV (Y1)	0.057	0.055	0.022	2.574	0.010
H_8	PC (X2) → DL (Z) → WV (Y1)	0.125	0.131	0.059	2.111	0.035

Source: data processed (2026)

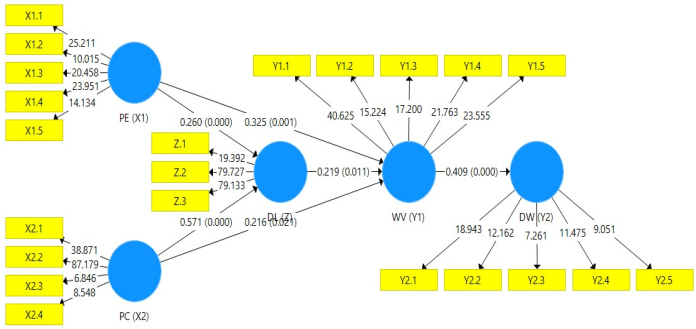

Fig. 2. PLS Output

Based on the SEM-PLS output in Table 7 and Fig. 2, it can be seen that perceived employability has a significant positive effect on work volition and digital literacy (p-values 0.001 & 0.000). Psychological capital also has a significant positive effect on work volition and digital literacy (p-values 0.021 & 0.000), and digital literacy also has a significant positive correlation with work volition (p-value 0.011), and work volition has a significant positive impact on decent work (p-value 0.000). Thus, hypotheses 1 to 6 are declared accepted. Furthermore, testing the indirect effect through mediation reveals that digital literacy empirically mediates the influence of perceived employability and psychological capital on work volition (p-values 0.010 & 0.035). Thus, hypotheses 7 and 8, which include the mediation path, are declared accepted. The positive effect of work volition on decent work,

5. Discussion

The results of the study indicate that perceived employability has a positive effect on work volition. This finding indicates that students who have a high perception of their abilities and opportunities for employment experience greater freedom in choosing their desired occupations. With increasingly fierce job competition in Bali, perceived readiness is an important psychological factor that fosters students' belief that they are not constrained by limitations. This aligns with the concept of work volition, which emphasizes individuals' subjective freedom to make career choices despite pressures in the labor market. These results support previous research by Cheung et al. (2020) and Kwon (2019), which found a positive correlation between perceived employability and work volition.

The positive influence of perceived employability on digital literacy indicates that students who feel highly competitive in the job market are increasingly motivated to develop their digital skills. Perceptions of job opportunities encourage students to improve their digital skills in preparation for the demands of the modern workplace. This finding is relevant to the characteristics of Generation Z, who grew up in the technological era, where digital literacy is not only a supplement but also an asset in increasing job competitiveness. These results support previous research by Jaganathan et al. (2025) and Baluku et al. (2021), who found an empirical link between digital literacy and perceived employability.

Psychological capital has a positive effect on work volition. This indicates that students with strong internal capacity have greater confidence in choosing careers that align with their ideas and interests. The current job market in Bali is increasingly competitive and open to workers from outside the region, so psychological capital plays a crucial role as an internal resource that supports students' sense of control over their career decisions. These results support previous research by Zyberaj et al. (2022) and Huang et al. (2021) that identified a relationship between psychological capital and work volition.

The positive influence of psychological capital on digital literacy indicates that a positive psychological state encourages students to be more active in developing digital skills. Students with strong self-confidence and mental well-being are better prepared to face technological changes. These findings confirm that digital literacy is influenced not only by access to technology but also by an individual's psychological readiness to utilize it. These results support previous research by Kadiyono & Sulistiobudi (2024) and Helsper & Smahel (2020), which found empirical evidence of a correlation between psychological capital and digital literacy.

Digital literacy has a positive effect on work volition. This finding confirms that students' ability to understand and utilize digital technology increases their flexibility in choosing jobs. Digital literacy expands access to information related to job opportunities and new forms of employment, such as e-business, thus providing students with more career alternatives. In Bali, which is undergoing a digital-based creative economy transformation, literacy is a crucial factor for students in increasing their flexibility in choosing jobs. These results support previous research by Jian et al. (2025) and Nozimjon (2025), which found that digital literacy is a predictor of work volition.

The positive effect of work volition on decent work suggests that students who have flexibility in career planning are more optimistic about their chances of obtaining decent employment. Work volition enables individuals to avoid jobs that are inconsistent with their values and desired well-being. These findings confirm that subjective freedom in choosing work is a crucial factor in achieving decent work, particularly for students transitioning from education to work. These results support previous research by Naami et al. (2023) and Nourafkan & Tanova (2023), which demonstrated the significant impact of work volition on decent work.

The results of the mediation test indicate that digital literacy empirically mediates the influence of perceived employability on work volition. This finding indicates that perceived employability not only directly increases freedom of career choice but is also strengthened through digital literacy skills. Competent students will be more confident in making career choices when they also possess adequate digital skills. This finding confirms the role of digital literacy as a bridging mechanism between self-preparedness and career freedom. These results support previous research by Jian et al. (2025) and Jaganathan et al. (2025).

Digital literacy has also been shown to mediate the effect of psychological capital on work volition. This finding suggests that a positive psychology is more effective in increasing freedom of career choice when accompanied by strong digital literacy skills. A strong psychological state further encourages students to utilize technology productively, thereby strengthening their confidence in job opportunities. Digital literacy acts as a bridge between internal resources and perceptions of work freedom among Generation Z students in Bali. These results support previous research by Nozimjon (2025) and Helsper & Smahel (2020).

6. Conclusion

Perceived employability and psychological capital play a crucial role in shaping the work willingness of students in Bali, both directly and indirectly. Digital literacy is a strategic factor that strengthens the influence of both variables on students' freedom to make career choices. Work willingness has been shown to positively contribute to achieving decent work, indicating that subjective freedom in choosing work is a crucial prerequisite for decent work quality. This research confirms that the combination of individual readiness, psychological capital, and digital skills is key to supporting Generation Z students' transition to future careers amidst increasingly complex job competition.

Universities in Bali are advised to integrate the development of psychological capital and digital literacy into their curriculum and student development programs, such as career training, project-based learning, and digital internships. Furthermore, policymakers are expected to provide employability improvement programs that focus not only on technical skills but also on strengthening the internal and mental readiness of the workforce.

7. Research Implications

This research enriches the theoretical study of work volition and decent work by emphasizing the role of digital literacy as a mechanism connecting individual resources, particularly those of Generation Z, with the freedom to plan their careers. The results of this study provide implications for universities to prioritize digital literacy and psychological empowerment as an integral part of their students' career development strategies. These findings can inform policymakers' development of more inclusive and adaptive employment programs to address changes in the digital workforce, particularly in highly competitive regions like Bali.

8. Research Limitations

This study has limitations, namely its cross-sectional design, which limits its ability to capture the dynamics of changes in students' perceptions and psychological well-being over time. The study's focus, being students in Bali, means the results cannot be broadly generalized to other regions or demographic groups with different labor market characteristics. Future researchers are recommended to expand the scope of the study to include recent graduates or other job seekers to gain a comprehensive understanding of the factors influencing decent work.

References

Antara, M. E. Y., Martini, I. A. O., & Sugianingrat, I. A. P. W. (2024a). Innovation Ambidexterity and Digital Capability as Drivers of SMEs' Sustainability. *IEEE Access*. https://doi.org/10.1109/ACCESS.2024.3470029.

Antara, M. E. Y., Sugianingrat, I. A. P. W., & Martini, I. A. O. (2024b). Leadership strategy as the driver of achieving sustainable business: A case of endek weaving SMEs in Indonesia. *Problems and Perspectives in Management*, *22*(4), 288. http://dx.doi.org/10.21511/ppm.22(4).2024.22.

Aslam, A., Mudassir, M., Ghouse, G., & Farooq, A. (2024). Introducing modern human capital model. *Journal of the Knowledge Economy*, *15*(2), 6099-6110. https://doi.org/10.1007/s13132-023-01296-8.

Badan Pusat Statistik Provinsi Bali (2024). *Jumlah Mahasiswa (Negeri dan Swasta) di Bawah Kementerian Pendidikan Tinggi, Sains, dan Teknologi Menurut Kabupaten/Kota di Provinsi Bali*. Diakses dari https://bali.bps.go.id/id/statistics-table/3/Y21kVGRHNXZVMEl3S3pCRlIyMHJRbnB1WkVZemR6MDkjMw==/jumlah-perguruan-tinggi-sup-1--sup---dosen--dan-mahasiswa-negeri-dan-swasta--di-bawah-kementerian-riset--teknologi-dan-pendidikan-tinggi-kementerian-pendidikan-dan-kebudayaan-menurut-kabupaten-kota-di-provinsi-bali--2018.html

Baluku, M. M., Mugabi, E. N., Nansamba, J., Matagi, L., Onderi, P., & Otto, K. (2021). Psychological capital and career outcomes among final year university students: The mediating role of career engagement and perceived employability. *International Journal of Applied Positive Psychology*, *6*(1), 55-80. https://doi.org/10.1007/s41042-020-00040-w.

Bargsted, M., Yeves, J., Merino, C., & Venegas-Muggli, J. I. (2021). Career success is not always an outcome: Its mediating role between competence employability model and perceived employability. *Career Development International*, *26*(2), 119-139. https://doi.org/10.1108/CDI-06-2020-0141.

Bejaković, P., & Mrnjavac, Ž. (2020). The importance of digital literacy on the labour market. *Employee Relations: The International Journal*, *42*(4), 921-932. https://doi.org/10.1108/ER-07-2019-0274.

Carkit, E., & Yalçın, S. B. (2025). Linking Career Optimism to Work Volition and Future Decent Work. *Journal of Career Development*, *52*(5), 615-629. https://doi.org/10.1177/08948453251363223.

Chaffin, T. D., Luthans, B. C., & Luthans, K. W. (2023). Integrity, positive psychological capital and academic performance. *Journal of Management Development*, *42*(2), 93-105. https://doi.org/10.1108/JMD-07-2022-0162.

Cheung, F., Ngo, H. Y., & Leung, A. (2020). Predicting work volition among undergraduate students in the United States and Hong Kong. *Journal of Career Development*, *47*(5), 565-578. https://doi.org/10.1177/0894845318803469.

Cole, C., Mross, E., & Pritt, A. (2024). The Myth of the 'Born Digital:'Addressing Student Computer and Digital Literacy. *J. New Librarianship*, *9*, 1. https://doi.org/10.33011/newlibs/17/1.

Conigliaro, P. (2021). Between social sustainability and subjective well-being: The role of decent work. *Social Indicators Research*, *157*(1), 139-174. https://doi.org/10.1007/s11205-020-02564-9.

Duffy, R. D., Kim, H. J., Allan, B. A., & Prieto, C. G. (2020). Predictors of decent work across time: Testing propositions from Psychology of Working Theory. *Journal of Vocational Behavior*, *123*, 103507. https://doi.org/10.1016/j.jvb.2020.103507.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook* (p. 197). Springer Nature. https://doi.org/10.1007/978-3-030-80519-7.

Helsper, E. J., & Smahel, D. (2020). Excessive internet use by young Europeans: psychological vulnerability and digital literacy?. *Information, communication & society*, *23*(9), 1255-1273. https://doi.org/10.1080/1369118X.2018.1563203.

Huang, M. T., & Mano, P. (2025). The Mediating Role of Psychological Capital in Predicting Decent Work. *The Career Development Quarterly*, *73*(2), 119-129. https://doi.org/10.1002/cdq.12375.

Huang, S., Yu, Z., Shao, Y., Yu, M., & Li, Z. (2021). Relative effects of human capital, social capital and psychological capital on hotel employees' job performance. *International journal of contemporary hospitality management*, *33*(2), 490-512. https://doi.org/10.1108/IJCHM-07-2020-0650.

Ingerman, Å., & Collier-Reed, B. (2011). Technological literacy reconsidered: A model for enactment. *International Journal of Technology and Design Education*, *21*(2), 137-148. https://doi.org/10.1007/s10798-009-9108-6.

Jaganathan, M., Othman, S. Z., Kheng, Y. K., & Keat, O. Y. A. (2025). Conceptual Framework of Graduate Employability: The Mediating Role of Job Readiness in The Relationship Between Career Adaptability, Digital Literacy, and Self-Efficacy. *EPRA International Journal of Environmental Economics, Commerce and Educational Management*, *12* (6), 269-278. https://eprajournals.com/IJCM/article/16771.

Jian, C., Zou, D., & Mahadi, N. (2025). Social media, digital literacy, and career competence: a mixed methods study among university students in China. *Frontiers in psychology*, *16*, 1700213. https://doi.org/10.3389/fpsyg.2025.1700213.

Kadiyono, A. L., & Sulistiobudi, R. A. (2024). Linking psychological capital, technology readiness and entrepreneurial orientation to entrepreneurs' financial performance: a study of women MSMEs in Indonesia. *Cogent Business & Management*, *11*(1), 2413380. https://doi.org/10.1080/23311975.2024.2413380.

Kementerian Ketenagakerjaan Republik Indonesia, Satu Data Ketenagakerjaan (2025). *Pengangguran Terbuka Periode Februari 2025 di Indonesia*. Diakses dari https://satudata.kemnaker.go.id/data/kumpulan-data/912

Kim, N. R. (2025). Why does university students' work volition lead to career satisfaction?. *International Journal for Educational and Vocational Guidance*, *25*(2), 663-677. https://doi.org/10.1007/s10775-023-09613-y.

Kim, N. R., & Lee, K. H. (2022). Validation of Korean version of the work volition scale. *Journal of Career Development*, *49*(3), 666-680. https://doi.org/10.1177/0894845320957095.

Kompas.com (2025). *Satu Lowongan Kerja Kini Diperebutkan sampai 16 Orang*. Diakses dari https://money.kompas.com/read/2025/11/25/133515326/satu-lowongan-kerja-kini-diperebutkan-sampai-16-orang

Kwon, J. E. (2019). Work volition and career adaptability as predictors of employability: Examining a moderated mediating process. *Sustainability*, *11*(24), 7089. https://doi.org/10.3390/su11247089.

Ma, K., & Fang, B. (2024). Exploring Generation Z's expectations at future work: the impact of digital technology on job searching. *European Journal of Training and Development*, *48*(9), 933-953. https://doi.org/10.1108/EJTD-05-2023-0076.

Macaulay, B. (2025). Moral Implications of Human Capital Theory in the History of Economic Thought. *OIKONOMOS: A Journal of Student Research in the History of Economic Thought*, *1*(1), 27-34. https://oikonomosjournal.com/index.php/oikonomos/article/view/12.

Masdonati, J., Massoudi, K., Blustein, D. L., & Duffy, R. D. (2022). Moving toward decent work: Application of the psychology of working theory to the school-to-work transition. *Journal of Career Development*, *49*(1), 41-59. https://doi.org/10.1177/0894845321991681.

Naami, A., Gheysari, S., & Mohammadhosseini, A. (2023). Exploring the Relationship of Perceived Social Support and Work Volition with Job Satisfaction and Turnover Intention: the Mediating Role of Decent Work. *International Journal of Psychology (IPA)*, *17*(1), 37-61. http://ijpb.ir/article-1-502-en.html.

Nisa, W. (2026). The Effect of Employability on the Willingness to Work of Vocational Students in West Sumatra. *G-Couns: Jurnal Bimbingan dan Konseling*, *10*(01), 74-88. https://doi.org/10.31316/g-couns.v10i01.8154.

Nourafkan, N. J., & Tanova, C. (2023). Employee perceptions of decent work: a systematic literature review of quantitative studies. *Current Psychology*, *42*(34), 29772-29800. https://doi.org/10.1007/s12144-023-04837-1.

Nozimjon, K. (2025). The Impact Of Digital Literacy On Students' Academic Success And Career Readiness. *International Journal of Artificial Intelligence*, 1(5), 755–758. Retrieved from https://inlibrary.uz/index.php/ijai/article/view/115443.

Oliveira, L. B. D., & Silva, B. C. D. L. D. (2024). Antecedents of perceived employability among higher education students. *RAM. Revista de Administração Mackenzie*, *25*(4), eRAMG240155. https://doi.org/10.1590/1678-6971/eRAMG240155.

Portal Informasi Indonesia-Indonesia.go.id (2025). *Program Magang Nasional Dibuka Lagi*. Diakses dari https://indonesia.go.id/kategori/berita/10244/

Rios, J. A., Ling, G., Pugh, R., Becker, D., & Bacall, A. (2020). Identifying critical 21st-century skills for workplace success: A content analysis of job advertisements. *Educational Researcher*, *49*(2), 80-89. https://doi.org/10.3102/0013189X19890600.

Rose, S., Spinks, N., & Canhoto, A. I. (2023). *Management research: applying the principles of business research methods*. Routledge. https://doi.org/10.4324/9781003381006.

Sari, D. A., Margules, C., Lim, H. S., Sayer, J. A., Boedhihartono, A. K., Macgregor, C. J., ... & Poon, E. (2022). Performance auditing to assess the implementation of the Sustainable Development Goals (SDGs) in Indonesia. *Sustainability*, *14*(19), 12772. https://doi.org/10.3390/su141912772.

Sarstedt, M., Ringle, C. M., Cheah, J. H., Ting, H., Moisescu, O. I., & Radomir, L. (2020). Structural model robustness checks in PLS-SEM. *Tourism Economics*, *26*(4), 531-554. https://doi.org/10.1177/1354816618823921.

Shah, N., Bano, S., Saraih, U. N., Abdelwahed, N. A. A., & Soomro, B. A. (2023). Leading towards the students' career development and career intentions through using multidimensional soft skills in the digital age. *Education+ Training*, *65*(6/7), 848-870. https://doi.org/10.1108/ET-12-2022-0470.

Skare, M., & Soriano, D. R. (2021). How globalization is changing digital technology adoption: An international perspective. *Journal of Innovation & Knowledge*, *6*(4), 222-233. https://doi.org/10.1016/j.jik.2021.04.001.

Su, X., & Chan, K. L. (2023). The associations of decent work with wellbeing and career capabilities: A meta-analysis. *Frontiers in psychology*, *14*, 1068599. https://doi.org/10.3389/fpsyg.2023.1068599.

Suliswanto, M. S. W. (2024). A proposed sustainable welfare measurement for Indonesia. *Multidisciplinary Reviews*, *7*(9), 2024199-2024199. https://doi.org/10.31893/multirev.2024199.

Thawley, C., Crystallin, M., & Verico, K. (2024). Towards a higher growth path for Indonesia. *Bulletin of Indonesian Economic Studies*, *60*(3), 247-282. https://doi.org/10.1080/00074918.2024.2432035.

Trifan, V. A., & Pantea, M. F. (2024). Shifting priorities and expectations in the new world of work. Insights from millennials and generation Z. *Journal of Business Economics and Management*, *25*(5), 1075-1096. https://doi.org/10.3846/jbem.2024.22469.

Wiśniewska, S., Wiśniewski, K., & Szydło, R. (2021). The relationship between organizational learning at the individual level and perceived employability: A model-based approach. *Sustainability*, *13*(14), 7561. https://doi.org/10.3390/su13147561.

Yazan, Z. O., Kırazcı, F., & Buyukgoze-Kavas, A. (2025). Predictors of perceived future decent work and the moderating role of social support among low-income Turkish Female Students. *International Journal for Educational and Vocational Guidance*, 1-26. https://doi.org/10.1007/s10775-025-09747-1.

Zyberaj, J., Seibel, S., Schowalter, A. F., Pötz, L., Richter-Killenberg, S., & Volmer, J. (2022). Developing sustainable careers during a pandemic: The role of psychological capital and career adaptability. *Sustainability*, *14*(5), 3105. https://doi.org/10.3390/su14053105.

© 2026 by the authors; licensee Growing Science, Canada. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC, BY) license (http://creativecommons.org/licenses/by/4.0/).