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Investigation of workplace literacy in Indonesia to enhance employability opportunities

David Sukardi Kodrat[a*], Damelinda Basauli Tambunan[a] and Wendra Hartono[a]

[a]*Universitas Ciputra Surabaya, Indonesia*

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A B S T R A C T

Indonesia's enduring vision 2045 requires sustained growth driven by productivity and human resources quality. A goal attainable only through a workforce proficient in critical thinking and digital literacy. Despite the acknowledged significance of digital literacy, there is limited empirical evidence on its effects, especially concerning employment prospects. While information and digital literacy are increasingly recognized as vital competencies within organizations, existing literature has somewhat overlooked the literacy levels of employees. This study aims to explore the impact of information and digital literacy on employees' perspectives regarding the utility and user-friendliness of digital technologies, subsequently assessing the implications for their overall employability in Indonesia. A survey involving 258 Indonesians. Data collecting is conducted through questionnaires and analysis using structural equation modeling investigates the factors influencing employability using the Technology Acceptance Model. The findings reveal that in Indonesia, there is a heightened emphasis on computer literacy and information literacy in both educational and professional realms. This might be due to the Indonesian education system and industry standards prioritizing these specific digital competencies, considering them essential for navigating technology, accessing information, and effectively utilizing digital tools in the professional sphere.

1. Introduction

Workplace has experienced a gradual shift towards greater integration of technology, the emergence of new roles, and the elimination of old ones (Khan, et al., 2022). At the same time, the education sector continues to experience evolution driven by major changes in the fields of information and technology (Kolbjornsrud, et al., 2016; Dewi et al., 2021). Now, modern education is not just about factual knowledge, but prioritizes the development of soft skills, including communication, creative thinking, and adaptability (Khan, et al., 2022) to create a more humanistic education (Fahmi, 2021). The skills sought are not only academic qualifications, but also prioritizing the ability to analyze and interpret data, as well as apply knowledge effectively in the workplace.

Traditionally, the three Rs (reading, writing, and basic arithmetic) serve as a benchmark for knowledge, communication skills, and predictors of success in the workplace (Jose, 2016). However, today's workplace shows that traditional literacy skills are still lacking (Jose, 2016) requiring a focus on judgment work, treating Intelligent Machines as “Colleagues”, working like a designer, and developing social skills and networks (Kolbjornsrud, et al. , 2016). This new literacy includes communication, problem solving, analysis, assessing, evaluation, collaboration, construction, creation, and proficiency in information technology and digital tools (Jose, 2016). Growing trends suggest that mastery of these literacies is critical to achieving success in an interconnected world, as researchers such as Kist (2013) and Dudeney (2014) observe.

* Corresponding author.
E-mail address: david.kodrat@ciputra.ac.id (D. S. Kodrat)

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The term "digital literacy" was first coined in the 1980s. Initial understanding shows the ability to use a computer for work. Gilster (1997) has expanded the concept of digital literacy by defining it as a set of attitudes, understanding, and skills required to handle and communicate information effectively through various media and formats. In contrast to a rigid list of skills, Gilster's concept encapsulates a broader idea, aligned with contemporary interpretations of literacy, involving the proficient use of technology to write, read, and handle information. On the other hand, Martin (2008) defines digital literacy as the ability to understand, analyze and assess information using digital technology which involves knowledge of various technologies, understanding their effective use and awareness of their social impact. Digital literacy will improve communication, work efficiency and productivity, especially in collaboration with other people who have similar abilities (Martin, 2008). In today's highly competitive market, digital literacy is considered not only a necessity in the workplace but also an important life skill (Morris, 2018). This can empower individuals to create, manage, and derive value from information and turn it into practical use (Khan, et al., 2022).

Dudeney (2015) highlights that new literacies, such as communication, interaction, analysis, collaboration and creation, can be applied to both analog and digital domains. Warschauer's (2011) pedagogical framework focuses on content, community, construction, and composition as areas for incorporating digital literacy into educational contexts. These practices contribute to increased information literacy, community building through online networking, multimedia document creation, and composition skills essential for collaborative writing and skills required in work and academic environments.

Indonesia's Vision for 2045 has 4 pillars, namely: (1) human development and mastery of science and technology, (2) sustainable economic development, (3) equitable development, and (4) strengthening national resilience and governance (Ministry of National Development Planning / Bappenas , 2019). This vision requires sustainable, productivity-driven growth through a critically thinking and digitally literate workforce (Kahn, et. al., 2022). Although there is extensive research on the impact of digital literacy in the workplace, attention still needs to be paid to professionals' perceptions and reactions to technological innovations (Chiu & Wang, 2008). Students' attitudes towards digital literacy in the workplace are very important, because a lack of consideration will hinder the implementation of e-learning applications (Admiraal & Lockhorst, 2009). Rapid technological developments encourage the need to explore the impact of individual digital literacy on employability. Digital literacy includes the use of software or digital devices, complex cognitive, emotional and sociological skills that are important in a digital environment (Mohammadyari and Singh, 2015). However, research exploring the factors that encourage employees to become digitally literate in the 21st century workforce is still limited (Khan, et. al., 2022). There is no proper framework or guidance, further exacerbating this gap. Therefore, regular updating of these skills is necessary to keep pace with changing circumstances and the ever-evolving digital information environment. As the labor market undergoes a global transformation, it is necessary to update Computer Information Technology knowledge and skills so that digital literacy emerges as a significant influence on educational outcomes and the labor market. Despite this importance, there is little evidence regarding the impact of digital literacy on academic performance and employment opportunities. Although information and digital literacy has received attention as an important competency for individuals in organizations, employee literacy levels are still neglected in the existing literature. This research aims to investigate the influence of information and digital literacy on employees' perspectives regarding the usefulness and ease of use of digital technology, then assess the implications for their overall employability.

2. Literature Review

The theoretical basis of this research is based on the research of Nikou et al. (2022), modified to align with current job skill requirements. To assess and analyze factors that influence work ability by integrating the Technology Acceptance Model (TAM). As an introduction to this research model, new information and digital literacies will be introduced.

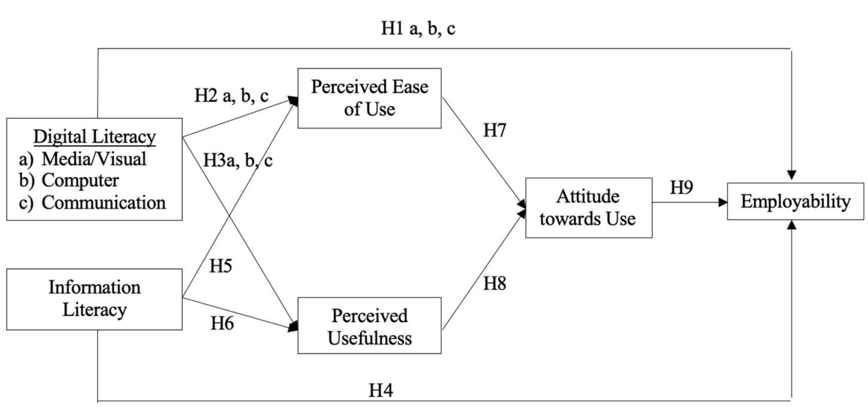

Fig. 1. Conceptual Framework
Source: Nikou, S., Reuver, M.D., and Kanafi, M.M, (2022)

2.1 Employability

Digital skills are increasingly recognized as having increasing prospects in the world of work. However, there is a significant research gap in terms of understanding the broader implications of digital literacy on employability due to the greater emphasis on technical proficiency. Existing questions often focus on the acquisition of specific digital competencies, such as the use of software or programming languages, and ignore broader aspects of digital literacy that are important for employability in today's digital era.

Recent investigations have explored various factors influencing employability, including human resource practices (Ybema et al., 2017), career competencies, achievements, graduate employability factors (Finch et al., 2013), social mobility aptitude, technical skills, soft skills, and the role of educators (Choukade & Ingalagi, 2020). However, the research does not directly mention digital skills as one of the causes.

This research aims to fill the existing gap by examining the complexity of digital and information literacy and its implications for employment potential. By considering these dimensions, this research seeks to provide a comprehensive understanding of the impact of digital and information skills on employability. Additionally, this investigation will explore how digital and information literacy intersects with job prospects across a variety of industries and job roles. This research will analyze whether specific industries prioritize different dimensions of digital literacy and how demand for digital skills varies across sectors.

2.2 Digital Literacy

The 21st century world of work raises digital literacy as a basic element, which places those who are experts in this field as the main key in the future workforce such as digital platforms and apps; e-commerce and digital business; and Artificial Intelligence (WEF, 2023). While Information Literacy (IL) provides a comprehensive framework for managing and utilizing information, Digital Literacy (DL) specifically focuses on interacting with technology and utilizing Information and Communication Technologies (ICT) for the retrieval and application of information (European Commission, 2016). Digital literacy, skills and competencies have an important role in encouraging community involvement. In addition to social and digital inclusiveness, these skills play an important role in improving one's employability and driving economic progress (Ferrari, 2012). Considering that digital literacy aims to consolidate and distribute work-related knowledge and has a positive correlation between digital literacy and work ability (Ali-Hassan et al., 2011). Even though the results are significant, the impact of digital literacy on employees still receives less attention. Most research focuses on factors that support digital literacy acceptance or the relationship between e-learning acceptance and organizational performance (Ong et al., 2004). At the individual level, few researchers have explored the impact of digital literacy acceptance on individual users. Most studies only examine user satisfaction (Goh, Elliott, & Quon, 2012; Johnson et al., 2008; Roca & Gagne, 2008). This research aims to fill this gap by examining the relationship between digital literacy and its impact on employability. Digital literacy has been proven to reduce stress levels and increase individuals' self-confidence in their performance achievements (Eastin & LaRose, 2000). In the context of e-learning, individuals with low levels of digital literacy have less positive perceptions of its ease of use and usefulness (Ferro et al., 2011). In contrast, those with a high level of digital literacy have confidence in using digital technology to improve performance, making it easier to access, evaluate and adapt the system to their learning needs. High digital literacy reduces cognitive load, as individuals are familiar with the interface, access options, terminology, and norms of new tools.

H_1: *There is a significant relationship between digital literacy (media/visual; computer; and communication) and employability.*
H_2: *There is a significant relationship between digital literacy (media/visual; computers; and communication) and perceived ease of use.*
H_3: *There is a significant relationship between digital literacy (media/visual; computers; and communication) and perceived usefulness.*

2.3 Information literacy

Gilbert (2017) sees the need to cultivate a variety of information literacy competencies including: proficient resource utilization, information synthesis, evaluation, practical application, and collaborative skills. Additionally, there is an increasing demand for digital proficiency in the virtual professional domain. Information literacy involves the skillful application of digital technology to discover, identify, analyze, and integrate resources. This includes assessing resource credibility, using appropriate citation methods, complying with legal and ethical considerations regarding resource use, and formulating research questions appropriately, effectively, and efficiently (Reddy et al., 2021). According to Lloyd and Williamson (2008), information literacy is experienced differently in the work environment. Information skills learned during education may not be transferable to work contexts (Forster, 2017). The performance of work activities requires employees to engage with information in a variety of ways, which means employees' abilities to understand the environment and generally accepted practices must be developed and maintained (Lloyd, 2017).

Yu et al. (2017) argue that information literacy empowers individuals to master information content, broaden investigative horizons, recognize the need for information, and be adept at finding, evaluating, and applying necessary information. Ng (2012) also argues that an information literate individual is an intelligent thinker who is able to effectively find and evaluate web-based information wisely. The two studies, namely Yu et al. (2017) and Ng (2012) contributed to defining information literacy, emphasizing the competencies and skills essential for navigating the complex modern information landscape.

In professional contexts, the scarcity of effective information literacy training often underlies the limited levels of information literacy in the world of work (Gilbert, 2017; Kirton and Barham, 2005). For example, Naveed and Rafique (2018) researched the information literacy of scientists revealing their confidence and proficiency in using search tools and electronic information services, although there were still shortcomings in assessing the certainty of the quality of the information collected. This study aims to bridge this gap by exploring the impact of information literacy on employability outcomes.

H_4: *There is a significant relationship between information literacy and employability.*
H_5: *There is a significant relationship between information literacy and perceived ease of use.*
H_6: *There is a significant relationship between information literacy and perceived usefulness.*

2.4 Perceived Ease of Use (PEU) and Perceived Usefulness (PU)

The Technology Acceptance Model (TAM) introduced by Davis in 1989 is a widely accepted and applied conceptual framework for analyzing the adoption and integration of new technology solutions at the individual level and in organizational contexts. This model consists of two main factors: perceived ease of use (PEU), which reflects the user's personal perception of the simplicity associated with interacting with a particular system, and perceived usefulness (PU), which focuses on the user's subjective belief that the use of a particular technology can improve performance their work.
The influence of perceived usefulness is clearly visible in shaping individuals' behavioral intentions, which functions as a predictor of their tendency to adopt new technology (Sudaryanto, Hendrawan and Andrian, 2023). As highlighted by Damerji and Salimi (2021), the perceived benefits of digital learning have a significant impact on technology adoption among students in higher education, thereby helping them in completing various tasks. The positive impact of perceived usefulness on technology adoption is in line with the findings of Lawson-Body et al. (2018). Apart from that, Alamri's (2019) research emphasizes that perceived ease of use has an important role in shaping students' tendencies to adopt artificial intelligence. The rationale behind this is that easy-to-use technology improves students' perceived performance, thereby influencing the adoption of artificial intelligence. These insights collectively underscore the importance of perceived usefulness and ease of use in driving technology adoption in various fields. In the context of this research, PEU and PU will act as mediators, facilitating understanding of how digital literacy and use of digital technology impacts employee attitudes.

H_7: *There is a significant relationship between perceived ease of use and attitude.*
H_8: There is a significant relationship between perceived usefulness and attitude.

2.5 Attitude towards Use (ATU)

Attitude in this context refers to consumers' psychological assessment of a product (Ahmmadi et al., 2021). Previous research has succeeded in establishing a relationship between individuals' Attitude Towards Use (ATU) towards smart factory technology and their positive experiences and acceptance of new technology (Oh et al., 2019). The researchers concluded that the success of a business significantly depends on organizational and individual factors, including employees' ATU towards the technology and their perception of ease of use (Oh et al., 2019). Ng (2012) found that students showed more positive attitudes towards the application of e-learning technology after completing a course, indicating a positive change in their perceptions. Kimiloglu et al. (2017) examined ATU e-learning technology for corporate training, revealing positive views from companies who recognized the benefits of integrating such technology into their current practices.
With the increasing demand for digital literacy among entrepreneurs and its widespread implementation, it is important to explore the relationship between individual attitudes towards digital literacy and the actual development of digital competencies. Current research has somewhat neglected the impact of attitudes on the formation of individual motivation and engagement during skill development. Therefore, gaining deeper insight into how individuals' attitudes towards digital literacy contribute to directing their employability is critical.

This research aims at addressing this knowledge gap by investigating the influence of attitudes towards the use of digital skills on individual mastery of those skills. Specifically, this research seeks to explore how positive attitudes toward digital skills, including perceived ease of use and perceived usefulness, act as motivational drivers, encouraging individuals to actively participate in learning and refine their digital skills. Ultimately, this active engagement contributes to their overall job security and employability.

H_9: *There is a significant relationship between attitude and work ability.*

3. Methodology

To achieve the specified objectives and validate the hypothesized results, a quantitative research methodology was used. A purposive sampling approach was used, targeting currently employed individuals to participate in the survey. In social science and business research, it is common to estimate appropriate sample sizes through power analysis (Faul et al., 2007). G*Power is a tool that uses various statistical methods, recommended for calculating sample sizes (Kang, 2021). For the ANOVA test, Cohen suggests "small," "medium," and "large" effect sizes of 0.02, 0.15, and 0.35, respectively. In this study, a moderate effect size was applied, resulting in an estimated minimum sample size of 118 ($\alpha = 0.01$, $1-\beta = 0.95$). To ensure that the minimum sample size was met, 258 questionnaires were collected from respondents who were currently working.
Data were collected using carefully designed questionnaires to be effective and ensure their length was manageable for respondents. Part A consists of independent variable statements measuring information literacy and digital literacy, including media/visual literacy, communication literacy, and computer literacy. Parts C, D, and E each contain mediator variable questions related to perceived ease of use, perceived usefulness, and attitude. Part F relates to the dependent variable, namely employability. Part H is the respondent's demographic profile consisting of gender, monthly income, age and education level.

Statements in Parts B to F are measured using a five-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5). Digital literacy statement adapted from Zahoor et al. (2023), Ukwoma et al. (2016), Simon et al. (2017), and Ng (2012), while the variable "information literacy" was adapted from Zahoor et al. (2023) and Ukwoma and Iwundu (2016). Attitude statements, perceived ease of use, and perceived usefulness were adapted from Reddy et al. (2023), and the employability statement was adopted from Zahoor et al. (2023). Online and offline field surveys were conducted in November 2023. To ensure the clarity and feasibility of the questionnaire, a pre-test was given to four randomly selected human resources experts. All statements were deemed clear, leading to the start of pilot data collection. Following Morris and Rosenbloom's (2017) recommendations, 50 survey questionnaires were administered for the pilot study. The reliability of the measurement was validated using Cronbach's Alpha, exceeding the recommended value of 0.7, which indicates a high level of reliability (Nunnally and Bernstein, 1994).

4. Data Analysis and Results

The main goal of this research is to create an improved model for predicting employability. This model consists of five main constructs: digital literacy (encompassing media/visual, computer, and communication skills), information literacy, perceived ease of use, perceived usefulness, and attitude. To ensure the structure of these variables and explore their relationships, exploratory factor analysis (EFA) was carried out with a sample size of 50 respondents, following the recommendations of Worthington and Whittington (2006) and Field (2013). Next, confirmatory factor analysis (CFA) and structural equation modeling (SEM) were used using AMOS, involving a sample of 258 respondents. This approach aims to assess hypotheses derived from existing theory, validate the factor structure (Hair et al., 2013), and reveal relationships between specified constructs.

4.1 Descriptive Analysis

Demographic details in Indonesia show that 49.2 percent are men and 50.8 percent are women, as shown in Table 1.

Table 1
Summary of Demographic Profile of Respondents (n=258)

Variable	%	Variables	%
Gender		**Industry Sector**	
Male	49.2	Public Sector	8.5
Female	50.8	Private Sector	82.9
		Not-For-Profit Sector	1.6
Age		Others	7.0
18 to 24	29.1		
25 to 29	26.7	**Firm Age (Years)**	
30 to 34	19.4	Less than 1 year	8.5
35 to 39	12.8	1 - 3	82.9
40 to 44	6.2	4 - 6	1.6
45 to 49	5.0	7 - 9	7.0
50 to 54	0.8	10 and above	0.0
Education Level			
Secondary Education	3.9		
Diploma	4.7		
Bachelor's degree	65.5		
Master	22.9		
PhD	3.1		

There is a trend that women entering the world of work are starting to increase. Based on an analysis of job distribution, Indonesian society shows a higher prevalence in the private sector, namely 82.9 percent, 8.5 percent in the public sector, and 1.6 percent in the non-profit sector. Based on length of service, the majority of Indonesian citizens, 82.9 percent, work in companies with an operational period of 1 to 3 years. This shows the high growth of start-ups in Indonesia with the government's program to create one million new entrepreneurs by 2024. In terms of age, 29.1 percent of Indonesia's population is between 18 and 24 years old. This shows that Indonesia is starting to enjoy a demographic bonus. Regarding educational attainment, 65.5 percent of Indonesians have a bachelor's degree. This is due to the large number of universities in Indonesia, namely around 4,004. Of this number, 184 are state universities, the remaining 3,820 are private universities.

4.2 Exploratory Factor Analysis

Exploratory factor analysis (EFA) was used to assess the 41 items using the Principal Axis Factoring (Promax) oblique rotation method. The decision to use oblique rotation was influenced by the recognition that factors in social science research often show interrelationships, in line with Costello and Osborne's (2005) recommendations. The agreement with the statistical assumptions, outlined in Table 2, further validates the feasibility of this analytical approach.

Table 2
Result of Exploratory Factor Analysis

Criteria	Requirement		Value
Bartlett's test of sphericity	p<0.01 (Field, 2013)		0.000
Kaiser-Meyer-Olkin (KMO)	> 0.90 is marvellous (Hutcheson and Sofroniou, 1999)		0.927
Communalities	Removed a communalities value that is less than 0.5 (Field, 2013)	Communication Literacy (3 items) were removed due to the value is less than 0.5	
Total variance explained	> 50% minimum requirement (Podsakoff and Organ, 1986)		65.094
First factor's variance	< 50% threshold (Podsakoff and Organ, 1986)		13.211

4.3 Measurement Model Assessment and CFA

4.3.1 Model Fi Indicators

Table 3 presents the goodness-of-fit indices for the measurement model, and the recommended benchmarks for each indicator. Based on the guidelines of Hair et al. (2010) regarding structural equation modeling, and comprehensive model suitability assessment by combining indicators from three categories, namely: parsimonious fit, incremental fit, and absolute fit. The Absolute fit indicators are RMSEA of 0.054 and SRMR of 0.052, indicating that both indicators are acceptable. In addition, the GFI coefficient of 0.840 and AGFI of 0.810 also supports this conclusion. In addition, four additional fit indices (NFI, CFI, TLI, and IFI) of 0.852, 0.931, 0.923, and 0.932 respectively all showed acceptable fit values. The parsimony fit index contributed to the overall positive assessment, namely: x2/df value of 1.737, PGFI of 0.707, and PNFI of 0.762. All of these values are considered acceptable. This collective evidence shows that the model effectively fits the data. Next, appropriate models are checked for psychometric aspects such as: indicator reliability, discriminant validity, convergent validity, and concept reliability to provide a more comprehensive evaluation.

Table 3
Goodness-of-Fit Indices for the Measurement Model

Name of Category	Name of Index	Adequate of Model Fit	Result
Absolute Fit Measure	Goodness-of-fit (GFI)	> 0.90	0.840
	Adjusted goodness-of-fit index (AGFI)	> 0.80	0.810
	Root mean square error of approximation (RMSEA)	< 0.08	0.054
	Standardized root mean square residual (SRMR)	< 0.08	0.052
Incremental Fit Measure	Normed fit index (NFI)	> 0.80	0.852
	Comparative-fit-index (CFI)	> 0.90	0.931
	Tucker-Lewis coefficient index (TLI)	> 0.90	0.923
	The increment fit index (IFI)	> 0.90	0.932
Parsimonious Fit Measure	Chisq/df	1.00-5.00	1.737
	Parsimony Goodness-of-Fit Index (PGFI)	> 0.50	0.707
	Parsimony normed fit index (PNFI)	> 0.50	0.762

4.3.2 Construct Reliability

Individual Cronbach coefficients for all latent variables ranged from 0.696 to 0.915, exceeding the acceptable threshold of 0.60, as recommended by Kannana and Tan (2005). In addition, the composite reliability (CR) value exceeds the required threshold, namely 0.7, in accordance with Fornell and Larcker (1981), which indicates that the construct reliability criteria have been met satisfactorily. Consequently, Cronbach's alpha and CR values for all structures were considered error-free, as explained in detail in Table 4.

4.3.3 Reliability Indicators

Following the criteria outlined by Hair et al. (2013), high loading structures show strong correlations between related metrics. It is recommended to consider eliminating only loadings in the 0.4 to 0.7 range if this can increase the Composite Reliability (CR) or Average Variance Extracted (AVE) values. Items with loadings below 0.40 should be removed from the scale, as suggested by Hair et al. (2011). In this study, item loadings ranged from 0.681 to 0.898. These values exceed the recommended threshold of 0.4, according to Hair et al. (2011).

4.3.4 Convergent Validity

Convergent validity assesses how well a measure correlates with other measures of the same construct, and Average Variance Extracted (AVE) serves as a tool to evaluate this validity (Hair et al., 2013). When AVE is equal to or greater than 0.50, this indicates that the construct accounts for more than half of the variance in the indicator. In contrast, an AVE below 0.50 indicates that conceptual variation cannot fully explain item errors (Hair et al., 2013). Table 4 displays the results of convergent validity assessment using AVE. Media/visual literacy data, as indicated by four items, was excluded from the study because the Average Variance Extracted (AVE) value was below the 0.50 threshold. This decision is consistent with the criteria for ensuring satisfactory construct validity in the overall model.

Table 4
Loading, Cronbach's Alpha, CR, and AVE for the Full Model

Construct	Items	Cronbach Alpha (>0.6)	Factor Loading (>0.4)	CR (>0.7)	AVE (>0.5)	Skewness	Kurtosis
Employability	EMP1	0.888	0.733	0.982	0.552	-1.017	1.077
	EMP2		0.702			-0.928	0.521
	EMP3		0.759			-0.968	0.715
	EMP4		0.738			-0.924	0.714
	EMP5		0.799			-1.173	1.503
	EMP6		0.725			-1.191	2.587
Attitude ATT4	ATT1	0.812	0.756	0.953	0.614	-1.071	0.993
	ATT2		0.898			-0.776	0.058
	ATT3		0.681			-0.989	1.491
Perceived Ease of Use	PEOU1	0.868	0.774	0.966	0.625	-0.574	-0.194
	PEOU2		0.799			-0.669	-0.035
	PEOU3		0.824			-0.466	-0.756
	PEOU4		0.765			-0.650	0.371
Perceived Usefulness	PU1	0.885	0.697	0.993	0.527	-1.027	0.807
	PU2		0.707			-1.126	0.981
	PU3		0.688			-1.171	1.279
	PU4		0.724			-1.307	3.620
	PU5		0.740			-0.760	0.277
	PU6		0.788			-0.680	-0.510
	PU7		0.736			-0.897	0.367
Information Literacy	IL1	0.915	0.780	0.991	0.558	-0.901	0.361
	IL2		0.815			-0.585	0.201
	IL3		0.724			-0.767	0.603
	IL4		0.757			-0.660	-0.133
	IL5		0.728			-0.591	0.109
	IL6		0.781			-0.794	0.664
	IL7		0.740			-0.750	0.242
	IL8		0.752			-1.033	1.336
Media/Visual Literacy	MVL1	0.812	0.632	0.947	0.615	-0.880	0.306
	MVL2		0.810			-0.886	0.417
	MVL3		0.888			-0.715	-0.005
Computer Literacy	CL1	0.696	0.738	0.895	0.537	-1.000	0.551
	CL2		0.728			-1.362	2.654

4.3.5 Discriminant Validity

Discriminant validity analysis aims to determine whether a construct is different from other constructs empirically, which means that the construct captures a unique phenomenon that is not represented by other constructs in the model (Hair et al., 2013). Discriminant validity testing in the measurement model uses Fornell and Larcker (1981) criteria. Table 5 presents the correlations between the main constructs, which show that these constructs are highly related to their respective indicators compared to other constructs in the model. This shows good discriminant validity (Hair et al., 2013). The correlation between exogenous constructs is less than 0.85 so that it meets the criteria for discriminant validity of the entire model as a whole (Awang, 2014). Therefore, the analysis confirms that each construct is unique and captures aspects not represented by other constructs in the model.

Table 5
Results of Discriminant Validity by Fornell-Lacker Criterion

	EMP	ATT	PEOU	PU	IL	MVL	CL
EMP	0.552						
ATT	0.586	0.614					
PEOU	0.470	0.450	0.625				
PU	0.552	0.577	0.493	0.527			
IL	0.539	0.528	0.692	0.568	0.588		
MVL	0.435	0.371	0.440	0.409	0.548	0.615	
CL	0.333	0.322	0.407	0.484	0.404	0.290	0.537

Notes: PEOU, perceived ease of use; PU, perceived usefulness; ATT, attitude; EMP, employability; IL, information literacy; MVL, media/visual literacy; CL, computer literacy; CR, critical value.

4.4 Structural Model Assessment

The structural model describes the relationships between constructs after the measurement model is validated. This articulates the relationship between exogenous variables and endogenous variables providing insight into the complex network of relationships between variables (Hair et al., 2010; Ho, 2006). Structural model analysis is used to measure the extent to which empirical data is in line with the underlying theory and ascertain whether the theory has been proven empirically (Hair et al., 2013). A graphical representation of the results of the research structural model can be seen in Figure 2 which was produced using AMOS (version 21).

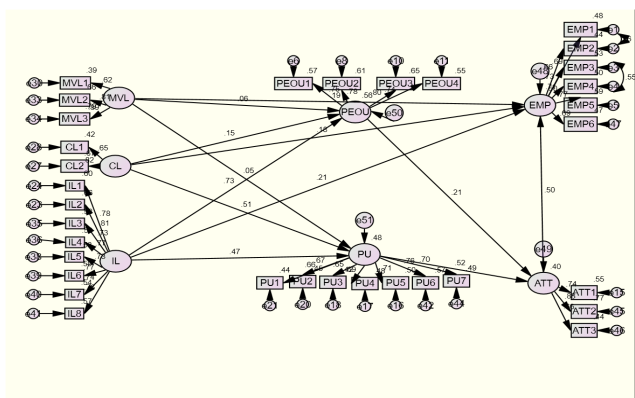

Fig. 2. Structural Model

4.4.1 Hypothesis Tests

Structural Equation Modeling (SEM) is used to investigate the correlation between independent variables and employability. The results of hypothesis testing can be found in Table 6. The results of path analysis testing show that computer literacy and information literacy have a significant impact on perceived ease of use (CL: $\beta = 0.150$, $t = 2.487$, $p < 0.05$; IL: $\beta = 0.741$, $t = 10.042$, $p < 0.01$) and perceived benefits (CL: $\beta = 0.352$, $t = 5.730$, $p < 0.01$; IL: $\beta = 0.329$, $t = 7.041$, $p < 0.01$).
In addition, perceived ease of use ($\beta = 0.188$, $t = 2.978$, $p < 0.01$) and perceived usefulness ($\beta = 0.663$, $t = 6.262$, $p < 0.01$) had a significant impact on attitudes. Surprisingly, all independent variables, including media/visual literacy ($\beta = 0.188$, $t = 3.084$, $p < 0.01$), computer literacy ($\beta = 0.177$, $t = 2.549$, $p < 0.05$), information literacy ($\beta = 0.202$, $t = 3.122$, $p < 0.01$), and attitude ($\beta = 0.538$, $t = 5.910$, $p < 0.01$), have a significant influence on work ability. Therefore, only hypotheses H1 and H2 are rejected. In the field of technology adoption, Oluwole (2016) identified resistance to information systems as a major obstacle hindering the adoption of new technologies and the achievement of information literacy. This objection is particularly relevant when considering individuals with higher proficiency in information technology, as they tend to foster positive perceptions of the ease of use and usefulness of technology in the workplace, thereby enhancing their employability. Alamri's (2019) research underlines the important role of perceived ease of use in shaping respondents' attitudes towards the application of artificial intelligence. According to Yu et al. (2017), information literacy is a key empowerment factor, which enables individuals to master information content, expand investigative horizons, recognize the need for information, and skillfully find, evaluate, and apply necessary information. Additionally, a relationship between individuals' Attitude Toward Use (ATU) toward smart factory technologies and their positive experiences and acceptance of new technologies has been found in previous research (Oh et al., 2019). This relationship highlights the importance of positive attitudes in influencing the successful integration of new technologies, emphasizing the interconnectedness of attitudes, experiences, and technology acceptance. This shows that respondents' perceptions are formed by attitudes, experiences, expectations and emotions, so it is called constructivist perception (Gregory, 1974).

Table 6
Structural Path Analysis Result

	Dependent Variable		Independent Variable	β	S.E.	C.R. (t-value)	Decision
H_1	PEOU	←	MVL	0.064	0.056	1.141	Not Supported
H_2	PU	←	MVL	0.034	0.041	0.818	Not Supported
H_3	PEOU	←	CL	0.150	0.060	2.487**	Supported
H_4	PU	←	CL	0.352	0.061	5.730***	Supported
H_5	PEOU	←	IL	0.741	0.074	10.042***	Supported
H_6	PU	←	IL	0.329	0.047	7.041***	Supported
H_7	ATT	←	PEOU	0.188	0.063	2.978***	Supported
H_8	ATT	←	PU	0.663	0.106	6.262***	Supported
H_9	EMP	←	MVL	0.188	0.061	3.084***	Supported
H_{10}	EMP	←	CL	0.177	0.069	2.549**	Supported
H_{11}	EMP	←	IL	0.202	0.065	3.122***	Supported
H_{12}	EMP	←	ATT	0.538	0.091	5.910***	Supported

Notes: PEOU, perceived ease of use; PU, perceived usefulness; ATT, attitude; EMP, employability; IL, information literacy; MVL, media/visual literacy; CL, computer literacy; CR, critical value.
***Significant at 0.01, ** Significant at 0.05

5. Discussion and Conclusion

The results of hypothesis testing underscore the complexity of contextual and cultural nuances that shape the perceived significance of computer literacy in influencing perceived ease of use, perceived usefulness, and employability in Indonesia. The differences seen between workers in Indonesia can be caused by various factors, indicating differences in culture, educational landscape and business environment. Computer literacy is the ability to use computers and modern technology effectively (Vishnu, 2023).

The perception of the importance of computer literacy compared to media/visual literacy can occur because the factors that influence media/visual literacy are relatively lower. Digital literacy is related to the ability to read information in digital media, the ability to search, identify, evaluate and use the information obtained. This may be due to variations in educational frameworks, cultural emphases, or industry requirements that prioritize different skills or competencies. Apart from that, the skill of assessing the meaning of each type of message, organizing the meaning so that it is useful, then constructing the message to convey to other people is also very low.

In Indonesia, there is an increasing emphasis on computer literacy and information literacy in both educational and professional fields. In the field of education, the education system and industry standards in Indonesia have prioritized these specific digital competencies, considering them essential for navigating technology, accessing information, and effectively utilizing digital tools in the professional field. In 2019, the Indonesian government again implemented computer technology learning in schools. The aim of including computer technology learning in schools is to improve the ability to use computers from an early age.

In the Indonesian job market, the perceived importance of computer literacy and information literacy in influencing perceived ease of use and perceived usefulness shows that employees associate these competencies with increased capacity to interact and utilize digital technology efficiently. There is a strong link with employability, further implying that employers really value prospective workers who have the skills/ability to operate computers as a condition for employee acceptance and good information literacy. In an evolving job market where technology plays an important role, individuals with these competencies are considered more adaptable, qualified, and valuable contributors to the world of work. In addition, information literacy skills are the core of lifelong learning to search for, evaluate, use and create information.

5.1 Theoretical Contributions

This research begins by emphasizing that cultural examination of digital literacy has the aim of increasing employability prospects and has the potential to make a major contribution in improving the Technology Acceptance Model (TAM). This expected contribution includes integrating valuable insights gained from the digital literacy domain into the TAM framework.

Furthermore, this research explores the influence of digital literacy in various aspects including media/visual literacy and computer literacy, on perceived ease of use and perceived benefits within the TAM framework. By exploring the complex relationship between various aspects of digital literacy and individuals' perceptions of technology, this research seeks to enrich the TAM model. This involves recognizing the important role of various digital competencies in the technology adoption process.

In addition, this research expands its exploration to identify specific components of digital literacy that have a significant impact on employability. This investigation aims to uncover the complex mechanisms that link digital literacy with technology acceptance, thereby influencing a person's employability. Identification of these main components is seen as potentially contributing to improving the TAM model. The results suggest that different cultures and educational systems will emphasize different forms of digital literacy. These improvements will introduce a new dimension related to digital literacy, which is considered important for improving employability prospects, especially in diverse cultural environments. In addition, the resulting model is expected to provide a more comprehensive understanding of the relationship between digital literacy, cultural context, and technology acceptance. The practical implications of this understanding include designing technological interventions that align with the digital and cultural realities of individuals in Indonesia. Overall, this research contributes to a holistic understanding of the important role that digital literacy plays in shaping technology acceptance and work outcomes across diverse cultural contexts. It is hoped that the insights gained will inform the design of effective technology interventions tailored to the digital landscape and individual culture.

5.3 Implications for Practice

A cultural investigation into digital literacy that focuses on increasing employment, produces pragmatic implications and broad implications in various sectors. Educational institutions can benefit greatly by modifying their curricula to meet digital literacy needs. These adaptations ensure students gain essential skills, aligning their education with the dynamic demands of an ever-evolving job market.

Additionally, the findings of this study have direct relevance to recruitment practices for employers and human resources professionals. Integrating digital literacy assessments, especially media/video literacy, computer literacy, and information literacy, into the recruitment process allows organizations to determine candidates who have the desired skills. Aligning job descriptions with the identified digital literacy landscape can attract individuals with the necessary competencies. Internally, organizations can leverage the study's insights to tailor training initiatives, address digital literacy gaps among existing employees, and strengthen overall workforce capabilities.

Practical implications also include professional development providers being able to adapt courses to address the digital literacy gaps identified in this research. Tailoring offerings to meet the specific needs of professionals in Indonesia will enhance their career prospects and align professional development with the evolving digital landscape. Therefore, this study acts as a catalyst for strategic initiatives that bridge the gap between digital literacy and employability, ultimately shaping the future work landscape in Indonesia's diverse cultural context.

5.4 Limitations and Suggestions for Future Work

The applicability of this study may be limited in terms of generalizability due to the unique cultural and contextual elements in Indonesia. Although the aim is to look at the role of culture in terms of digital literacy and employability, this research does not cover all the complex variations within each country by ignoring sub-regional, ethnic, or socio-economic differences. In addition, the current dynamism of digital literacy and the employment landscape may not represent a trend that will last for long. Evolving factors such as changes in technology, education, or economic conditions may influence the relevance of these findings. Therefore, it is recommended to conduct longitudinal studies to gain a more comprehensive understanding of the dynamic nature of digital literacy and its long-term impact on employability. This longitudinal approach can facilitate the identification of trends, emerging patterns, and long-term implications.
Expanding research to include stakeholder perspectives, including insights from a broader spectrum of stakeholders such as employers, educators, and policymakers, can enrich understanding of the ecosystem that influences digital literacy and employability. By considering multiple viewpoints, holistic strategies can be better informed, thereby increasing the overall comprehensiveness of the research.

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