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Factors Affecting Work Readiness of Economics Graduates in Digital Age: An Empirical Study in Vietnam

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ABSTRACT: The article aims at identifying factors affecting the work readiness of economics graduates in the digital age, focusing on the perspective of employees. To realize this objective, based on literature review, a research model has been proposed with 6 hypotheses and tested via the use of Stata 17 and the participation of 450 economics graduates. The research findings indicate 4 factors with significant impacts on the work readiness of economics students, including *Digital literacy, Identity Capital, Psychological Capital* and *Human capital,* of which *Digital literacy* has the strongest impact and *Human capital* has the lowest impact; the other 2 factors, *Social capital* and *Cultural capital,* do not significantly impact the work readiness of economics students in the current digital context. Based on these findings, some implications and proposals have been made to students, educational institutions, businesses as well as policy makers so as to improve the work readiness of graduates.

1. Introduction

Work readiness refers to the combination of knowledge, skills, attitudes and attributes that enables workers to quickly adapt to their job responsibilities [1]. Workers who demonstrate work readiness possess the necessary competencies to fulfill their job requirements effectively [2]. From the perspective of employers, work readiness involves the skills, experiences and characteristics that recruiters are looking for in job applicants as these factors are considered essential for job performance [3]. Work readiness affects the employability of job seekers [4] and contributes to the success of the companies [5].

A growing concern among recruiters in Vietnam is that many new graduates struggle to adapt to the working environment upon recruitments as they lack practical experience, soft skills and a

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comprehensive understanding of company procedures [6], [7], [8]. The problem worsens in the current working context as the rapid development of technology has posed new and higher requirements to workers. How to improve work readiness of new graduates therefore becomes an important question that needs to be answered adequately by relevant entities, including educational institutions, employers and particularly, students.

Work readiness, as a research topic, has drawn attention of numerous scholars. Earlier research has endeavored to define the concept of work readiness [1], [2], [3], evaluate its significance to both employees and employers [4], [5], [9], measure the work readiness of different groups of workers in some particular industries and geographical locations [6], [7], [8] and identify factors affecting work readiness of students (as shown in section 2.2 below).

A comprehensive review of earlier studies reveals that few studies have covered all aspects of the factors, instead, they examined just several factors separately, and identified influencing elements without systematically measuring their impact levels. they have just named the affecting factors without systematically measuring their impact levels. Additionally, limited research has investigated the impacting factors in the new context of the digital transformation, while this development is expected to exert considerable changes to the working environment. Furthermore, there is a lack of studies specifically addressing Vietnam's labor market. Therefore, an empirical study is essential to gain insight into the factors affecting graduates' work readiness, especially in today's digital epoch.

2. Literature Review

2.1. Work Readiness of Graduate Students

Graduate students have long been recognized as the vital source of recruitment for enterprises, playing the key role in the annual recruitment strategies of large companies [10]. From a corporate perspective, recruiting new graduates brings a number of benefits as it is sources of new ideas, a pipeline of future leadership, and the opportunity to shape employees through company-specific training programs. Compared to experienced candidates, new graduates prove to be more technologically proficient, eager to learn, and receive a well-rounded education [11], [12]. Previously, academic achievements or professional competence were the top priority criteria in recruiting graduates [13]; however, these two factors hardly guarantee long-term future capacity. Accordingly, employers nowadays place emphasis on general skills and essential attributes that promote students' ability to meet the requirements for all types of jobs. Businesses are increasingly prioritizing job well-suitedness, the degree to which candidates possess adequate skills and attributes to be ready for the job in today's ever-evolving world. In this context, work readiness is a stepping stone facilitating students to get the initial job, sustain employment,

transition within an organization, and most importantly, land themselves a satisfactory and ideal job [9].

2.2. Factors Affecting Work Readiness of Economics Graduates in Digital Age

Rapid changes in technology, digitalization and globalization have created dramatic innovations in the structure of the current workplace. Artificial intelligence, robotics, 3D printing, big data, Internet of Things, machine learning, drone technology, etc. are progressively becoming a mainstream worldwide. These cutting-edge technologies are not only reshaping job roles but also phasing out traditional occupations while simultaneously creating new opportunities [14]. Consequently, advanced technologies involve new skills which necessitate the performance of high-level jobs [15]. Notably, the constant influx of new technology and knowledge implies that workers must perpetually retrain and upskill themselves to remain employable in the job market [16]. Given this dynamic landscape, new graduates must navigate an increasingly competitive and unpredictable labor market [17]. To meet the demands of this evolving workforce, along with professional knowledge, students need to equip themselves with necessary competencies such as communication, time management, lifelong learning, work experience prior to graduation, creative thinking, critical thinking, etc. [18]. Up to now, the concept of students' work readiness to meet work requirements has been generated by many researchers. Caballero et al. [5] developed a framework of job responsiveness with four factors including personal characteristics, organizational acumen, work capacity, and social intelligence.

Holmes [19] also proposed a model highlighting the role of human capital, social capital, and personal behavior in shaping graduates' employability, advocating for their integration into education and training programs. Building upon this framework, Tomlinson [20] expanded this concept by incorporating five types of capital into the conceptual framework including human capital, social capital, cultural capital, psychological capital, and identity capital. In another study, Clarke [21] identified six influencing factors that affect students' work readiness, namely human capacity, social capacity, personal attributes, personal behavior, job performance, and the labor market. In light of these theoretical models, this study will conduct an in-depth analysis of key factors affecting students' work readiness, with a particular focus on human capital, social capital, identity capital, cultural capital, psychological capital, and digital literacy.

Human capital

Human capital (HC) encompasses professional knowledge and skills to create different values and breakthroughs within organizations [22]. This concept comprises three key components, namely (1) innate capacity associated with each person's aptitude, (2) professional knowledge obtained through the training process, (3) skills and experiences accumulated from life and work. OECD [14] defined that human capital is the set of knowledge, skills and individual characteristics that can facilitate the creation of personal, social and economic well-being.

Through the process of learning, training and employment, human capital is progressively built up and thereby maintaining operations and creating economic value for the organization. A study by Hinai et al. [23] involving 340 engineering students found that human capital exerts a strong influence on students' ability to meet job requirements.

Studies further indicate that human capabilities of university students including "academic qualifications" and "participation in social practices" positively relate to students' ability to find jobs [24]; [25]. Additionally, Yang et al [26] Resource Conservation Theory suggests that individuals who possess varied resources are more likely to develop additional capabilities. This implies that human capital equips students with resilience to navigate challenges and overcome unfavorable conditions, ultimately enhancing their employability. Similarly, employees with strong human capital have greater opportunities to secure employment, sustain their jobs, and regain employment when necessary [27], [28]. Based on these insights, the following hypothesis is proposed:

H1: Human capital has a positive impact on economics graduates' work readiness in the digital age.

Social capital

Bourdieu [29] asserted that social capital (SC) is derived from the recognition or acquaintance through social relationships and/or social networks which individuals leverage to gain benefits. Social capital is categorized into three aspects, namely structural, relational and cognitive dimensions [30]. The structural aspect of social capital refers to the connections between members of a collective or community. The relational dimension features personal relationships through the process of social interaction, in which trust, reciprocity, and group identification are among the important attributes. The cognitive aspect is demonstrated through a common understanding of goals and norms in a community or society such as solidarity, empathy, goodwill, etc. In a professional setting, social competence enables individuals to navigate challenges, enhance their skills, and contribute to organizational success. Research by Hinai et al. [31] confirms that social capital positively influences work performance, with findings highlighting the significance of teamwork, communication skills, and problem-solving abilities in shaping graduates' social competence. Social capital encompasses various elements that facilitate cooperation and mutual benefit within a community. These elements include social networks, workplace reciprocal support, bonding activities, and communication skills. Social networks refer to the relationships among individuals, enabling resource exchange and support. Workplace reciprocal support involves mutual assistance and collaboration among colleagues, fostering a positive work environment. Bonding activities strengthen interpersonal connections, enhancing group cohesion. Communication skills are vital for effective information exchange and relationship building. Collectively, these components contribute to the development and maintenance of social capital. Similarly, other studies emphasize that students' social competence has a positive

impact on employability. Fengqiao and Mao [32] investigated the employment situation of graduates in 34 universities and found that the majority of graduates receive employment information through their social capital and acknowledged the significant impact of social relationship on employability. Letnar & Širok [33] examined the impacts of students' social capital on their ability to get a job in China's working context and highlighted three influencing factors. First, social relationships foster students to obtain and filter job information. Besides, once recruited, social relationships promote the establishment of a widespread and reliable information network. Second, social acquaintances reduce transaction costs between individuals because the trust between the two parties is relatively high, thereby increasing the chance of employment. Third, as an unwritten rule in the Chinese social context, social relationships have a positive impact on candidates who have close relationships with employers. Therefore, social competence yields considerable advantages and supports students to achieve career success.

As social capital has a strong influence on employee performance, the following hypothesis is proposed:

H2: Social capital has a positive impact on economics graduates' work readiness in the digital age.

Identity capital

Personal identity is a multifaceted concept relating to the level of self-awareness, personal status and the level of investment of the individual to accomplish success at work [20]. Hinchliffe and Jolly [34] identified four key components of graduates' identity: self-worth, level of social interaction, knowledge (accumulated by self-study and practice) and performance (the ability to assert oneself in a professional environment). Identity capital (IC) requires students to have an understanding of the career aspect that they intend to work in the future [4].

Identity development during university plays a pivotal role in promoting students' employability by enabling them to align personal values with career aspirations, establish effective strategies, and facilitate a smooth transition from university to the workplace. Tan et al. [35] maintained that there are five aspects to developing personal identity in the profession, including having professional knowledge and the ability to utilize relevant knowledge in their job; working and learning from prominent figures; having exposure to and experience with varied professions; prioritizing a specific profession; and building trust in their own abilities. Holmes [19] emphasized the importance of self-efficacy as this promotes their worthiness for the job position and their potential to achieve the established goals. In the evolving workplace, self-efficacy also enables employees to adapt to diverse work environments, critically assess knowledge, engage in discussions, drive innovation, and embrace continuous improvements.

This is also a critical factor in the modern work environment which mediates employees to work efficiently in different contexts, and demonstrates their ability to evaluate knowledge, debate, initiate change, promote innovative thinking and continuous improvement. Jackson [36]

emphasized the importance of collaboration between educational institutions and businesses in fostering professional identity. Strengthening connections through professional associations, employer networks, career services, and real-world learning opportunities allows students to engage in practical experiences, observe industry standards, and develop essential soft skills. These experiences help students internalize workplace norms, build confidence, and enhance their career preparedness. Based on these arguments, the following hypothesis is proposed:

H3: Personal identity capacity has a positive impact on economics graduates' work readiness in the digital age.

Cultural capital

Bourdieu [29] classified cultural capital (CC) into three aspects: individual, community and institutional culture. Specifically, individual culture represents human potential and the ability to exercise cultural elements to generate value in the developmental process. It encompasses an array of skills, abilities, conditions, experiences, knowledge, problem-solving capability, etc. that individuals accumulate from the process of socialization or learning from others. This capacity empowers individuals to create substantive value and benefits not only for themselves but also for their families.

Community culture includes material objects, for example, books, tools, houses, equipment, machinery, etc. and intellectual and spiritual products such as vestiges, theories, or theory criticism. Finally, institutional culture covers the state's policies as well as the regulations of groups and organizations established and practised by their members. In other words, cultural capital is understood as the values, knowledge, skills of individuals within a society or culture. This competency provides a competitive advantage by enabling individuals to apply their cultural insights and expertise to the success of an organization. In workplace environment, cultural capital encompasses various non-economic assets that individuals acquire, which can promote social mobility beyond economic means [29]. These assets include cultural knowledge, embodied behaviors, distinction, symbolic values, and cultural adaptability.

In the study by Sousa [37], the authors conducted a survey on the influences of cultural, social and psychological competencies on employee performance. The results indicate that the better the cultural competency, the higher the individual's job performance. Based on this argument, the following hypothesis is proposed:

H4: Cultural capital has a positive impact on economics graduates' work readiness in the digital age.

Psychological capital

Psychological capital (PC) originates from psychological facets including self-confidence, hope, optimism and resilience [38]. Specifically, psychological competence reflects individual's state of positive psychological development which is characterized by 1) *confidence* to undertake challenging tasks and achieve success with the necessary efforts; 2) *optimism* about the current

and future success; 3) *hope* demonstrated by the degree of tenacity in pursuing goals and being able to navigate how to pursue and achieve them; 4) *resilience* manifested by the degree of endurance, resistance and adversity conquest to attain success. To meet job requirements in today's competitive and ever-changing world, graduates are expected to adapt and manage emotions effectively in the face of stress, disappointment, failure, adversity, and rejection in the work environment.

Psychological capacity changes depending on experience, age, process, and psychological fluctuations; making it a crucial determinant of individual performance [39], especially in the digital context. Furthermore, Ngoma and Ntale [40] and Luthans et al. [41] also stated that psychological ability along with emotional intelligence have significant influences on the level of graduates' work satisfaction, efficiency and performance. This suggests that individuals with greater psychological capital exhibit higher levels of responsibility, goal commitment, and self-efficacy. Consequently, the following hypothesis is proposed:

H5: Psychological capital has a positive impact on economics graduates' work readiness in the digital age.

Digital literacy

Digital literacy (DL) is a critical attribute for full participation in the knowledge society. This multifaceted skill set comprises the knowledge, skills, and behaviors related to digital devices such as smartphones, tablets and laptops effectively in collaborative activities and communication. The previously independent operation of computers has now gradually shifted to linking data on the Internet and social media. Hence, Pangrazio et al. [42] asserted that in the age of digital technology, digital competence serves as an essential life skill. A digitally literate individual possesses a set of digital skills, the knowledge of how computing devices work, and the ability to participate in online communities and social networks. This will enable individuals to critically evaluate information, engage in logical analysis, and grasp value-added solutions. Given the accelerating digital transformation, digitally proficient professionals are in high demand among multinational corporations and governments [43]. Consequently, reshaping organizational and learning culture is inevitable for all countries, ensuring that nations remain competitive and responsive to the rapid advancements in technology and the evolving needs of the global economic landscape.

Furthermore, in the current digital age, a great number of new jobs are generated, accompanied by a rapid change in new job skills. In this context, graduates must cultivate digital competencies to remain relevant in labor market characterized by pervasive digitalization. Digital capacity is constructed on the foundation of empathy, critical thinking, problem solving, creativity and innovation. UNESCO [44] delineates digital competency into the following categories: Software equipment operation, Information and data capacity, Communication and collaboration in a

digital environment, Digital content creation; Security, Problem solving; Career-related competencies. Therefore, the following hypothesis is proposed:

H6: Digital capital has a positive impact on economics graduates' work readiness in the digital age.

In Vietnam, the digital transformation has profoundly redefined the competencies and expertise sought by the employers, placing a heightened emphasis on graduates' digital literacy, adaptability, and resilience. In this dynamic environment, the transition of graduates from academia to the workplace has posed a number of challenges, especially in emerging economies like Vietnam, where there is a misalignment between education systems and labor market needs [45]. Consequently, the study about factors affecting work readiness of economics graduates in the digital age will provide valuable insights into understanding the key determinants of employability in this rapidly-evolving context.

3. Research Model, Data and Methods

3.1. Research Model

On the basis of the literature review and the researchers' focus on economics graduates' work readiness in the digital age, this study explicitly identified *Work readiness of graduate students in digital age* as a dependent variable; the independent variables are *Human capital* (HC), *Social capital* (SC), *Identity capital* (IC), *Cultural capital* (CC), *Psychological capital* (PC), and *Digital literacy* (DC). Therefore, the conceptual model and hypotheses are presented as follows:

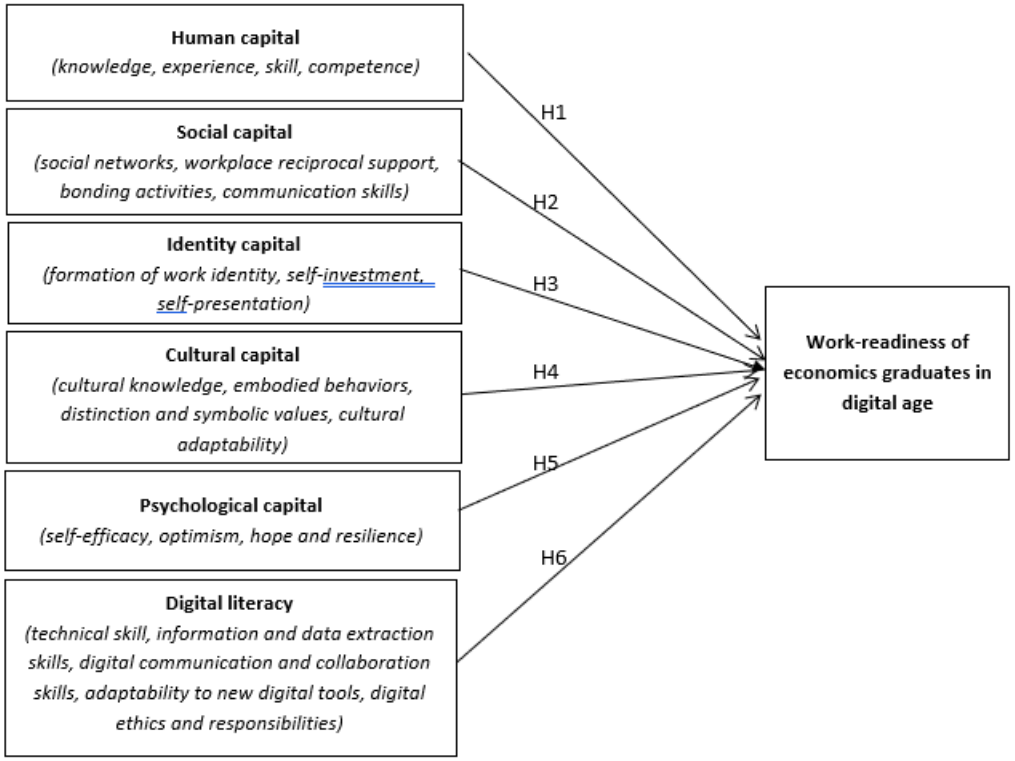

Figure 1 *Proposed research model*

3.2. Data

This empirical study employs a quantitative approach to achieve the study's objectives. A survey questionnaire was designed for collecting data, and the collected dataset is the basis for any interpretations, remarks, and conclusions regarding the research findings. The detailed structured survey questionnaire was designed in accordance with the six hypotheses of this study. The questions in this questionnaire were adapted from Bourdieu [29], Tomlinson [20], Hinchliffe and Jolly [34], Luthans and Youssef [38], Hague and Payton [46]. The survey questionnaire includes two main parts:

Part 1 is designed for general information about the informants' background (including gender, education degree, areas of expertise, job position, work experience, types of business, etc.)

Part 2 consists of 56 questions which were designed with a five-point Likert scale ranging from strongly agree (5) to strongly disagree (1) to measure the correlation between the six factors, namely *Human capital* (11 items), *Social capital* (10 items), *Identity capital* (7 items), *Cultural capital* (7 items), *Psychological capital* (8 items), *Digital literacy* (7 items), and *Work readiness of economics graduates in digital age* (6 items).

Data was collected by a convenience sampling method. Convenience sampling is a non-probability sampling technique in which participants are chosen based on their convenient accessibility. This method's advantages encompass the accessibility and readiness of the sample to complete questionnaires. The population for this study was economics graduates. They come from different regions, including the North, South and Central Provinces of Vietnam. Participants, aged between 23 and 27, held either a bachelor's or master's degree in business or/and management, with less than five years of work experience. They occupied diverse job positions, ranging from staff roles to lower-level or middle-level management across different business sectors. The questionnaire was distributed to 450 graduates via email and in person. The received result had 431 valid responses including 209 males and 222 females. This dataset was preprocessed and subsequently input for the analysis process.

3.3. Method

Tools

Collected dataset are preprocessed and analyzed by statistical software Stata Version17. This is a software developed by Stata Corp for data manipulation, visualization, statistics, and automated reporting. It is used by researchers in many fields, including biomedicine, economics, and sociology.

Analysis Process

To analyze the data and test the hypotheses, the data collected from the survey questionnaires were processed through the following steps:

Step 1: Pre-processing data.

Step 2: Testing the reliability (internal consistency) of Likert scale through Cronbach's Alpha.
Step 3: Conducting exploratory factor analysis (EFA).
Step 4: Analyzing and testing regression model.
In which:
- Pre-processing data is crucial to make a dataset suitable for analysis. This step involves cleaning, transforming, and integrating of data. To the dataset of this study, cleaning data (corresponding handle missing data) and transforming (corresponding normalization data) were performed.
- The Cronbach's Alpha measure was used to determine if the Likert scale in the questionnaire is reliable. A good measure is the one with Cronbach 'Alpha greater than or equal to 0.7 [47].
- Exploratory factor analysis (EFA) is performed to identify the uncover latent structure or relationships within observed, thereby identifying appropriate factors for the model. Based on the linear relationships between observed variables and factors, observed variables are reduced into more meaningful factors (factors are extracted). The recommended threshold of correlation coefficient value is 0.3 or higher. Before extracting factors, the data should be checked to ensure sample adequacy by the Kaiser Mayer-Olkin (KMO) value (a suggested minimum value of 0.6) and the Bartlett test of sphericity to determine to determine whether variables relationships are suitable for EFA (it should be significant $p<0.05$). According to the table of eigenvalues and the Rotated Component Matrix table, items will be eliminated if the factor loading value is less than 0.5 [47].
- After identifying the dependent and independent variables, a multiple regression model was used to determine the overall fit of the model and the relative contribution of each of the predictors to the total variance. Beside that the tests including VIF is performed to measure the amount of multicollinearity in regression analysis, and ANOVA is used to test whether the overall regression model is a good fit for the data.
In addition, t-test was applied to determine whether there is a difference in work readiness between two groups by gender.

4. Research Findings

4.1. Reliability and Validity Analysis of the Scale

The Cronbach alpha coefficient was employed to assess the reliability of the variables in the questionnaire. With the values of the corresponding Cronbach's Alpha coefficients in Table 1, it shows that all Alpha values are greater than 0.7, proving that the Cronbach - Alpha scale is reliable and suitable for all factors *human capital (HC)*, *social capital (SC)*, *identity capital (IC)*, *cultural capital (CC)*, *psychological capital (PC)*, *digital literacy (DC)*. In addition, all the observed variables have the *Corrected Item - Total Correlation* of more than 0.3, hence all variables of each factor are retained for analysis in the next step.

Table 1. *Cronbach's Alpha coefficients*

Index	Factors	Cronbach's alpha coefficient
1	HC	0.9124
2	SC	0.9405
3	IC	0.8996
4	PC	0.9557
5	CC	0.9229
6	DC	0.9104
7	WR	0.9012

The exploratory factor analysis was conducted to identify appropriate variables, eliminating those with loading factors below 0.5, those loading on multiple factors with low loadings (less than 0.3), and those associated with a single factor. Specifically:

After three iterations, the removed variables include HC8, IC5, IC7, CC1, CC2, CC5, CC7 (in the first iteration), IC6, IC4, CC6 (in the second iteration) due to the loadings < 0.5. Thus, there were 39 remaining variables categorized into 6 factors, accounting for 71.32% of the data variation, as illustrated in Table 2 below.

Table 2. *Principal Component Analysis*

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	17.96358	14.84103	0.4606	0.4606
Factor2	3.12255	0.67134	0.0801	0.5407
Factor3	2.45121	0.39790	0.0629	0.6035
Factor4	2.05330	0.89001	0.0526	0.6562
Factor5	1.16329	0.10335	0.0298	0.6860
Factor6	1.05994	0.05386	0.0272	0.7132
Factor7	1.00608	0.12835	0.0258	0.7390
Factor8	0.87774	0.13802	0.0225	0.7615
Factor9	0.73971	0.01530	0.0190	0.7804
Factor10	0.72442	0.05051	0.0186	0.7990
Factor11	0.67391	0.07005	0.0173	0.8163
Factor12	0.60386	0.02258	0.0155	0.8318
Factor13	0.58128	0.04566	0.0149	0.8467
Factor14	0.53562	0.06812	0.0137	0.8604

4.2. Results of the rotation matrix

The results of the rotation matrix can be observed in Table 3. Utilizing the loading coefficients, we reclassify the factors and concurrently develop representative variables for the new factors as follows:

Table 3. *The rotation matrix*

Variable	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Factor7	Uniqueness
HC1	**0.5567**							**0.4680**
HC2				**0.6662**				**0.2369**
HC3				**0.6833**				**0.2978**
HC4				**0.5919**				**0.3245**
HC5				**0.6442**				**0.4078**
HC6						**0.6287**		**0.3198**
HC7						**0.6039**		**0.3403**
HC9				**0.6071**				**0.3551**
HC10				**0.6139**				**0.3231**
HC11				**0.7242**				**0.2506**
SC1	**0.6492**							**0.2883**
SC2	**0.7059**							**0.1771**
SC3	**0.7178**							**0.1871**
SC4	**0.6626**							**0.1812**
SC5	**0.7124**							**0.1490**
SC6	**0.7433**							**0.2066**
SC7	**0.7130**							**0.3011**
SC8	**0.6957**							**0.3043**
SC9	**0.6890**							**0.2987**
SC10	**0.5954**							**0.2222**
IC1					**0.5776**			**0.3603**
IC2					**0.6860**			**0.2243**
IC3					**0.6074**			**0.3493**
PC1		**0.8418**						**0.1542**
PC2		**0.8189**						**0.1745**
PC4		**0.7246**						**0.1889**
PC5		**0.8441**						**0.1205**
PC6		**0.8332**						**0.1184**
PC7		**0.8016**						**0.1735**
PC8		**0.7327**						**0.2228**
CC3			**0.5115**					**0.1953**
CC4			**0.5132**					**0.2488**
DC1			**0.5704**					**0.4157**
DC2			**0.7609**					**0.3039**
DC3			**0.7776**					**0.2913**
DC4			**0.6541**					**0.2415**
DC5			**0.7042**					**0.3885**
DC6			**0.8536**					**0.1873**
DC7			**0.8435**					**0.1816**

(blanks represent abs(loading)<**.5**)

As can be seen from Table 3, HC is determined from variables HC2, HC5, HC9, HC10, HC11; BO is derived from variables HC6, HC7; SC is ascertained from variables SC1, SC10 and HC1; PC is derived from variables PC1, PC8; DC is determined from variables DC1, DC7 and CC3, CC4; and IC is determined from variables IC1->IC3. The representative variables are determined by calculating the average of the sub-variables within each factor. These variables are used as input for the next regression analysis process.

4.3. Regression analysis

Table 4. *Multicollinearity test results*

Source	SS	df	MS	Number of obs	=	431
				F(6, 424)	=	178.40
Model	73.5227392	6	12.2537899	Prob > F	=	0.0000
Residual	29.1237999	424	.068688207	R-squared	=	0.7163
				Adj R-squared	=	0.7123
Total	102.646539	430	.238712881	Root MSE	=	.26208

WR	Coefficient	Std. err.	t	P>|t|	Beta
SC	.0190239	.0347185	0.55	0.584	.0222898
IC	.1770629	.0341211	5.19	0.000	.2090855
PC	.13016	.0296692	4.39	0.000	.1604802
DC	.4192347	.0335468	12.50	0.000	.4585589
HC	.0993564	.0360915	2.75	0.006	.1213528
BO	.0285527	.0301707	0.95	0.344	.0327635
_cons	.5773285	.1215917	4.75	0.000	.

Table 5. *Regression analysis*

Variable	VIF	1/VIF
HC	2.90	0.344366
SC	2.47	0.404390
IC	2.43	0.412192
DC	2.01	0.497005
PC	2.00	0.500079
BO	1.79	0.558317
Mean VIF	2.27	

The findings of the regression analysis and multicollinearity assessment indicate the absence of multicollinearity. The influence of the variables SC and BO (problem-solving skills) on the output variable is not statistically significant at the 5% level. Consequently, we eliminated these factors sequentially and did a re-analysis. The final results of the regression analysis are as follows:

Table 6. *Regression analysis after removing variables*

Source	SS	df	MS	Number of obs	=	431
				F(4, 426)	=	267.58
Model	73.4232943	4	18.3558236	Prob > F	=	0.0000
Residual	29.2232447	426	.068599166	R-squared	=	0.7153
				Adj R-squared	=	0.7126
Total	102.646539	430	.238712881	Root MSE	=	.26191

WR	Coefficient	Std. err.	t	P>|t|	Beta
IC	.1810169	.0328855	5.50	0.000	.2137545
PC	.1339156	.0277868	4.82	0.000	.1651106
DC	.427634	.0327462	13.06	0.000	.467746
HC	.1188685	.0321688	3.70	0.000	.1451848
_cons	.6334611	.1117892	5.67	0.000	.

The final regression analysis results show that with Prob > F = 0.0000 < 0.05, F test is significant, and the overall R-squared is different from 0. In other words, the regression coefficients of the overall regression equation are not simultaneously equal to 0.

The adjusted R-squared value of 0.7126 indicates that the independent factors account for 71.26% of the variation in the dependent variable. The values P>|t| indicate that four variables—HC (human capital), IC (identity capital), PC (psychological capital), and DC (digital literacy)—significantly affect the output variable "Work readiness" at a 95% confidence level. Furthermore, all of these variables exert a beneficial influence on Work readiness. At this time, all VIF values are below 3, indicating the absence of multicollinearity among the variables.

According to the aforementioned regression coefficients, it is evident that digital literacy (DC) exerts the most significant influence; an increment of one unit in the DC variable results in an approximate rise of 0.4276 units in the value of work readiness. The variable with the second biggest impact is the IC variable (identity capital), when this variable grows in value by 1 unit, the value of work readiness increases by approximately 0.181 units. The variable representing psychological capital (PC) ranks third with a regression coefficient of around 0.1339. The HC variable, indicative of human capital, shows that an increase of 1 unit in HC results in an approximate rise of 0.1188 units in work readiness of graduate students. Consequently, the regression equation can be reformulated as follows:

WR = 0.6335 + 0.4276DC + 0.181IC + 0.1339PC + 0.1188HC

More specifically, it can be seen that:

The first variable, HC, denotes human capital, calculated using the observed variables HC2 through HC5, HC9, HC10, and HC11. These variables correspond to fundamental professional knowledge, skills, and experience. The findings show that according to the employees, alongside specialized and updated knowledge, creativity is vital for every individual. Given the existing capabilities of software systems and smart devices, individuals must demonstrate their exceptional abilities. Furthermore, communication abilities, interpersonal skills, professional competencies, and problem-solving experience are indispensable. Despite the robust support of technologies and software, social relationships and interactions among individuals fundamentally depend on each person's capabilities. Therefore, the hypothesis "*Human capital has a positive impact on economics graduates' work readiness in the digital age*" is accepted.

The second variable, IC, denotes identity capital and is derived from the observed variables IC1, IC2, and IC3, which relate to the self-investment in employment, self-presentation, formation of work identity. The regression analysis in Table 5 demonstrates that the hypothesis "*Personal identity capacity has a positive impact on economics graduates' work readiness in the digital age*" is accepted. In the contemporary era of information technology advancement, every individual must not only strive to stay abreast of developments to avoid obsolescence but also possess the

acumen to accurately evaluate their own capabilities to choose the right career direction and position. Consequently, each individual can adapt and enhance their own capabilities within the social and business environment.

The third is the PC variable, which represents psychological capital - derived from all observable variables from PC1 to PC8 (excluding PC3), encompasses competencies related to self-efficacy, optimism, hope and resilience. It is shown in Table 5 that the hypothesis "*Psychological capital has a positive impact on economics graduates' work readiness in the digital age*" is accepted. With psychological capital, employees are truly appreciating all aspects of psychological capacity from awareness and handling difficulties and barriers around to professional aspects, skills, and experience. This is quite justifiable in all situations and occupations, particularly in the current context when the demands on each employee encompass not just task completion but also timely or expedited execution with efficacy.

Fourthly, the variable DC - representing digital literacy - is derived from all observed variables from DC1 to DC7 corresponding to all digital capacities including information and data extraction skills, communication and collaboration in the digital environment, application of digital competencies in work. This demonstrates that graduate students understand the significance and function of digital capabilities in the workplace. These insights enable employees to proactively enhance their abilities to keep up with the rapid advancements in science, technology, and the constant growth of big data while fulfilling job requirements. In addition, the variable denoting this digital literacy is influenced by two observable variables, CC3 and CC4, which pertain to the ability to adapt to corporate culture and use acquired information in the workplace. While these two elements are not directly associated with digital literacy, they are essential for any profession, in any era, particularly in the present era of ongoing scientific and technological advancement. Therefore, the hypothesis "*Digital capital has a positive impact on economics graduates' work readiness in the digital age*" is accepted.

In contrast, the variables denoting *cultural capital* and *social capital* lack statistical significance in evaluating their influence on graduate students' ability to fulfill job requirements in the digital era. As a result, two hypotheses "*Social capital has a positive impact on economics graduates' work readiness in the digital age*" and "*Cultural capital has a positive impact on economics graduates' work readiness in the digital age*" are rejected in the present study.

The impact levels of the four factors with positive impacts are shown via the values of their loading factors. Accordingly, it can be seen that *Digital capital* has the strongest impact, followed by *Identify capital* and *psychological capital* while *Human capital* has the lowest impact.

4.4. Difference by gender

Table 7. *Group statistics*

	sex	N	Mean	Std. Deviation	Std. Error Mean
DC	1	209	4,174377	,5456003	,0377400
	0	222	4,152154	,5246658	,0352133
HC	1	209	4,303485	,6232376	,0431102
	0	222	4,310817	,5720846	,0383958
HC2	1	209	4,376	,5666	,0392
	0	222	4,401	,5560	,0373
SC	1	209	4,376253	,5343045	,0369586
	0	222	4,272314	,6030568	,0404745
PC	1	209	4,150378	,6002667	,0415213
	0	222	4,203988	,6045927	,0405776
IC	1	209	4,213714	,6036286	,0417539
	0	222	4,237235	,5517725	,0370325
WR	1	209	4,233011	,4713129	,0326014
	0	222	4,266216	,5048345	,0338823

Table 8. *The result of independent sample test*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
						Significance				95% Confidence Interval of the Difference
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
DC	Equal variances assumed	,484	,487	,431	429	,333	,667	,0222230	,0515557	-,0791101	,1235561
	Equal variances not assumed			,431	424,792	,334	,667	,0222230	,0516166	-,0792329	,1236788
HC	Equal variances assumed	,541	,463	-,127	429	,449	,899	-,0073315	,0575809	-,1205073	,1058443
	Equal variances not assumed			-,127	420,086	,450	,899	-,0073315	,0577298	-,1208068	,1061438
HC2	Equal variances assumed	,443	,506	-,468	429	,320	,640	-,0253	,0541	-,1316	,0810
	Equal variances not assumed			-,468	426,321	,320	,640	-,0253	,0541	-,1317	,0811
SC	Equal variances assumed	,665	,415	1,889	429	,030	,060	,1039387	,0550099	-,0041837	,2120611
	Equal variances not assumed			1,896	427,443	,029	,059	,1039387	,0548099	-,0037918	,2116692
PC	Equal variances assumed	2,345	,126	-,923	429	,178	,356	-,0536098	,0580691	-,1677453	,0605256
	Equal variances not assumed			-,923	427,784	,178	,356	-,0536098	,0580565	-,1677214	,0605017
IC	Equal variances assumed	3,980	,047	-,423	429	,336	,673	-,0235208	,0556594	-,1329198	,0858783
	Equal variances not assumed			-,421	419,585	,337	,674	-,0235208	,0558103	-,1332235	,0861819
WR	Equal variances assumed	2,490	,115	-,705	429	,241	,481	-,0332057	,0471174	-,1258154	,0594040
	Equal variances not assumed			-,706	428,971	,240	,480	-,0332057	,0470198	-,1256235	,0592121

From Tables 7 and 8, it can be seen that there is no significant difference between female and male workers to all factors *human capital (HC)*, *social capital (SC)*, *identity capital (IC)*, *cultural capital (CC)*, *psychological capital (PC)*, *digital literacy (DC)* and *the work readiness (WR)*.

5. Discussions

This study explores how various forms of capital affect the work readiness of Vietnamese economics graduates in the digital age. The STATA analysis tested all six hypotheses and confirmed a positive impact of *Human capital, Identity capital, Psychological capital* and *Digital literacy*, among which the impact of digital capital is the most significant, followed by *Identity capital, Psychological capital* and *Human capital*. Two hypotheses "*Social capital has a positive impact on economics graduates' work readiness in the digital age*" and "*Cultural capital has a positive impact on economics graduates' work readiness in the digital age*" are rejected, suggesting that *Social capital* and *Cultural capital* have no significant effect on graduates' readiness for employment.

First, the study confirms the important role of *Human capital*. This result aligns with the previous studies by Berntson and Marklund [27], Hinai et al [23], Yang et al. [26], Kumisheva and Mambetova [24], Sangeetha [25], Mok et al. [28], which stated that human capital is a strong determinant of work readiness. Among the various components of human capital, knowledge stands out as the most influential one. Creativity, skills, and experience are also essential in the digital landscape where technology is rapidly transforming business operations.

Identity capital is another factor positively impacting work readiness, supporting the hypothesis that graduates who invest in building a professional identity and understanding their personal strengths are more prepared for the workforce. This finding is particularly relevant in today's digital age, where individuals must not only possess technical expertise but also present themselves effectively to align with the demands of modern workplaces. The results endorse earlier research by Holmes [19], who emphasized the importance of identity capital as this will promote graduates' worthiness for the job position.

The study also identifies *Psychological capital*, which encompasses self-efficacy, optimism, hope, and resilience, as a strong predictor of work readiness. Obviously, graduates with a higher psychological ability are better equipped to handle challenges and setbacks in today's volatile job market. This discovery supports the conclusion made by Ngoma and Ntale [40]; and Luthans and Youssef [38] that individuals with strong psychological capital are more likely to succeed in the workplace. Psychological capital encourages adaptability and the ability to stay motivated and focused, even in the face of adversity [38].

Digital literacy plays a pivotal role in shaping work readiness. As the digital age continues to reshape industries and redefine job requirements, digital literacy has become a crucial ingredient in preparing graduates for the workforce. The results show that digital literacy exerts a strong impact on work readiness. This finding is consistent with the research conducted by Hussain and Phulpoto [43], which claimed that digital literacy gives digitally qualified workforce an edge for they are often sought after by large global corporations and governments.

In contrast, the study finds that *Social capital* and *Cultural capital* do not significantly influence work readiness. While cultural competency and social competence are often cited as important for career success, this study suggests a less pronounced impact of these two factors. This is a notable departure from earlier studies by Fengqiao and Mao [32], Hinai et al. [31], Sousa [37], which emphasized the importance of these forms of capital in career development. The lack of statistical significance of these variables may reflect the increasing importance of technical and personal skills, as opposed to purely social or cultural competencies, in the modern workforce.

The study offers practical implications for higher education institutions, businesses, policymakers and students. First, higher education institutions should design programs to improve students' specialized knowledge, technical skills, and digital adaptability. Second, businesses can bridge the academic-workplace gap by providing mentorships and internships to give students practical experience, and investing in continuous professional development to keep employees' digital skills relevant. In addition, policymakers should promote digital literacy training and collaboration between education institutions and industries to align education with labor market demands. Last, students are advised to take proactive steps to build digital skills, professional identity, and a positive mindset to ensure competitiveness in the digital age.

6. Conclusion

This study has identified the key factors influencing the work readiness of economics graduates in the digital age. The analysis confirms the critical roles of four factors: *Human capital, Identity capital, Psychological capital,* and *Digital literacy*, with *digital literacy* playing the most prominent role, while *Social capital* and *Cultural capital* do not significantly impact work readiness in the current digital context.

These findings highlight that to effectively prepare for the labor market, students must focus on developing professional knowledge, digital skills, self-awareness, and psychological resilience. These are essential elements for them to adapt to the diverse and complex job requirements of the digital era.

The study also offers practical implications for various stakeholders. Educational institutions need to innovate their training programs, emphasizing the development of professional skills, digital competencies, and creative thinking. Businesses should closely collaborate with universities through internship programs and practical training to support students in gaining real-world work experience. Policymakers should promote digital skills training and enhance the connection between education and the labor market. Lastly, students are encouraged to proactively develop their professional skills, build a strong career identity, and maintain a positive mindset to boost their competitiveness.

In conclusion, in the digital age, the work readiness of economics students heavily depends on comprehensive preparation in terms of expertise, personal skills, and adaptability to rapid changes in technology and the labor market. This study contributes to identifying key factors, thereby providing a foundation for shaping strategies to train and develop a high-quality workforce in this new context.

Despite its gains, this research has certain limitations. Firstly, the sample was limited to the total number of economics students in Vietnam, which may restrict the generalizability of the findings to other disciplines or countries. Secondly, the study relied solely on quantitative methods, omitting qualitative approaches such as interviews or focus groups that could provide deeper insights into participants' perspectives. Thirdly, the data was collected within a specific timeframe and context, which may not fully capture the evolving nature of technological and labor market changes. Finally, the use of self-reported data from students may introduce bias, as responses could be influenced by subjective perceptions. Addressing these limitations in future research would enhance the robustness and applicability of the findings.

Future research should expand the scope of the sample to include students from various disciplines, regions, and countries to enhance generalizability and provide comparative insights across educational and cultural contexts. Business managers should also be surveyed as they may provide a deeper insight into the affecting factors from the perspective of employers. Incorporating qualitative methods, such as interviews or focus groups, alongside quantitative approaches, could offer a deeper understanding of work readiness factors. Moreover, industry-specific studies could identify variations in work readiness requirements, and investigations into the role of collaborations between educational institutions, businesses, and policymakers could clarify their impact. These approaches would address current limitations and offer a more comprehensive perspective on preparing students for the workforce in the digital age.

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References

[1] C.L. Caballero, A. Walker, Work Readiness in Graduate Recruitment and Selection: a Review of Current Assessment Methods, J. Teach. Learn. Grad. Employab. 1 (2010), 13-25. https://doi.org/10.21153/jtlge2010vol1no1art546.

[2] L. Harvey, W. Locke, A. Morey, Enhancing Employability, Recognising Diversity, Universities UK, London, 2002.

[3] D.J. Finch, L.K. Hamilton, R. Baldwin, M. Zehner, An Exploratory Study of Factors Affecting Undergraduate Employability, Educ. Train. 55 (2013), 681-704. https://doi.org/10.1108/et-07-2012-0077.

[4] J. Winterton, J.J. Turner, Preparing Graduates for Work Readiness: an Overview and Agenda, Educ. Train. 61 (2019), 536--551. https://doi.org/10.1108/et-03-2019-0044.

[5] C.L. Caballero, A. Walker, M. Fuller-Tyszkiewicz, The Work Readiness Scale (wrs): Developing a Measure to Assess Work Readiness in College Graduates, J. Teach. Learn. Grad. Employab. 2 (2011), 41-54. https://doi.org/10.21153/jtlge2011vol2no1art552.

[6] Navigos Group, Report: Labor Market in Vietnam in Q4 - 2022. https://www.navigosgroup.com/report-labor-market-in-vietnam-in-q4-2022-n66.html.

[7] N.T. Ba, T.T. Hoai, Studying the Competencies of Citizens Responding to Industrial Revolution 4.0, VNU J. Sci.: Educ. Res. 36 (2020), 64-77. https://doi.org/10.25073/2588-1159/vnuer.4363.

[8] L.T.P. Thao, L.T.P. Thanh, T.V.B. Hoang, Assessment of Graduates' Level of Responsiveness to Job to the Requirements of Recruiting Enterprises: Case Study of University of Economics, Hue University, Hue Univ. J. Edu. Dev. 132 (2023), 168-192. https://doi.org/10.26459/hueunijed.v132i5A.7136.

[9] S. Mkhize, T. Reddy, Work Readiness in an Emergency Digital Learning Environment: Students' Self-Perception and Employer Expectation, Afr. J. Inter/Multidiscip. Stud. 7 (2025), 1-16. https://doi.org/10.51415/ajims.v7i1.1650.

[10] S. Slaughter, G. Rhoades, Academic Capitalism and the New Economy: Markets, State, and Higher Education, Johns Hopkins University Press, 2005.

[11] V. Koch, D. Tomasevic, C. Pacher, B.M. Zunk, Preparing Students for Industry 5.0: Evaluating the Industrial Engineering and Management Education, Procedia Comput. Sci. 253 (2025), 2219-2228. https://doi.org/10.1016/j.procs.2025.01.282.

[12] J. Henrich, Competency-based Education: the Employers' Perspective of Higher Education, J. Competency-Based Educ. 1 (2016), 122-129. https://doi.org/10.1002/cbe2.1023.

[13] P.L. Roth, P. Bobko, College Grade Point Average as a Personnel Selection Device: Ethnic Group Differences and Potential Adverse Impact., J. Appl. Psychol. 85 (2000), 399-406. https://doi.org/10.1037/0021-9010.85.3.399.

[14] OECD, The Future of Education and Skills: Education 2030, Organisation for Economic Co-operation and Development, 2018.

[15] H. Bakhshi, J.M. Downing, M.A. Osborne, P. Schneider, The Future of Skills: Employment in 2030, Pearson, 2018.

[16] S. Kraus, A. Ferraris, A. Bertello, The Future of Work: How Innovation and Digitalization Re-Shape the Workplace, J. Innov. Knowl. 8 (2023), 100438. https://doi.org/10.1016/j.jik.2023.100438.

[17] E. Lock, K. Kelly, Ignorance Is Risk: an Exploratory Investigation of Students' Perceptions of Their Education–employment Pathways, J. Teach. Learn. Grad. Employab. 11 (2020), 22-36. https://doi.org/10.21153/jtlge2020vol11no1art894.

[18] J. Picatoste, L. Pérez-Ortiz, S.M. Ruesga-Benito, A New Educational Pattern in Response to New Technologies and Sustainable Development. Enlightening ICT Skills for Youth Employability in the European Union, Telematics Inform. 35 (2018), 1031-1038. https://doi.org/10.1016/j.tele.2017.09.014.

[19] L. Holmes, Competing Perspectives on Graduate Employability: Possession, Position or Process?, Stud. High. Educ. 38 (2013), 538-554. https://doi.org/10.1080/03075079.2011.587140.

[20] M. Tomlinson, Forms of Graduate Capital and Their Relationship to Graduate Employability, Educ. + Train. 59 (2017), 338-352. https://doi.org/10.1108/et-05-2016-0090.

[21] M. Clarke, Rethinking Graduate Employability: the Role of Capital, Individual Attributes and Context, Stud. High. Educ. 43 (2017), 1923-1937. https://doi.org/10.1080/03075079.2017.1294152.

[22] N. Bontis, Intellectual Capital: an Exploratory Study That Develops Measures and Models, Manag. Decis. 36 (1998), 63-76. https://doi.org/10.1108/00251749810204142.

[23], The Effects of Human Capital Attributes on the Employability Readiness Among Engineering Graduates in the High Education Institute's in Oman, Am. Int. J. Bus. Manag. Stud. (2021), 34-48. https://doi.org/10.46545/aijbms.v3i1.222.

[24] Z. Kumisheva, F. Mambetova, Human Capital and Employment Transformation in the Context of Digitalisation, E3S Web Conf. 431 (2023), 07032. https://doi.org/10.1051/e3sconf/202343107032.

[25] J. Sangeetha, Human Capital Factors in the Recent College Graduate: Employers' Perspective, J. Adv. Res. Econ. Adm. Sci. 3 (2022), 11-24. https://doi.org/10.47631/jareas.v3i1.385.

[26] Y. Shiyuan, Y. Jinxiu, X. Jingfei, Z. Yuling, Y. Longhua, et al. Impact of Human Capital and Social Capital on Employability of Chinese College Students Under COVID-19 Epidemic—joint Moderating Effects of Perception Reduction of Employment Opportunities and Future Career Clarity, Front. Psychol. 13 (2022), 1046952. https://doi.org/10.3389/fpsyg.2022.1046952.

[27] E. Berntson, S. Marklund, The Relationship Between Perceived Employability and Subsequent Health, Work. Stress 21 (2007), 279-292. https://doi.org/10.1080/02678370701659215.

[28] K.H. Mok, Z. Wen, R. Dale, Employability and Mobility in the Valorisation of Higher Education Qualifications: the Experiences and Reflections of Chinese Students and Graduates, J. High. Educ. Polic. Manag. 38 (2016), 264-281. https://doi.org/10.1080/1360080x.2016.1174397.

[29] P. Bourdieu, The Forms of Capital, in: The Sociology of Economic Life, Routledge, 2018: pp. 78--92. https://doi.org/10.4324/9780429494338-6.

[30] J. Nahapiet, S. Ghoshal, Social Capital, Intellectual Capital, and the Organizational Advantage, Acad. Manag. Rev. 23 (1998), 242-266. https://doi.org/10.2307/259373.

[31] M.R.A. Hinai, A.B. Bhuiyan, N.A. Husin, The Effects Social Capital Attributes on the Employability Readiness among Engineering Graduates in the High Education Institute's in Oman, Int. J. Bus. Manage. Future 6 (2021), 1-11. https://doi.org/10.46281/ijbmf.v6i1.1463.

[32] Y. Fengqiao, M. Dan, The Impact of Social Capital on the Employment of College Graduates, Chin. Educ. Soc. 48 (2015), 59-75. https://doi.org/10.1080/10611932.2015.1014708.

[33] M. Letnar, K. Širok, The Role of Social Capital in Employability Models: a Systematic Review and Suggestions for Future Research, Sustainability 17 (2025), 1782. https://doi.org/10.3390/su17051782.

[34] G.W. Hinchliffe, A. Jolly, Graduate Identity and Employability, Br. Educ. Res. J. 37 (2011), 563-584. https://doi.org/10.1080/01411926.2010.482200.

[35] C.P. Tan, H. Van der Molen, H. Schmidt, A Measure of Professional Identity Development for Professional Education, Stud. High. Educ. 42 (2015), 1504-1519. https://doi.org/10.1080/03075079.2015.1111322.

[36] D. Jackson, Re-conceptualising Graduate Employability: the Importance of Pre-Professional Identity, High. Educ. Res. Dev. 35 (2016), 925-939. https://doi.org/10.1080/07294360.2016.1139551.

[37] M. Sousa, Cultural Intelligence in Higher Education: Promoting Inclusion and Global Collaboration, Soc. Impacts 5 (2025), 100115. https://doi.org/10.1016/j.socimp.2025.100115.

[38] F. Luthans, C.M. Youssef, Human, Social, and Now Positive Psychological Capital Management:, Organ. Dyn. 33 (2004), 143-160. https://doi.org/10.1016/j.orgdyn.2004.01.003.

[39] A. Ardichvili, Sustainability or Limitless Expansion: Paradigm Shift in Hrd Practice and Teaching, Eur. J. Train. Dev. 36 (2012), 873-887. https://doi.org/10.1108/03090591211280946.

[40] M. Ngoma, P. Dithan Ntale, Psychological Capital, Career Identity and Graduate Employability in Uganda: the Mediating Role of Social Capital, Int. J. Train. Dev. 20 (2016), 124-139. https://doi.org/10.1111/ijtd.12073.

[41] F. LUTHANS, B.J. AVOLIO, J.B. AVEY, S.M. NORMAN, Positive Psychological Capital: Measurement and Relationship with Performance and Satisfaction, Pers. Psychol. 60 (2007), 541-572. https://doi.org/10.1111/j.1744-6570.2007.00083.x.

[42] L. Pangrazio, A. Godhe, A.G.L. Ledesma, What Is Digital Literacy? A Comparative Review of Publications Across Three Language Contexts, E-Learning Digit. Media 17 (2020), 442-459. https://doi.org/10.1177/2042753020946291.

[43] N. Hussain, S. Phulpoto, Digital Literacy: Empowering Individuals in the Digital Age, Assyfa Learn. J. 2 (2024), 70-83. https://doi.org/10.61650/alj.v2i2.231.

[44] UNESCO, A Global Framework of Reference on Digital Literacy Skills for Indicator 4.4.2, United Nations Educational, Scientific and Cultural Organization, 2018.

[45] B.Q. Tuyen, Assessing Digital Competence of Workers: Evidence from the Telecommunications Sector in Vietnam in the Digital Transformation Era, J. Trade Sci. 202 (2025), 55–68. https://doi.org/10.54404/jts.2025.202v.04.

[46] C. Hague, S. Payton, Digital Literacy across the Curriculum, Futurelab, 2010.

[47] J.F. Hair, W.C. Black, B.J. Babin, R.E. Anderson, Multivariate Data Analysis, Pearson, New York, 2010.