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Research on the Path and Mechanism of Digital Competence Affecting the Employment Quality of Young People in New Business Forms

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Abstract: Digital technology has generated new job opportunities across China, while also producing fresh employment differentiation. This study investigates the association between digital competence and employment quality among new employment groups in Zhejiang Province, and tests the mediating role of employment intention. The study adopted a blend of online and offline questionnaires; altogether 812 copies were handed out, and 744 valid responses were obtained. Descriptive statistics along with Bootstrap mediation analysis were applied for hypothesis testing. The results yield three principal findings. First, respondents report fairly positive employment intentions together with comparatively high self-rated digital competence. Second, digital competence exerts a significant positive influence upon employment quality. Third, employment intention serves as a partial mediator linking digital competence with employment quality. Drawing on these findings, this study proposes targeted improvement suggestions concerning digital competence training, employment support, platform governance, and workers' social security.

Keywords: Employment Intention; Employment Quality; Digital Competence; Digital Economy

1. Introduction

A new round of digital technology revolution and the vigorous growth of the platform economy have spawned a broad spectrum of new forms of employment, and young people have increasingly become the main actors in the emerging labor market. As one of China's most digitally advanced regions, Zhejiang Province has a large population of young people engaged in new forms of employment and diverse employment models. However, within the youth group, the level of digital competence has been significantly differentiated. This differentiation not only reflects the differences in individual abilities, but also stems from structural obstacles such as family capital, education threshold, and digital literacy, which in turn have a substantial impact on the quality of youth employment. Although some scholars have begun to pay attention to the beneficial effect of digital competence on the quality of employment or subjective well-being, there is still a lack of systematic empirical tests on how digital competence can stimulate young people's employment intention and improve their employment quality under the new forms of employment.

2. Literature Review and Theoretical Development

2.1 The Development of Digital Competence Theory

The intellectual origin of digital competence theory can be traced back to research on digital literacy. Gilster argued in 1997 that digital literacy is not the mechanical mastery of a device or program [1], but a comprehensive ability to read, understand, integrate, and evaluate digital information. This definition incorporates information judgment and meaning construction into the analysis of digital competence for the first time. Martin further suggested that digital literacy is a developmental ability, encompassing the use of digital tools and equipment, access to digital resources, the construction of new knowledge and new resources, and other progressive levels [2]. As a result, digital competence has begun to gradually shifted from static operational ability to a comprehensive quality that keeps developing to develop with learning, work, and social participation. As digital technology enters public life and work scenarios, scholars have begun to

emphasize the structural and social nature of digital competence. According to van Dijk, the digital divide has gradually expanded from the early gap in network access to the gap in usage patterns, capabilities, and benefits [3]. That is to say, owning equipment is not equal to being able to use digital technology effectively. Whether individuals have the ability to use information screening, technology migration, and goal orientation determines whether digitization can be transformed into education, employment, and income gains.

In 2013, the European Union released the DigComp framework, which divides digital competence into five areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem solving [4]. An important contribution of this framework is that digital competence is no longer understood as a single skill, but as multiple interrelated competence areas. Based on DigComp, Vuorikari and other scholars further distinguish knowledge, skills, and attitudes, and believe that true digital competence includes both 'knowing what' and 'knowing how to do', as well as the ability to act critically, responsibly, and purposefully [5]. Its measurement research in 2025 shows that the measurement model integrating knowledge, skills, and attitudes has better theoretical integrity, and based on this, Mini-21 covering 21 competences and nano-6 covering five major fields have been developed.

Cui Yan pointed out that digital literacy in the digital age has gone beyond traditional Internet use skills to the development of digital action literacy, human-machine collaborative literacy, and occupation-related digital competence [6]. Wang Haijun and Ge Chen's research found that digital literacy can improve young people's employment intention and employment probability, expand the scope of employment, and improve work flexibility, salary, and job satisfaction [7].

2.2 The Development of Employment Intention Theory

Employment intention is an important psychological variable that connects individual cognition, value judgment, and employment behavior.

The theory of planned behavior provides an important basis for interpreting employment intention. Ajzen holds that behavioral intention is shaped by behavioral attitude, subjective norm, and perceived behavioral control. Intention is an important proximal variable for individuals moving from cognition and evaluation to actual behavior [8]. Applying it to new forms of youth employment can be understood as: young people's attitudes towards platform work, flexible employment or digital careers, family and social normative evaluations of related careers, and their judgments on their digital competence and employment resources jointly shape the employment intention. Vuorikari and other scholars also pointed out that digital competence measurement can not only focus on knowledge and skills, but also that attitudes will affect whether individuals really take action. This suggests that digital competence may enhance employment intention by enhancing self-efficacy and perceived behavioral control.

The domestic research on the employment intention of college students further presents a trend from a single 'employment attitude' to a multi-dimensional career value choice. Based on the theory of planned behavior, Yan Ni and other scholars found that college students' cognition of new forms of employment will affect their employment intention [9]. Tian Feng's analysis of the change of college students' employment intention from 2012 to 2021 shows that the concept of youth employment is shifting from simply pursuing first employment to paying more attention to career development, working conditions, and personal value realization [10]. The research of Yang Guangqin and other scholars puts employment intention between career planning and employment quality, and finds that career planning can significantly predict employment intention, and employment intention can significantly positively predict employment quality [11]. This study promotes the employment intention from the outcome variable to the mediating variable that explains the formation process of employment quality.

2.3 The Development of Employment Quality Theory

The traditional full employment theory mainly focuses on whether workers who are able to work and are willing to work can obtain job opportunities, focusing on employment scale and employment rate. With the emphasis on workers' rights and interests, career development, and work well-being, scholars have begun to emphasize that employment should not only solve the problem of whether there is a job, but

also answer the question of whether the job is stable, decent, and developmental. Meng Dahu and other scholars discuss the employment realization and employment quality of college students from the perspective of human capital. They believe that human capital such as education and ability not only affects the probability of employment, but also affects wages, job matching, and career development [12].

International research has gradually formed a multi-dimensional employment quality framework. Eurofound separated the quality of work into work intensity, working time quality, physical environment, social environment, skills use and autonomy, prospects and earnings [13]. On this basis, Steffgen, Sischka and Fernandez de Henestrosa distinguished the quality of work and the quality of employment, and proposed that the quality of employment should include training opportunities, career advancement, job security, employability, work life conflict, and income satisfaction [14]. They also use the job demands-resources model to show that job resources such as career development opportunities, training, autonomy, and social support can promote learning, development, and work well-being, while job demands such as high intensity, time pressure, and insecurity may damage the employment experience.

Wang Ting pointed out that the high-quality employment of college students depends not only on human capital such as academic qualifications, but also on social networks and resource acquisition capabilities [15]. Yang Guangqin et al. defined the quality of employment as a comprehensive state including multiple dimensions such as employment status, salary and welfare, development prospects and employment satisfaction, and pointed out that the quality of employment is the result of the combined effect of educational output, personal ability and employment environment. In the context of the digital economy, digital competence has become an important part of new human capital, which can affect information acquisition, job matching, career transformation and job autonomy. The theory of employment quality has experienced an expansion from the number of jobs and wage outcomes to multidimensional work well-being and development opportunities.

Grounded in the preceding studies, this research sets out the main hypotheses:

H1: Digital competence has a significant positive impact on employment quality.

H2: Digital competence has a crucial impact on employment intention.

H3: Employment intention has a crucial impact on employment quality.

H4: Employment intention acts as an intermediary linking digital competence and employment quality.

3. Data Source and Scale Test

This study conducted an anonymous questionnaire survey on the newly employed youth groups in Zhejiang Province, and collected data by combining online network platform distribution with offline paper questionnaires. A total of 812 questionnaires were distributed, and 744 valid questionnaires were collected.

4. Empirical results

4.1 Descriptive Statistics and Correlation Analysis

Among the valid samples, the gender distribution was largely balanced, with 369 women (49.6%) and 375 men (50.4%). The age was mainly 26–35 years old, with a total of 415 people (55.8%), followed by 36–45 years old, 173 people (23.3%), and 18–25 years old, 137 people (18.4%), and 19 people over 46 years old (2.6%). The education level was predominantly undergraduate and above, with a total of 393 people (52.8%), followed by 180 junior college students (24.2%) and 100 high school, secondary school, or technical school students (13.4%). The sample covers a range of new employment forms such as platform ordering, content creation, and digital technology services, which can mirror the basic structural characteristics of young people in Zhejiang Province.

The employment quality dimension scale refers to the employment quality index compiled by Steffgen and other scholars, and the digital competence dimension scale refers to the digital competence measurement tool developed by Vuorikari and other scholars based on the DigComp framework. This paper tests the internal consistency of the overall scale of the three dimensions of 'employment intention', 'employment quality' and 'digital competence'. The results showed that the scale Cronbach's α coefficient is 0.774, and the standardized Cronbach's α coefficient is 0.775, with a total of 15 items, and the number of samples is 744,

which is within the acceptable range.

This study first conducts descriptive statistics and correlation analysis on employment quality, digital competence, and employment intention. As show in Table 1, significant positive correlations were observed among the three research variable.

Table 1. Descriptive Statistics and Correlation Analysis between Variables

Variables	M ± SD	1	2
1 Employment quality	3.642 ± 0.759	—	
2 Digital competence	4.003 ± 0.570	0.397**	—
3 Employment intention	4.029 ± 0.450	0.357**	0.516**

Note. ** P < 0.01

4.2 Mediation Effect Test

The mediation effect was tested based on Model 4 in the PROCESS macro program [16]. This study takes young people in new forms of employment in Zhejiang Province as samples. Under the condition
of controlling covariates such as parents' highest education level, and family annual income, the bias-corrected percentile Bootstrap method is used to conduct 5000 repeated samplings [17]. As shown in Table 2, digital competence has a direct effect on employment quality (B = 0.349, P < 0.001). Further path analysis showed that digital competence could significantly predict employment intention (B = 0.459, P < 0.001, β = 0.547). Employment intention can also significantly positively predict employment quality (B = 0.390, P < 0.001, β = 0.246).

The analysis of the specific mediation effect shows that the indirect path of 'digital competence → employment intention → employment quality' does not contain 0, and the mediation effect is significant. In the total effect of digital competence on employment quality, 33.90% is mediated; the indirect effect of this path is 0.179, with a Bootstrap standard error of 0.036.

The below results show that employment intention plays a partial mediating role between digital competence and employment quality: digital competence not only directly improves the employment quality of young people in new forms of employment, but also indirectly promotes the improvement of employment quality by enhancing their employment intention. It should be emphasized that partial mediation means that the impact of digital competence on employment quality includes both the psychological motivation path and the direct ability path. For young people in new forms of business, on the one hand, digital competence enhances their employment intention, making them more proactive in searching for opportunities, accepting learning and bearing the cost of career transformation; on the other hand, it also directly improves their ability to complete digital tasks, identify platform rules, conduct online collaboration and solve technical problems.

Table 2. Mediation Effect Value and Effect Size Mediation Effect Value and Effect Size

Project	Mediation path	Effect value	Effect quantity	Boot CI lower limit	Boot CI upper limit
Direct effect	—	0.387	—	0.286	0.488
Mediation effect	Digital competence → employment intention → employment quality	0.141	32.10%	0.082	0.208
Total effect	—	0.528	—	0.440	0.616

5. Conclusion and Implications

This study's findings point to the conclusion that a significant relationship between digital competence and the employment quality of young people in new forms of employment. Digital competence can not only directly improve the employment quality of young people, but also indirectly promote the improvement of employment quality by enhancing their employment intention. For young people in new forms of employment, digital competence is not only the basis for completing platform work, carrying out online collaboration, and solving technical problems, but also an important condition for them to understand employment opportunities, enhance professional confidence, and actively participate in employment competition. Young people with higher levels of digital competence are usually able to obtain employment information more effectively, identify job requirements, adapt to changes in the working environment, and show

stronger initiative and adaptability in the process of career choice and job transition.

Employment intention acts as an intermediary linking digital competence and employment quality, which shows that the impact of digital competence on employment quality is not only achieved through skill upgrading, but also needs to be transformed through individual positive employment motivation and action input. Strong digital competence can enhance young people's confidence in their employability, enhance their understanding and acceptance of new forms of employment, and thus form a more positive employment intention. Positive employment intention can also encourage young people to actively search for employment opportunities, participate in vocational training, improve work input, and maintain stronger mobility in the face of employment instability, career transformation and platform rule changes, and ultimately promote the improvement of employment quality.

The results of this study reveal that the employment support of the youth in new forms of employment should not only focus on the number of jobs and employment results, but also pay attention to the internal relationship between digital competence, employment intention and employment quality. Young people themselves should take the initiative to improve their abilities in the use of digital tools, information screening, network communication, digital content creation and problem solving, and combine digital competence training with career goals, job requirements and career development to continuously enhance career adaptability in practice. What is more, young people should form a rational concept of employment, correctly understand the opportunities and risks of new forms of employment, enhance the initiative of employment and the sustainability of career development, and avoid flexible employment as a short-term way of making a living.

Colleges, vocational training institutions and relevant employment service departments should establish a more systematic digital competence training and employment support system, combining digital competence training, career planning education, employment guidance and psychological support to help young people clarify the direction of career development and improve the efficiency of digital competence to transform into employability and professional competitiveness. For young people with weak digital competence and relatively insufficient educational resources and family support, more targeted training, employment information, and career guidance should be provided to reduce the restrictions of the digital divide on employment opportunities and employment quality.

In addition, platform enterprises and relevant management departments should further improve the employment environment for new forms of employment, strengthen the transparency of platform rules, labor rights protection and career development support, and avoid unilaterally transferring employment risks and capacity requirements to workers. By improving platform governance, improving social security, providing continuous training and expanding career development channels, a more stable, fair and developmental employment environment can be created for young people in new forms of employment. In general, we should take the improvement of digital competence as the basis, the stimulation of employment intention as the driving force, and the improvement of employment quality as the goal, so as to form a benign development path from ability training, employment intention formation to employment quality improvement.

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References

[1] Gilster P. Digital literacy. New York: John Wiley & Sons, 1997.

[2] Martin A, Grudziecki J. DigEuLit: concepts and tools for digital literacy development. ITALICS, 2006, 5 (4): 249.

[3] Van Dijk J. The Digital Divide. Cambridge: Polity Press, 2020.

[4] Ferrari A. DIGCOMP: A Framework for

Developing and Understanding Digital Competence in Europe. Luxembourg: Publications Office of the European Union, 2013.

[5] Vuorikari R, Pokropek A, Castaño-Muñoz J. Enhancing digital skills assessment: introducing compact tools for measuring digital competence. Technology, Knowledge and Learning, 2025, 31: 519-546.

[6] Cui Yan. Research on the Impact of Youth Digital Literacy on Entrepreneurial Intention in the Digital-Intelligence Era. China Youth Social Science, 2024, 43(4): 118-129.

[7] Wang Haijun, has Ge Chen's digital literacy promoted high-quality full employment of young people? Journal of Shanghai University of Finance and Economics, 2024, 26(3): 49-64.

[8] Icek A. The theory of planned behavior. Organizational Behavior and Human Decision Processes, 1991, 50(2):179-211.

[9] Yan Ni, Yuan Wenyi, Ren Li. Research on the Influence of College Students' Cognition of New Business Forms on Employment Intention - An Empirical Analysis Based on the Theory of Planned Behavior Social Security Research, 2023, (3): 80-91.

[10] Tian Feng's career choice is greater than employment: a trend analysis of college students' employment willingness (2012-2021). Academic Digest of Humanities in Higher Education, 2023, 40, (5): 132-133

[11] Yang Guangqin, Shang Yixiao, Zhao Nan. College students' career planning and employment quality: the mediating role of employment intention and employment capital. Chinese Journal of Clinical Psychology, 2026, 34(2): 457-460+465.

[12] Meng Dahu, Su Lifeng, Li Lu. Human Capital and College Students 'Employment Realization and Employment Quality - An Empirical Analysis Based on Questionnaire Data Population and Economy, 2012, (3): 19-26.

[13] Eurofound. Sixth European Working Conditions Survey: Overview Report. Luxembourg: Publications Office of the European Union, 2016.

[14] Steffgen G, Sischka P E, Fernandez de Henestrosa M. The Quality of Work Index and the Quality of Employment Index: A multidimensional approach of job quality and its links to well-being at work. International Journal of Environmental Research and Public Health, 2020, 17(21): 7771.

[15] Wang Ting. Research on the influencing mechanism of high-quality employment of college students: the perspective of human capital and social capital Exploration of Higher Education, 2020, (2): 108-114.

[16] Hayes A F. Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach. 3rd ed. New York: Guilford Press, 2022.

[17] Preacher K J, Hayes A F. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. Behavior Research Methods, 2008, 40(3): 879-891.