ทักษะการจ้างงานที่ส่งผลต่อการปรับตัวต่ออาชีพของนักศึกษาบริหารธุรกิจระดับปริญญาตรีในกุ้ยโจว สาธารณรัฐประชาชนจีน

Employment Skills Affecting Career Adaptabilities among Undergraduate Business Administration Students in Guizhou, People's Republic of China

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งานวิจัยนี้มีจุดมุ่งหมายเพื่อ 1) ประเมินทักษะการจ้างงานของนักศึกษาระดับปริญญาตรีสาขาบริหารธุรกิจในมณฑลกุ้ยโจว ประเทศจีน 2) ประเมินการปรับตัวต่ออาชีพ และ 3) ตรวจสอบผลกระทบของทักษะการจ้างงานและการปรับตัวต่ออาชีพ งานวิจัยนี้ดำเนินการภายใต้บริบทของการเปลี่ยนแปลงทางเศรษฐกิจ ซึ่งเน้นให้เห็นถึงความไม่สอดคล้องกันระหว่างการศึกษาในระดับอุดมศึกษาและความต้องการของตลาดแรงงาน ใช้วิธีการวิจัยเชิงปริมาณ โดยใช้แบบสอบถามที่มีโครงสร้างซึ่งแจกจ่ายให้กับนักศึกษา 441 คน และได้รับอัตราการตอบกลับ 77% ผลการวิจัยชี้ให้เห็นว่า ทักษะการจ้างงานมีคะแนนเฉลี่ย 3.83 ในขณะที่การปรับตัวต่ออาชีพมีคะแนนเฉลี่ยสูงกว่าคือ 3.94 การวิเคราะห์พบว่า ทักษะการจ้างงานสามารถทำนายการปรับตัวต่ออาชีพได้อย่างมีนัยสำคัญ โดยคิดเป็น 83.6% ของความแปรปรวนในความสามารถในการปรับตัวต่ออาชีพ ดังแสดงในผลการวิเคราะห์การถดถอยพหุตัวแปร โดยเฉพาะอย่างยิ่ง ความสามารถในการแก้ปัญหา (β = 0.434) ทักษะการทำงานเป็นทีม (β = 0.298) และทักษะการสื่อสาร (β = 0.149) แสดงให้เห็นถึงผลกระทบเชิงบวกอย่างมีนัยสำคัญต่อการปรับตัวต่ออาชีพ ($P < 0.05$) ในทางตรงกันข้าม ทักษะด้านตัวเลขแสดงให้เห็นถึงความสัมพันธ์เชิงลบ (β = -0.089) ผลการวิจัยเน้นย้ำถึงบทบาทสำคัญของการแก้ปัญหา การทำงานเป็นทีม การสื่อสาร และการเรียนรู้ด้านจริยธรรมในการเพิ่มความสามารถในการปรับตัวในอาชีพของนักศึกษา ผลการวิจัยนี้ยังเสนอแนะนโยบายสำหรับการบูรณาการทักษะหลักเหล่านี้เข้ากับหลักสูตรของมหาวิทยาลัย และเน้นย้ำถึงความจำเป็นในการร่วมมือกันระหว่างสถาบันการศึกษา อุตสาหกรรม และผู้กำหนดนโยบาย เพื่อปรับปรุงความสามารถในการปรับตัวในวิชาชีพและความยืดหยุ่นของกำลังแรงงาน

คำสำคัญ: ทักษะการจ้างงาน การปรับตัวต่ออาชีพ นักศึกษาบริหารธุรกิจ

Abstract

This study aims to: 1) assess the employability skills of undergraduate business students in Guizhou Province, China; 2) evaluate their career adaptability; and 3) examine the relationship between employability skills and career adaptability. The research is set against the backdrop of economic transformation, highlighting the mismatch between higher education and labor market demands. A quantitative design was used, involving a structured questionnaire administered to

441 students, achieving a 77% response rate. The results indicated that employability skills had a mean score of 3.83, while career adaptability had an even higher mean score of 3.94. The analysis revealed that employability skills significantly predict career adaptability, accounting for 83.6% of the variance in career adaptability as shown in a multiple regression analysis. Specifically, problem-solving ability (β = 0.434), teamwork skills (β = 0.298), and communication skills (β = 0.149) exhibited a significant positive effect on career adaptability (P < 0.05). In contrast, numerical skills showed a negative correlation (β = -0.089). The findings underscore the critical roles of problem-solving, teamwork, communication, and ethical learning in enhancing students' career adaptability. They provide policy recommendations for integrating these core skills into university curricula and emphasize the need for collaboration among academia, industry, and policymakers to improve professional adaptability and workforce resilience.

Keywords: Employability Skills, Career Adaptabilities, Undergraduate Business Students

Introduction

Guizhou Province is the economic hub of transformation in Southwest China and has experienced significant growth under the "Western Development" policy and the “Big Data Comprehensive Pilot Zone” initiative. In 2023, the digital economy accounted for 36.8% of the gross domestic product. However, this triumph has highlighted a key skill gap between education and the demands of the job market: while its 12 universities produce over 80,000 undergraduate business majors annually, 68% of digital economy companies report that graduates are "unprepared" for jobs requiring data-driven decision-making, cross-functional collaboration, and practical skills in emerging sectors like fintech and data analytics. Only 32% of business graduates have found employment aligned with their sector, and most graduates believe that the "skills gap" is the biggest obstacle (Yang & Gao, 2023), posing a threat to Guizhou's goal of creating 500,000 digital/service jobs by 2025.

At the global level, employability skills encompass a range of key competencies, expertise, and essential personal attributes that enable individuals not only to succeed in their chosen career paths but also to excel. These skills include cognitive abilities, interpersonal skills such as effective communication and teamwork, and self-management skills, which involve adaptability and resilience as defined by Pike et al. (2010). Career adaptability, specifically, refers to an individual's proactive capacity to adjust to changing work environments, evolving career paths, and emerging industry demands. Includes planning for the future, taking control of one's career, being eager to learn about new opportunities, and maintaining confidence during

challenging times (Savickas, 1997). Understanding this concept is vital for designing effective educational strategies and policies to enhance workforce resilience.

However, Guizhou's unique and diverse geographical environment presents significant complexities for skills development. As a multiethnic province, ethnic minorities comprise 36.1% of the total population, and their deeply ingrained collective cultural values and rigid hierarchical social beliefs significantly impact interpersonal interactions and collaboration (Wang, 2022). Mainstream skills development frameworks often overlook these challenges while significant institutional barriers—such as limited and underdeveloped collaboration between industry, universities, and research, traditional teaching methods that emphasize theoretical knowledge over practical application, and a lack of hands-on experience in emerging sectors like data analytics and fintech—impede business school students from acquiring the substantive, employable skills they need (Perkmann & Walsh, 2007).

Despite identified gaps in employability skills, there remains a lack of comprehensive research on how cultural factors influence career adaptability and employability among Guizhou's diverse student population. This gap is critical, as understanding the cultural dynamics and their relationship with employability could pave the way for more effective educational and policy interventions tailored to meet the needs of this unique demographic.

A dynamic interplay of individual capabilities, educational innovation, and institutional collaboration shapes employability in the contemporary labor market. Employability skills encompass technical abilities, personal attributes, and disciplinary knowledge that enable individuals to secure work, progress professionally, and adapt to workplace change (Mahajan et al., 2022). Prior research highlights the growing importance of authentic learning and assessment in fostering transferable skills such as problem-solving, critical thinking, and digital agility (Grover, 2022; Sokhanvar et al., 2021). Conceptual frameworks further position employability as a combination of adaptive capacities and meta-abilities shaped by systemic support mechanisms (McMahon & Abkhezr, 2025; Tomlinson, 2017). In a rapidly transforming global economy, career adaptability—comprising focus, control, curiosity, and confidence—has become essential for navigating uncertainty and responding proactively to emerging opportunities (Demirtaş-Zorbaz et al., 2024; Mishra & McDonald, 2017). At the same time, employer satisfaction increasingly depends on the alignment between graduate skills, industry expectations, and ethical and sustainable practices (Aliu & Aigbavboa, 2021; Suleman, 2018). Taken together, these perspectives indicate that employability development requires coordinated efforts among individuals, higher education institutions, employers, and policymakers to cultivate a flexible, innovative, and socially responsible workforce.

This study aims to bridge the gaps by examining the interaction between employability skills and career adaptability among Guizhou undergraduate business students, with a specific focus on the impact of cultural diversity on these dynamics. By researching this interaction in the context of accelerated change, cultural diversity, and institutional constraints, it aims to provide evidence for higher education reform, employer development, and policy development to support Guizhou's talent pipeline towards sustainable development.

Objectives

The objectives of this research are as follows:

1. To assess the level of employability skills among undergraduate business students in Guizhou.
2. To evaluate the level of career adaptability among undergraduate business students in Guizhou.
3. To examine the effect of employability skills on career adaptability among undergraduate business students in Guizhou.

Research Hypothesis

Employability skills, including digital literacy skills, teamwork and leadership skills, communication skills, and problem-solving skills, positively influence career adaptability among undergraduate business students in Guizhou.

Research Framework

This study analyzes employment skills that influence career adaptability. Employment skills include digital literacy, teamwork and leadership, communication, and problem-solving. These skills draw on contemporary employment skills frameworks, such as Avolio et al.'s (2004) organizational commitment and psychological empowerment model, which emphasize the necessity of these skills in navigating a dynamic labor market and responding to the technological changes brought about by the Fourth Industrial Revolution.

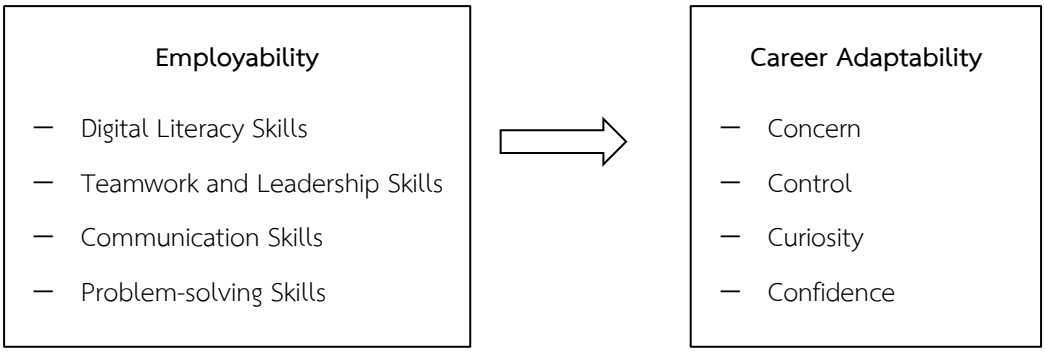

Figure 1 Conceptual Framework

Methodology

1. Population and Samples

This study recruited 5,516 undergraduate students from the Class of 2024 at Guizhou University of Finance and Economics, majoring in business administration, accounting, finance, financial management, marketing, international trade, and economics. In their book Multivariate Data Analysis, Hair et al. (2019) proposed a statistical method for determining the minimum sample size based on the number of observations (respondents) for each variable (or questionnaire question), and also proposed a rule of thumb: the sample size ratio for each variable should be 10:1 to 20:1. Therefore, a total of 570 questionnaires were distributed in this study, and this method was used to determine the sample size. For this study, stratified random sampling was adopted to ensure proportional representation of undergraduate business students across universities in Guizhou. However, only 441 questionnaires were ultimately collected, primarily because some students were unable to complete the questionnaire due to changes in residence or contact information, making it difficult for them to participate.

2. Research Instrument

A 5-point Likert (1932) scale questionnaire (1=Strongly Disagree, 5=Strongly Agree) was used, including: (1) 33 items on employability skills (digital literacy, communication, problem-solving, teamwork) were adapted from Qostal et al. (2024); (2) 24 scenario-based items on career adaptability (concern, control, curiosity, confidence) were adapted from Alarifi et al. (2024); (3) demographic information. The instrument was validated via expert review and bidirectional translation between English and Chinese. A panel of three vocational education experts evaluated content validity using cross-checking (Turner, 2003) and retained items with an IOC ≥ 0.7, instead of the traditional 0.5 threshold. A pilot study with 30 students from Guizhou University of Finance and Economics reported Cronbach's α values of 0.88–0.92 across all constructs, which met the threshold recommended by Taber (2018).

3. Collection of Data

The data collection of the survey is conducted at Guizhou University of Finance and Economics, and the subjects must strictly meet four conditions: (a) at least 18 years old; (b) full-time undergraduate students; (c) business-related majors (such as business administration, accounting, finance); And (d) voluntarily complete the questionnaire survey. Sample size was calibrated according to data collected from 1st April to 30th May 2025, and the web survey was disseminated through three synchronized channels: (1) incorporated in online portals (e.g., Tencent); (2) Directional push through legitimate department WeChat official account and QQ group; And (3) email invitations through collaborative academic consultants. However, due to logistical limitations, such as off-campus internships, although initial exploration was no longer resumed, only 441 completed questionnaires were retrieved, which was a 77% response rate, an acceptable rate (Wu et al., 2022).

4. Data Analysis

This study, based on a rigorous conceptual design, employed employability skills as the independent variable and career adaptability as the dependent variable. A rigorous, systematic analysis was conducted using professional statistical software, employing the following structured workflow: First, strict internal validity was ensured using Cronbach's alpha (≥ 0.7). Second, descriptive statistics were used to characterize the distribution of population characteristics through frequency analysis. Next, a composite score for employability skills and career adaptability was calculated using the mean formula, and data dispersion was measured using the standard deviation. Finally, a multivariate regression model was constructed to test the research hypothesis and to systematically analyze the mechanisms by which employability skills influence career adaptability.

Results

Table 1 summarizes the demographic characteristics of the 441 respondents. Most participants were female (57.6%), and the largest age group was 18–22 (50.3%). Most students were in their first three years of undergraduate studies (Years 1–3: 85.8%), with the highest representation in Accounting (26.3%), Finance (25.9%), and Business Administration (24.9%).

Table 1 Respondent Characteristics (n=441)

Demographic Information	Frequency	Percentage
Male	187	42.4
Female	254	57.6

Demographic Information	Frequency	Percentage
Under 18	19	4.3
18–22 years	222	50.3
23–25 years	95	21.5
Over 25 years	105	23.8
Undergraduate Year 1	125	28.3
Undergraduate Year 2	127	28.8
Undergraduate Year 3	122	27.7
Undergraduate Year 4	67	15.2
Business Administration	110	24.9
Accounting	116	26.3
Finance	114	25.9
Financial Management	25	5.7
Marketing	51	11.6
International Trade and Economics	25	5.7

The reliability analysis of all structures indicates that Cronbach's alpha values range from 0.909 to 0.933, with an overall average of 0.983, exceeding the recommended critical value of 0.7 (Sekaran & Bougie, 2010). The data presented in Table 2 demonstrates a high overall level of employability skills (M = 3.83, S.D. = 0.97). Among the various dimensions, problem-solving skills ranked the highest with a mean score of 3.94, followed closely by teamwork and communication skills, each at 3.83. Digital skills had the lowest mean score at 3.70, yet still remained at a commendable level. In addition, career adaptability was found to be similarly high (M = 3.94, S.D. = 0.96). Among its components, control had the highest mean score (M = 3.98), followed by curiosity (M = 3.95), concern (M = 3.92), and confidence (M = 3.91).

Table 2 Mean and Standard Deviation of Variables

Variables	Mean Value	Standard Deviation	Interpretation
Employability skill			
Digital Skills (DS)	3.70	1.06	High
Teamwork Skills (TS)	3.83	1.00	High
Problem-Solving (PS)	3.94	0.84	High
Communication Skills (CS)	3.83	0.99	High
Total Value	3.83	0.97	High

Variables	Mean Value	Standard Deviation	Interpretation
Career Adaptability			
Concern	3.92	0.97	High
Control	3.98	0.97	High
Curiosity	3.95	0.95	High
Confidence	3.91	0.95	High
Total Value	3.94	0.96	High

Table 3 presents the Pearson correlation coefficients among the key study variables, including Digital Skills (DS), Communication Skills (CS), Teamwork Skills (TS), Problem-Solving Skills (PS), and Career Adaptability (CA). The results indicate that all variables are positively and significantly correlated with one another at the 0.01 level (2-tailed). Overall, the findings reveal substantial positive interrelationships among employability skills and career adaptability, indicating that improvements in one skill domain are likely to be associated with enhancements in others.

Table 3 Correlation Results

	DS	CS	TS	PS	CA
Digital Skills (DS)	1				
Teamwork Skills (TS)	.828**	1			
Problem-Solving (PS)	.703**	.830**	1		
Communication Skills (CS)	.743**	.806**	.821**	1	
Career Adaptability (CA)	.753**	.833**	.838**	.868**	1

Note: **. Correlation is significant at the 0.01 level (2-tailed).

Table 4 presents the results of a multiple regression analysis examining the association between undergraduate business students' employment skills and occupational adaptability in the People's Republic of China's Guizhou province. The Variance Inflation Factor (VIF) is a measure of multicollinearity proposed by Hair et al. (2019), with a predictive factor ranging from 3.774 to 5.495, which is less than 10, indicating no severe multicollinearity issue in the model. This model exhibits strong explanatory power, with an R-squared value of 0.836 (adjusted R-squared = 0.836), indicating that the provided employment skills account for 83.6% of the variation in occupational adaptability. The F-statistic (F = 441.151, P = 0.05) confirmed the model's overall significance, indicating a positive relationship between the predictive variables and occupational adaptability.

Table 4 Multiple Regression Results

	B Value	Standard Error	Beta Coefficient	t Value	Significance	VIF Value
Constant value	8.549	1.883		4.541	.001*	
Digital Skills (DS)	-.270	.115	-.089	-2.341	.020*	3.774
Teamwork Skills (TS)	.949	.129	.298	7.351	.001*	4.342
Problem-Solving (PS)	1.418	.131	.434	10.792	.001*	4.265
Communication Skills (CS)	.486	.149	.149	3.267	.001*	5.495
Model Fit Indicators: R=0.914; R^2=0.836; Adjusted R^2=0.836; F=441.151						

Note: Career Adaptability is a dependent variable. *Level of significance at 0.05

In Table 5, the hypothesis stating that employability skills positively influence career adaptability is partially supported. While teamwork skills, problem-solving skills, and communication skills positively and significantly influence career adaptability, digital skills demonstrate a significant negative relationship, contrary to expectations.

Table 5 Hypothesis Testing Results

Research Hypothesis	Test Result
Digital Skills positively influence career adaptability	Rejected
Teamwork Skills positively influence career adaptability	Accepted
Problem-Solving positively influences career adaptability	Accepted
Communication Skills positively influence career adaptability	Accepted

Based on the data in Table 4, the multiple regression equation for this study is:

$$Y_{CA} = 8.549 - 0.270X_{DS} + 0.949X_{TS} + 1.418X_{PS} + 0.486X_{CS}$$

According to the data in Table 3, the multiple regression equation obtained in this study is employed to quantify the impact of employability on occupational adaptability (Y_{CA}, i.e., the comprehensive ability of students for coping with occupational change and integrating into the working environment, covering four dimensions: attention, control, curiosity, and confidence): constant term 8.549 is the mathematical intercept (theoretical value of occupational adaptability

when all independent variables are 0), and the coefficient of each variable illustrates the specific impact - With every 1 point improvement in digital skills (X_{DS}), occupational adaptability decreases by 0.270 points (possibly because the course focuses on basic operations of software rather than cutting-edge tools, resulting in a disconnection between competence and industry needs); With every 1 point improvement in team collaboration capacity (X_{TS}), career adaptability can be improved by 0.949 points (reflecting the effectiveness of practical teaching such as cross departmental collaboration); As a core driving force, with every 1 point improvement in problem-solving capacity (X_{PS}), there can be a significant 1.418 point increase in occupational adaptability (reflecting the key role of entire process problem-solving capacity in workplace issues); With every 1 point improvement in communication capacity (X_{CS}), career adaptability can be improved by 0.486 points (reflecting the fundamental support of cross-cultural communication and other competencies for team integration).

Discussion

This study investigated the relationship between employability skills and career adaptability among undergraduate business administration students in Guizhou, China. The findings provide critical insights into how specific competencies prepare students for a rapidly changing economic landscape. The descriptive results indicate that students exhibit high levels of employability skills and career adaptability, with problem-solving and teamwork as the most developed attributes. This suggests that Guizhou's business curriculum effectively promotes collaborative learning and analytical thinking. These findings align with Suleman (2018), who emphasized the need for higher education programs to balance technical knowledge with soft skills for graduate readiness. The high adaptability scores also indicate students' psychological readiness for professional transitions, supporting Savickas' (1997) emphasis on the role of self-regulatory resources in career development.

The regression analysis confirmed that problem-solving, teamwork, and communication are significant positive predictors of career adaptability. The dominance of problem-solving suggests that students who can navigate complexity feel more equipped to adapt to market changes. This aligns with Sokhanvar et al. (2021), who argued that authentic assessments focused on problem-solving significantly enhance a student's perceived ability to manage their future careers. Furthermore, the significant role of teamwork underscores the findings of Wiese et al. (2021), which suggest that social-based learning behaviors are fundamental to building professional resilience.

A critical finding of this study was the negative influence of digital skills on career adaptability. This contradicts the initial hypothesis and suggests a "digital skill mismatch" in the

Guizhou region. While students may have basic digital literacy, the rapid advancement of China's digital economy may leave graduates feeling that their existing skills are insufficient or misaligned with high-level industry demands. This phenomenon is supported by Tomlinson (2017), who noted that possession of certain forms of "graduate capital" (like basic technical skills) does not automatically translate into career resilience if those skills are not perceived as high-value by the labor market. This highlights a need for curriculum reform to align digital training with specific industrial needs.

This study focuses on four significant dimensions of employability skills. This study provides empirical evidence of the potential impact of these skills on the career adaptation capacity of undergraduate business students in Guizhou, China. The study's findings on the problem-solving (PS) dimension of employability indicate that problem-solving skill development within the curriculum enables students to analyze complex workplace problems, conceptualize solutions, and adapt to dynamic career environments. In practice, they develop their problem-solving capacity through case studies, project-based learning, and simulations of real-world situations, thereby refining their ability to respond effectively to ever-changing career demands and developing strong career adaptability. This finding is consistent with Hirschi et al.'s (2015) finding that problem-solving capacity is crucial for enhancing college students' career adaptability, particularly when elastic responses are required to meet emergent work demands. Further studies show that students' problem-solving abilities are immediately correlated with their real-world experience in course projects and internships - studying real business cases, defining solutions, and executing them not only teaches students methodologies, but also fosters psychological toughness in the face of uncertainty, enabling them to shift more smoothly into career role shifts. This is corroborated by Ritter et al. (2018), whose findings emphasized that practice-focused problem-solving training was a significant bridging link between the proficiency acquired in school and adaptability in the workplace.

Another important finding relates to the positive impact of teamwork skills (TS). Guizhou, China's curriculum includes group assignments, case studies, extracurricular activities, and experiential learning exercises to enable undergraduate students to gain teamwork skills. These exercises enhance the teamwork competence required for career adaptability.

This corresponds with the results of Wiese et al.'s (2021) study, which found that role rotation and shared responsibility in group work are key to students' interpersonal awareness and flexibility in the environment. This study's findings also correspond with the conclusion of Harvey et al.'s (2019) study, where cross-departmental collaboration in the workplace is a global factor cited to value teamwork as a key pillar of career adaptability.

Regarding communication skills (CS), the results also reveal that effective communication increases career adaptability through facilitating information exchange and building relationships.

Effective communication can help avoid misunderstandings, improve efficiency, and foster good working relationships, which are crucial in adapting to a new environment. This supports the work of Mesmer-Magnus and DeChurch (2009), which identified that communication skills were a critical factor in enabling new graduates to adapt to teams within a short duration. In addition, the results of the study align with Dumitru and Voinea (2015) finding that a communication style that explicitly articulates needs and engages in active listening of remarks significantly reduces conflicts and pressure in career adaptation, thereby accelerating the adaptation process.

Conclusion

This study investigated the relationship between employability skills and career adaptability among undergraduate business students in Guizhou Province, China. The findings revealed that problem-solving, teamwork, and communication skills significantly and positively affect career adaptability, whereas digital skills demonstrated a weak negative association. The regression model ($R^2 = 0.836$) suggests that employability skills collectively explain a substantial proportion of the variance in students' career adaptability, underscoring the critical role of practice-oriented and soft-skill development in preparing graduates for the dynamic labor market. Among the four adaptability dimensions—concern, control, curiosity, and confidence—students exhibited relatively lower confidence, highlighting the need for educational strategies that foster self-efficacy and resilience. The results emphasize that curricula should move beyond theoretical instruction to integrate real-world applications such as problem-based learning, team projects, and digital practice modules that simulate workplace contexts. Overall, the study contributes empirical evidence that employability and career adaptability are mutually reinforcing constructs vital for sustainable talent development in regional economies undergoing digital transformation.

Recommendations

The research findings offer several important implications for higher education institutions and policymakers in the context of preparing students for employability in line with labor market demands. Higher education institutions should address the gap between classroom instruction and workplace needs by prioritizing the redesign of business curricula to emphasize practical learning and promote student adaptability, particularly in problem-solving and teamwork. They should also enhance students' knowledge and develop digital skills relevant to their field of work, enabling them to apply these skills to real-world situations. Furthermore, they should prioritize building student confidence through mentoring, experiential internships, and leadership development that fosters self-efficacy and resilience.

Regarding the policymakers, they should consider policy incentives to foster collaboration between educational institutions and the business sector to develop students with employability skills. This could include tax incentives or certification programs for enterprises that participate in collaborative training and apprenticeships. Moreover, the government should establish a system for tracking educational institutions' performance in student skills development and performance outcomes to ensure that curricula remain relevant to changing economic and industry needs.

This study has some limitations. First, data were collected from a single institution in Guizhou Province, which may limit the generalizability of the findings to other regions or disciplines. Second, the use of self-report questionnaires may not provide in-depth information from students. Therefore, future research should employ qualitative, longitudinal, or comparative studies across regions and disciplines to gain a deeper understanding of students' employability skills, which may influence their future employability in diverse educational and labor market contexts.

References

Alarifi, A., Bajaba, S., & Basahal, A. (2024). From self-commitment to career crafting: The mediating role of career adaptability and the moderating role of job autonomy. *Acta Psychologica*, *248*, 104387.

Aliu, J., & Aigbavboa, C. O. (2021). Structural determinants of graduate employability: Impact of university and industry collaborations. *Journal of Engineering, Design and Technology*, *19*(5), 1080–1100. https://doi.org/10.1108/JEDT-05-2020-0189

Avolio, B. J., Zhu, W., Koh, W., & Bhatia, P. (2004). Transformational leadership and organizational commitment: Mediating role of psychological empowerment and moderating role of structural distance. *Journal of Organizational Behavior,* 25(8), 951-968.

Demirtaş-Zorbaz, S., Ulaş Kılıç, Ö., & Akın Arıkan, Ç. (2024). Career adapt-abilities scale: reliability generalization meta-analysis. *Psychological Reports*, 00332941241278327.

Dumitru, C., & Voinea, V. (2015). Correlations between Career Management, Communication, and Career Development. *Valahian Journal of Economic Studies, 6*(2), 99-108

Grover, V. (2022). Digital agility: Responding to digital opportunities. *European Journal of Information Systems*, *31*(6), 709–715. https://doi.org/10.1080/0960085X.2022.2096492

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis (8th ed.).* Cengage Learning.

Harvey, J.-F., Johnson, K. J., Roloff, K. S., & Edmondson, A. C. (2019). From orientation to behavior: The interplay between learning orientation, open-mindedness, and psychological safety in team learning. *Human Relations, 72*(11), 1726–1751.

Hirschi, A., Herrmann, A., & Keller, A. C. (2015). Career adaptivity, adaptability, and adapting: A conceptual and empirical investigation. *Journal of Vocational Behavior, 87*, 1-10.

Yang, J., & Gao, R. (2023). Human capital investment under the new development pattern: The research of coordination degree based on industrial structure and employment structure in Guizhou. *Journal of Guizhou University of Finance and Economics*, *41*(06), 61–69.

Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology, 140*, 1–55.

Mahajan, R., Gupta, P., & Misra, R. (2022). Employability skills framework: A tripartite approach. *Education + Training, 64*(3), 360-379.

McMahon, M., & Abkhezr, P. (2025). Career adaptability and career resilience: A systems perspective. *International Journal for Educational and Vocational Guidance*, 1-22.

Mesmer-Magnus, J. R., & DeChurch, L. A. (2009). Information sharing and team performance: A meta-analysis. *Journal of Applied Psychology, 94*(2), 535-546.

Mishra, P., & McDonald, K. (2017). Career Resilience: An Integrated Review of the Empirical Literature. *Human Resource Development Review, 16*(3), 207-234.

Perkmann, M., & Walsh, K. (2007). University-industry relationships and open innovation: Towards a research agenda. *International Journal of Management Reviews, 9*(4), 259-280.

Pike, A., Dawley, S., & Tomaney, J. (2010). Resilience, adaptation and adaptability. Cambridge Journal of Regions, *Economy and Society, 3*(1), 59-70.

Qostal, A., Sellamy, K., Sabri, Z., Nouib, H., Lakhrissi, Y., & Moumen, A. (2024). Perceived employability of moroccan engineering students: A PLS-SEM approach. *International Journal of Instruction*, *17*(2), 259-282.

Ritter, B. A., Small, E. E., Mortimer, J. W., & Doll, J. L. (2018). Designing Management Curriculum for Workplace Readiness: Developing Students' Soft Skills. *Journal of Management Education, 42*(1), 80-103.

Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *The Career Development Quarterly*, *45*(3), 247-259.

Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill-building approach (5th ed.).* John Wiley & Sons.

Sokhanvar, Z., Salehi, K., & Sokhanvar, F. (2021). Advantages of authentic assessment for improving the learning experience and employability skills of higher education students: A systematic literature review. *Studies in Educational Evaluation, 70*, 101030.

Suleman, F. (2018). The employability skills of higher education graduates: Insights into conceptual frameworks and methodological options. *Higher Education, 76*, 263-278.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education,* 48(6), 1273-1296.

Tomlinson, M. (2017). Forms of graduate capital and their relationship to graduate employability. *Education + Training, 59*(4), 338-352.

Turner, R. G. (2003). Double checking the cross-check principle. *Journal of the American Academy of Audiology*, 14(05), 269-277.

Wang, W. (2022). Ethnic minority cultures in Chinese schooling: Manifestations, implementation pathways and teachers' practices. *Race Ethnicity and Education, 25*(1), 110-127.

Wiese, C. W., Burke, C. S., Tang, Y., Hernandez, C., & Howell, R. (2021). Team Learning Behaviors and Performance: A Meta-Analysis of Direct Effects and Moderators. *Group & Organization Management, 47*(3), 571-611.

Wu, M.-J., Zhao, K., & Fils-Aime, F. (2022). Response rates of online surveys in published research: A meta-analysis. *Computers in Human Behavior Reports*, 7, 100206.