



## Research on the Employability of Local College Students in Macau

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### Abstract

According to the literatures, the factors related to employability of college students were sorted out and further classified. The modified Delphi method was then used to determine the indicators that mainly affected the employability of local college students in Macau. Under the analytic hierarchy process and the weights of indicators given by the experts, the ranking weights of indicators were obtained through group decision-making method. Among the primary indicators, personal quality is significantly more important than skills and knowledgeability. In terms of knowledgeability, cross-disciplinary knowledge is more important than domain-specific knowledge; In terms of skills, teamwork and problem-solving ability are more important; In terms of personal qualities, work attitude and emotion management ability are the most important. Among the total ranking of secondary indicators, the more important indicators are work attitude, emotion management ability, teamwork, problem-solving ability and cross-disciplinary knowledge. Since these abilities are what local college students in Macau easily lack, they are reflected upon the weights of the employability indicators. It is advised that the local college students in Macau raise their crisis awareness, change their existing mindset and inertial thinking, and cultivate their cross-disciplinary talents to enhance their workplace competencies.

**Keywords:** Employability; Employability Indicator ; College Student Employability.

### 1. Introduction

Under the globalization of economic market, the human resource is also developing in a direction of globalization. The future leaders of social development are young people, especially college students who are bound to compete with other talents in a global market. Therefore, the employment of college graduates is not only an issue of concern that involves employment rate or employment status, but also an issue of concern that involves employability. Macau is famous for its gaming industry. The gaming industry supports the Macau economy, raises Macau's per capita GDP to one of the highest in the world, and turns Macau into a low-tax and high-welfare region that attracts many non-locals to work here. Under these circumstances, the employability and relevant features presented by local college students in Macau have become an issue of concern that is worth our studying. The purpose of this study is to explore the measurements, indicators and characteristics of the employability of local college students in Macau to provide some suitable advice for further improvement.

### 2. Literature Review

For the definition of employability, Beveridge (1909) has proposed that employability is a standard to determine whether an individual has the ability to work or not. In terms of unemployment, employability is also a standard to determine whether the unemployed individual has the employability or not. Harvey (2002) found that employability is the ability of an individual to acquire a job, retain the job, and do the job after the learning process. In addition, Harvey (1999) also pointed out that employability is an individual's tendency to exhibit traits that are considered by the employer as necessary to enhance the effectiveness of his/her organization in the future. In other words, employability is a set of skills, knowledge, career understanding and personal attitudes that enable an individual to

find a satisfactory job, retain the job and achieve a success in that job (Pool & Sewell, 2007). Moreland's (2006) view of employability is a set of skills, knowledge and personal attitudes that enable an individual to retain a job and achieve a success in that job so as to benefit the individual himself/herself, team, society, and economy.

Regarding the dimensions of employability, Harvey et al. (2002) pointed out that core employability has three parts: an individual's work attitudes and personal qualities that are favorable to employment, an individual's self-marketing and career management abilities, and an individual's willingness to learn and the ability to reflect upon what was learned. According to the "employability skills framework" of Australia (2002), the "core employability skills" includes eight skills of communication, teamwork, problem-solving, initiative & enterprise, planning & organizing, self-management, learning skills, and technology. Afterward, the concept of employability is further extended to cover other facets such as labor market environment, labor market understanding, business policies, and other possible influencing factors. Furthermore, the employability is also divided into four parts including personal qualities (e.g. comprehension and motivation), professional skills, labor market status, and educational training policies enacted by government and businesses (Grip et al., 2004). Pool and Sewell (2007) divided employability into various attributes, including career planning, work experience, subject knowledge, general knowledge, emotional intelligence, etc. After reflection and evaluation, self-capacity and self-confidence are fully examined to confirm the individual's employability.

Brennan et al. (2001) conducted a series of self-assessment surveys on college graduates in the UK, European countries, and Japan, covering specific knowledge and skill-related abilities including learning, concentration, domain-specific expertise, work engagement, job adaptability, work independence, etc. as well as social abilities including communication, leadership, teamwork, loyalty, tolerance, stress resistance, etc. with a much broader coverage of various types of abilities. In a series of self-assessment surveys conducted by Brennan et al. (2001), British college graduates believe that they have the abilities of learning, work independence, written communication, teamwork, job adaptability, concentration, verbal communication, and problem-solving, etc.; College graduates in other European countries believe that they have the abilities of learning, concentration, work independence, written communication, team loyalty, domain-specific expertise, personal engagement, adaptability, and tolerance, etc.; Japanese college graduates believe that they have the abilities of team loyalty, concentration, adaptability, personal engagement, learning, domain-specific expertise, job adaptability, tolerance, and teamwork, etc.

As mentioned above, there is no clear standard for the design of employability indicators, for which the trade-offs or adjustments are made due to different requirements. But for job seekers in general, employability depends on the individual's domain-specific expertise, technical skills, work attitudes, problem-solving ability, teamwork, communication skills, and organizational leadership (Pan et al., 2011).

### **3. Research Methodology**

In order to select factors in an objective way, this study selected factors for the employability of local college students in Macau through the modified Delphi method. According to the literatures, the factors related to the employability of college students were sorted out and classified. A team composed of 10 experts including 5 professional human resource scholars from the academic circle and 5 human resource department managers from the business circle were invited to screen and evaluate relevant factors, then all the experts obtained the feedback about results of screening and evaluating relevant factors, and made a final conclusion through repeating the feedback process. All these were done to decide the factors that mostly affect the employability of local college students in Macau and examine the independence of each factor. Having many years of professional experience in related fields, all of the aforementioned experts have observed the employability of local college students in Macau for many years.

After that, the hierarchical structure model of employability was established, and the weights of various levels indicators were analyzed by the analytic hierarchy process. The weights of indicators came from the questionnaire survey of the above experts. The indicators of the same level were compared in pairs. The importance degree of the comparison was divided into 9 levels of values from 1 to 9. The value of 1 meant that the two indicators being compared were equally important, and the larger the value, the more important it was.

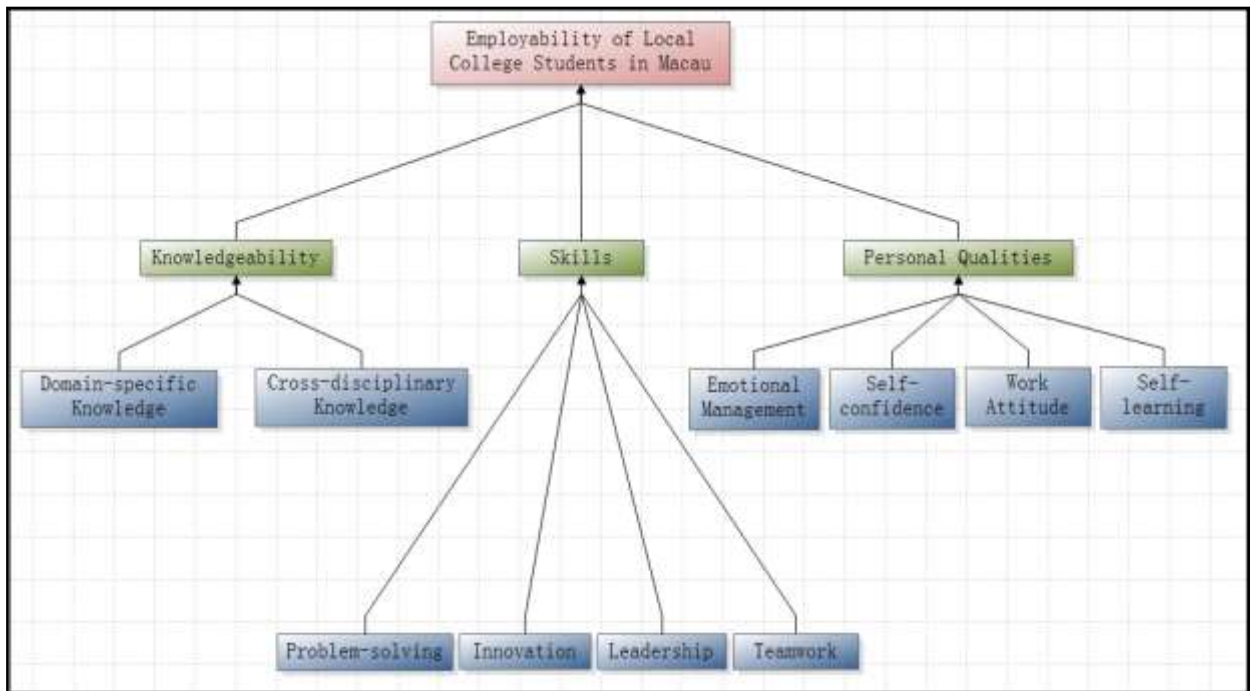
In terms of data processing, this study used yaahp10.5 for analysis. Before the formal calculation of ranking weights, the consistency ratio tests for pairwise comparison matrices were performed on the survey results. As far as the general standard is concerned, the consistency ratio should be less than 0.1 to be acceptable. If it was greater than 0.1 and less than 0.2, this study used the minimum changing method to adjust inconsistent judgment matrix; If it was greater than 0.2, it meant that it was too far from consistency and needed to be specially treated separately; There was no case where the consistency ratio was greater than 0.2 in this study.

After that, the ranking weight calculation of each indicator was performed. Since each expert had sufficient professional weight, this study gave each expert the same weight. The group decision-making results were

calculated by the weighted arithmetic average of ranking weights of the experts, and the final ranking weight of each indicator was obtained.

#### 4. Hierarchical Structure Model of the Employability of Local College Students in Macau

Figure 1 shows the hierarchical structure model of this study obtained by the modified Delphi method.



**Figure 1: Hierarchical Structure Model of the Employability of Local College Students in Macau**

The employability of local college students in Macau is mainly divided into three primary indicators of knowledgeability, skills, and personal qualities. In terms of knowledgeability, two secondary indicators of domain-specific knowledge and cross-disciplinary knowledge are included; In terms of skills, four secondary indicators of problem-solving, innovation, leadership, and teamwork are included; In terms of personal qualities, four secondary indicators of emotional management, self-confidence, work attitude, and self-learning are included.

#### 5. Weight Analysis of the Employability Indicators of Local College Students in Macau

The weight analysis results of the primary and secondary indicators of the employability of local college students in Macau are discussed below.

##### 5.1 Weight Analysis of the Primary Indicators of Employability

According to the results of expert group decision-making by the analytic hierarchy analysis, among the primary indicators of employability of local college students in Macau, personal quality is significantly more important than skills and knowledgeability (see Table 1).

Primary Indicators of Employability	Weight
Personal Qualities	0.6047
Skills	0.2886
Knowledgeability	0.1067

From the results of Table 1, it shows that personal quality is the primary consideration for the employability of local college students in Macau. Although skills and knowledgeability are indispensable, they can both be improved as the individual accumulates work experience. What is more important for college students at this stage is the

cultivation of personal qualities. Even if the individual has excellent skills and knowledgeable, it would still be an obstacle for the organization if the individual has poor personal qualities. An individual with poor personal qualities is likely to cause the organization to suffer tangible or intangible losses before even contributing anything to the organization. Therefore, in terms of the employability of college students entering the workplace, although knowledgeable and skills are both indispensable factors for practical work, neither of which is as important as personal qualities.

### 5.2 Relative Weight Analysis for Secondary Indicators in Terms of Knowledgeability

Table 2 shows the relative weights of secondary indicators in terms of knowledgeable, where cross-disciplinary knowledge is more important than domain-specific knowledge (see Table 2).

Table 2: Relative Weights of the Secondary Indicators in Terms of Knowledgeability		
Secondary Indicators in Terms of Knowledgeability	Weight	Relative Weight
Cross-disciplinary Knowledge	0.0722	0.6767
Domain-specific Knowledge	0.0345	0.3233

Table 2 shows that the current workplace environment is getting even more complicated and verified than ever before. In addition to the need for domain-specific knowledge, it is more important to combine and integrate other domains of knowledge to face and deal with the increasingly complex and ever-changing issues in the workplace. Therefore, the workplace today pays more attention to the individual's integration of cross-disciplinary knowledge. And whether an individual has cross-disciplinary knowledge or not becomes an important key, as is the case for local college students in Macau.

### 5.3 Relative Weight Analysis for Secondary Indicators in Terms of Skills

Table 3 shows the relative weights of secondary indicators in terms of skills, where teamwork and problem-solving are more important than the other secondary indicators in terms of skills (see Table 3).

Table 3: Relative Weights of the Secondary Indicators in Terms of Skills		
Secondary Indicators in Terms of Skills	Weight	Relative Weight
Teamwork	0.1351	0.4681
Problem-solving	0.0851	0.2949
Leadership	0.0471	0.1632
Innovation	0.0213	0.0738

Table 3 shows that teamwork is the most important skill that the local college students in Macau are required to obtain at the time of entering the workplace. In modern enterprises, teamwork not only involves a group of people working together as a team but also involves mutual collaboration among team members. There must be a high degree of mutual cooperation among team members to achieve a common goal or to complete a specific task. Therefore, teamwork is the primary consideration among secondary indicators in terms of skills. Additionally, the problem-solving ability has also received great attention in the workplace. In addition to teamwork, individuals are also required to obtain the problem-solving ability to solve or deal with problems. Despite the fact that leadership and innovation are also important abilities in the workplace today, compared with teamwork and problem-solving ability, they are not the skills that local college students in Macau are immediately required to obtain upon entering the workplace.

### 5.4 Relative Weight Analysis for Secondary Indicators in Terms of Personal Qualities

Table 4 shows the relative weights of secondary indicators in terms of personal qualities, where work attitude and emotional management ability are more important than the other secondary indicators in terms of personal qualities (see Table 4).

Table 4: Relative Weights of the Secondary Indicators in Terms of Personal Qualities		
Secondary Indicators in Terms of Personal Qualities	Weight	Relative Weight
Work Attitude	0.2889	0.4778
Emotional Management	0.2013	0.3329
Self-confidence	0.0672	0.1111
Self-learning	0.0472	0.0781

Table 4 shows that work attitude is the most important personal quality that the local college students in Macau are required to obtain at the time of entering the workplace. In the field of organizational behavior research, many articles discuss work attitude toward organizational commitment, work engagement, and job satisfaction (Robbins & Judge, 2016). Therefore, work attitude is the evaluation and behavioral tendency held by an individual toward work, including the attentiveness, responsibility, effort, compatibility, and engagement, which are the most valued personal qualities of college students when they enter the workplace. Additionally, the emotional management ability has also received great attention in the workplace. Emotions are our perception of the environment around us and the response to the difference between ourselves and external environment (Gamble & Gamble, 2013). Positive emotions encourage individuals to face social expectations and challenges with a more positive attitude to improve job performance (Koskina & Keithley, 2010). Therefore, emotional management ability is a personal quality that is highly valued in addition to work attitude. Despite the fact that self-confidence and self-learning are also important abilities in the workplace today, compared with work attitude and emotional management ability, they are not so important personal qualities for local college students in Macau upon entering the workplace.

### 5.5 Analysis of Total Ranking Weights of Secondary Indicators of Employability

According to the expert group decision-making of analytic hierarchy process, the most important indicators in the ranking of the secondary indicators for the employability of local college students in Macau are work attitude, emotional management ability, teamwork, problem-solving and cross-disciplinary knowledge, especially work attitude, emotional management ability and teamwork (see Table 5).

Table 5: Total Ranking Weights of the Secondary Indicators of Employability of Local College Students in Macau	
Secondary Indicators of Employability	Weight
Work Attitude	0.2889
Emotional Management	0.2013
Teamwork	0.1351
Problem-solving	0.0851
Cross-disciplinary Knowledge	0.0722
Self-confidence	0.0672
Self-learning	0.0472
Leadership	0.0471
Domain-specific Knowledge	0.0345
Innovation	0.0213

According to the total ranking results of the secondary indicators in Table 5, the work attitude and emotional management ability are still the most important indicators among all the secondary indicators, followed by teamwork, problem-solving, and cross-disciplinary knowledge. In other words, work attitude, emotional management ability, and teamwork have a crucial impact on the employability of local college students in Macau.

In the era of knowledge economy, what we once known as the important abilities for an individual in the workplace, such as knowledgeability and innovation ability are not so important as work attitude, emotional management ability, and teamwork as suggested in this study. As mentioned previously, Macau is famous for its gaming industry. The gaming industry supports the Macau economy, raises Macau's per capita GDP to one of the highest in the world, and turns Macau into a low-tax and high-welfare region. According to DSEC, in 2017, the per capita GDP of Macau was about US\$77,596 with the entire Macau economy growth by 9.1% in real terms throughout the year. The overall unemployment rate in Macau for the past five years (2013-2017) was 1.8%, 1.7%, 1.8%, 1.9%, and 2.0%, respectively, all of which are at or below 2% and the threat of unemployment is basically low. On the other hand, in terms of policies, Macau is a region that is more inclined to local protection. These policies to protect Macau locals make Macau locals less subject to external competition and impact. For example, the government gives a considerable protection policy to the employment of local residents. According to REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU Lei no. 13 / 2010, In considering the licensing of non-local employees, the Government will consider the market demand, the economic environment and the industry growth trend, as well as the number of local employees employed and committed by the company at that time as the basis for determining the minimum number of local employees that must be employed by the employer. In such an environment, local college students in Macau tend to worry less about employment, depriving them of their natural abilities for crisis awareness. Therefore, local college students in Macau tend to display worse work performance in terms of work attitude, emotional management ability, and teamwork, all of which have become the most important key to determine the employability of local college students in Macau, instead of the knowledgeability and innovation ability that we are familiar with.

## 6. Conclusion and Suggestion

Through the above analysis, it shows that due to the special environment of Macau, local college students in Macau are more likely to have a comfortable mindset without worrying about employment and less awareness of the crisis, which are reflected upon their work attitudes and work behaviors, bringing a certain degree of impact to their employability. Therefore, for the employability of local college students in Macau, the personal qualities are the most important, followed by skills and knowledgeability. In terms of personal qualities, due to the above reasons, work attitude and emotional management ability tend to be poorer among local college students in Macau, so work attitude and emotional management ability are the more important personal qualities. In terms of skills, due to the above reasons, teamwork and problem-solving of local college students in Macau need to be strengthened, so teamwork and problem-solving are the more important skills. In terms of knowledgeability, expertise is important, but the ability to integrate cross-disciplinary knowledge is more in line with current workplace requirements and future trends. Integrating all indicators, the more important indicators affecting the employability of local college students in Macau are work attitude, emotional management ability, teamwork, problem-solving and cross-disciplinary knowledge. Among them, work attitude, emotional management ability, and teamwork are the most important. In summary, the more important indicators are not the knowledgeability and innovation ability that we often refer to and attach importance to, but the work attitude, emotional management ability, and teamwork in this study. Since local college students in Macau tend to lack these abilities which are the most crucial and influential in the workplace, they are reflected upon the weights of the employability indicators.

The study results reflect the key issues of the employability of local college students in Macau. It is also a phenomenon worthy of our vigilance. Therefore, the following suggestions are proposed for local college students in Macau. First of all, crisis awareness should be established. Globalization and competition among global talents have become a trend that takes the world by storm. In the future, once the economic environment changes or government policies change, it will seriously affect our employment opportunities and living space. Furthermore, we should change our existing mindset and inertial thinking to improve ourselves by cultivating better work attitude, enhancing our emotional management ability, strengthening our ability to work as a team and improving our problem-solving ability. Finally, we should also cultivate cross-disciplinary talents, not only to meet the needs of the times but also to expand the work platform and enhance our competitive advantage in the workplace.

This study is to explore the employability and indicators of local college students in Macau. The selection of indicators is based on the opinions of experts with the main employability indicators selected for local college students in Macau. In the future, we can consider adding other indicators and further refining the indicators to conduct a more comprehensive and in-depth study of the employability of local college students in Macau. In addition, the fuzzy comprehensive evaluation method can be combined to investigate and evaluate the employability of local college students in Macau.

## References

- [1] Beveridge, W.H. (1909). Unemployment: A problem of industry. London: Longmans, Green Co.
- [2] Brennan, J., Johnston, B., Little, B., Shah, T., & Woodley, A. (2001). The employment of UK graduates: Comparisons with Europe and Japan. Bristol: Higher Education Funding Council for England.
- [3] Commonwealth of Australia (2002). Employability skills for the future. Canberra: AusInfo.
- [4] Gamble, T. K. & Gamble, M. W. (2013). Interpersonal communication: Building connections together. New York: SAGE Publications.
- [5] Grip, A., Loo, J. & Sanders, J. (2004). The industry employability index: Taking account of supply and demand characteristics. *International Labour Review*, 143, 211-233.
- [6] Harvey, L., Locke, W., & Morey, A. (2002). Enhancing employability, recognising diversity: Making links between higher education and the world of work. London: Universities UK.
- [7] Harvey, L. (1999). Employability: Developing the relationship between higher education and employment. Opening presentation at the Fifth Quality in Higher Education 24-Hour Seminar, University of Central England in Birmingham.
- [8] Koskina, A. & Keithley, D. (2010). Emotion in a call centre SME: A case study of positive emotion management. *European Management Journal*, 28, 208-219.
- [9] Moreland, N. (2006). Entrepreneurship and higher education: an employability perspective. York: ESECT/Higher Education Academy.
- [10] Pan, Y.-J., & Lee, L.-S. (2011). Academic performance and perceived employability of graduate students in business and management – An analysis of nationwide graduate destination survey. *Procedia - Social and Behavioral Sciences*, 25, 91-103.
- [11] Pool, L. D., & Sewell, P. (2007). The key to employability: Developing a practical model of graduate employability. *Education and Training*, 49(4), 277-289.
- [12] Robbins, S. P. & Judge, T. A. (2016). *Organizational behavior* (17th Edition). New York: Pearson Education Inc.