HOW COLLEGE STUDENTS EMPLOYMENT POLICY PROMOTES EMPLOYMENT: A DYNAMIC PANEL QCA ANALYSIS BASED ON CONFIGURATION PERSPECTIVE

COMO A POLÍTICA DE EMPREGO PARA ESTUDANTES UNIVERSITÁRIOS PROMOVE O EMPREGO: UMA ANÁLISE QCA DE PAINEL DINÂMICO COM BASE NA PERSPECTIVA DA CONFIGURAÇÃO

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Abstract

The employment of college graduates remains a pressing issue globally, with various policies being implemented to enhance employment outcomes. This study investigates the effectiveness of these policies using a Dynamic Panel Qualitative Comparative Analysis (QCA) based on a configuration perspective. This paper used a qualitative approach and the data gather by using purposive sampling. By analyzing data from Yibin over a decade, we identify the key policy configurations that significantly promote employ-ment among college graduates. This paper findings provide actionable in-sights for policymakers and educational institutions aiming to optimize em-ployment strategies.

Keywords: College Students. Employment Policy. Dynamic Panel Qca. Configu-Ration Perspective. Yibin. Policy Analysi.

Resumo

O emprego de graduados universitários continua sendo uma questão urgente em todo o mundo, com várias políticas sendo implementadas para melhorar os resultados de emprego. Este estudo investiga a eficácia dessas políticas utilizando uma Análise Comparativa Qualitativa (QCA) de Painel Dinâmico, com base na perspectiva de configuração. Este artigo utilizou uma abordagem qualitativa e os dados foram coletados por meio de amostragem intencional. Ao analisar dados de Yibin ao longo de uma década, identificamos as principais configurações de políticas que promovem significativamente o emprego entre graduados universi-tários. As conclusões deste artigo fornecem insights práticos para for-muladores de políticas e instituições de ensino que buscam otimizar es-tratégias de emprego.

Palavras-chave: Estudantes Universitários. Política de Emprego. Qca de Painel Dinâmi-co. Perspectiva de Configuração. Yibin. Análise de Políticas.

1 INTRODUCTION

Nowadays, there are an abundant of college graduates in the job ready market, in which the employment of the college graduates has become the pivotal issues for most of the countries, globally. Numerous debates about college employment are highlighted in the government or industry. Especially among the developed and developing countries, where the employment rate has become the economy indicator. The increment numbers of graduates gradually each year. This situation has caused the intensifying of competition among graduates to get a job in the market. On this point, it has become a crucial factor for government and higher education institution to formulate a policies and program that make the graduate to be employability. The changes of demographic preferences among graduates nowadays have crucially challenged the situation nowadays.

In global, recently, most of the country facing a challenges in integrating graduates into the workforce with the rate of unemployment approximately stated at 4.9%, then among the graduates poised at 13% [1]. Meanwhile in China, in the urban are stood at 5.2% for the unemployment rate, in depth, spiking at 17.1% as at July for unemployment rate among the graduates [2]. At this level the urgent need of policy reform to escalate the issue driven from the unemployment rate among graduates. Part of this, some of the reason of this situation occur is due to its real estate crisis, indirectly [3]. Apart from that, a finding study among the student founded that 40% Chinese graduates feel unprepared for the job market readiness[4]. In which there is a mismatch skill between education and industry needs [4]. Specifically, in Yibin, China has recorded unemployment rate at 21.3%, this rate indicate higher than the national average [5].

Despite numerous programs and intervention activity that have been done by the government to boost an employment rate among the graduates. But somehow the issue of this situation remains unresolved. Thus, does the current policy not able to accommodate the needs of graduates and industry matching. Where, there is a gap in the practical operation policy with together implementation or isolated. In consequence, this paper is seeking to explore the effectiveness of employment policy configuration in Yibin, China. Moreover, this paper also seeks insight for optimizing employment strategy for graduates. To achieve this, the employment of qualitative comparative analysis (QCA) technique was found to be suitable for this expected output. By having this method implementation,

this paper can gain the complex understanding between the policy measurement and employment outcome that provide significant understanding to the stakeholder.

2 LITERATURE

In the perspective of labor market interventions, specifically in the area of job placement programs that targeted to graduate. In this action that have been carried out to reduce the unemployment among graduate proved the improvement at 10 to 15 percent, particularly in urban areas. Numerous activities have been carried out during the targeted job placement program, including the job counseling, job fairs, and direct placement services that connect graduates with potential employers. According to Kroft et al. [6], their study has founded that the targeted job placement program or related as such significantly improve the employment outcomes for graduates. Especially, when the program has comprehensive collaborations with government agencies, industry or potential employers, and higher education institutions, including relevant stakeholders.

Apart from that, educational reform, the need for this effort is a must or compulsory. As the revolution of industry and the new generation of workforce in the job market has changed the landscape of common work practice. We can see the mixed generation in the workplace such as generation X, generation Y, generation millennial, and generation alpha. Each of this generation has different characteristics, preferences and need in terms of job practice [7]. In this coming future of the workforce, we can see that in the job market, there is higher demand for vocational skills among the employers. Thus, the vocational training program is in the critical state to be carried out for the graduates. This situation can be seen from the eye of China action that nowadays begin to heavily implement the vocational training program among the graduates. This action has led the China graduates significantly improve their employment rate at the level of 20% [8]. The content of the vocational program is designed to address the skills gap between what have been thought in the schools and the requirements or demand need by the employers or industries. The key success of the program lay in the attributed primarily in the practicality of job training, on job training, and the hands-on training, including the alignment of mismatch skill. By having this, it has substantially help the student to

transition at ease from the college or higher education into the workforce with the employers [8].

There are numerous policies that fall for graduates of employment policy promotion. Extensive review of the previous study from 2018 to 2023 indicated that the integration of job placement program and job training programs significantly improved instead of separately organized method. However, in the matter of policies reform or study found to be limited among the researcher, this statement is align with the study done by The Organisation for Economic Co-operation and Development (OECD), the study substantial mentioned the need for more research or study should be done in the area of synergistic effects of multiple policy in improving the employment rate for graduates in the workforce [9]. This finding has underscored the importance and needs of holistic policy design approach that goes beyond the typical policy reform; the policy reform should be able to accommodate with the dynamic environment nowadays.

In addition, the review is about qualitative comparative analysis (QCA), the method of analysis that is increasingly popular among researchers when analysing policies, particularly in understanding the complex interaction between policies. Compared with the traditional approach, it looks more like statistical reporting, but the QCA approach uses the importance of configuration or combining factors from collective influence results. This output can be seen from the study conducted by Europe and the United States, where the QCA approach identified and explained the employment result output at 70% [10].

Moreover, QCA's focus on identifying "causal recipes" or specific configurations of policies that lead to desired outcomes is precious in the context of employment policy. Traditional methods might identify a correlation between a single policy and employment outcomes, but QCA can further show how different policies must be combined to be effective. For instance, in graduate employment, QCA could help identify which combinations of job training, educational reforms, and labour market interventions are most successful in different economic environments or demographic groups [11].

Finally, the QCA's capacity to handle complexity makes it a robust tool for analysing policy effectiveness across different contexts. It accommodates the diverse conditions and unique socio-economic landscapes across regions, allowing for more tailored and context-specific policy recommendations. As such, QCA provides a

comprehensive framework essential for effective policymaking in today's complex and interconnected world [12].

Furthermore, this literature and gap in research is not just a matter of academic interest but has real-world implications for policymakers. Without a comprehensive understanding of how combined policies work, governments may miss opportunities to optimize their employment strategies. The need for well-coordinated, diversified or scattered policy interventions becomes even more pressing as the labour market becomes increasingly complex and competitive, especially in the context of rapid technological advancements and shifting economic landscapes. Therefore, expanding research in this area is essential for developing more effective policies that can better address the challenges faced by today's graduates.

3 METHODOLOGY

This study employs a Qualitative Comparative Analysis (QCA) approach to examine the effects of college employment policies on two primary outcomes: employment rate (`EmpRate`) and job quality (`JobQual`) [13]. Utilizing a dynamic panel of data, the QCA method is adept at unravelling complex causal relationships, revealing how various conditions can produce similar outcomes. Population and sampling of the study is based on panel data of six colleges over three years, representing 18 observations (6 colleges $\times$ 3 years) [14]. Each college's employment policies and outcomes were analysed to derive meaningful result from the gathered data. Meanwhile for sampling approach, is based on the six colleges determine the sampling size [15]. The sampling technique involved purposive sampling that representing a different policy configuration [16].

Data collection was conducted through six colleges at Yibin, Sichuan, China (`A`, `B`, `C`, `D`, `E`, and `F`) over three years. The dataset encompasses variables as per stated below:

   i.   College: Categorical variable representing the six colleges.

  ii.   Year: Numerical variable indicating the period (1-3).

 iii.   Intern: Binary variable (1 = Yes, 0 = No) indicating internship opportunities.

iv. Counsel: Binary variable (1 = Yes, 0 = No) representing the availability of career counseling services.

v. Placement: Binary variable (1 = Yes, 0 = No) denoting job placement services.

vi. EmpRate: Numerical variable for the employment rate of graduates.

vii. JobQual: Numerical variable for job quality of graduates.

Data Analysis was conducted using the QCA package in R [17], involving the following steps:

1. Truth Table Construction:

i. Constructed a truth table for each outcome variable (`EmpRate` and `JobQual`), incorporating conditions (`Intern`, `Counsel`, `Placement`).

ii. Set the inclusion cut-off at 0.8, ensuring only configurations with at least 80% consistency in achieving the outcome were considered.

2. Minimization Process:

i. Minimized the truth table to determine the simplest combinations of conditions leading to high employment rates and job quality.

ii. The minimization process reduced complexity, highlighting core conditions necessary for optimal outcomes.

Findings from the QCA Analysis indicated that certain policy combinations are instrumental in improving both employment rates and job quality among graduates. For Employment Rate (`EmpRate`): Offering internships and career counselling consistently increased employment rates. For Job Quality (`JobQual`): The combination of internships and job placement services was critical for better job quality, regardless of career counselling availability.

The QCA methodology present on how varying college employment policy combinations impact graduate outcomes. The results advocate for an approach—incorporating internships, career counselling, and job placement services—as the most effective in enhancing employment rates and job quality. This output showed an understanding and provided valuable insights for policymakers and educational institutions seeking to refine their employment support strategies.

4 RESULT AND FINDINGS

The result of this paper presented for this QCA table to acquire policy implication and configuration.

Table 1

College Students Employment Outcome

College	Year	Intern	Counsel	Placement	EmpRate	JobQual
A	1	1	1	1	0.85	0.80
A	2	1	1	1	0.87	0.82
A	3	1	1	1	0.88	0.85
B	1	0	1	1	0.70	0.65
B	2	1	1	1	0.78	0.72
B	3	1	1	1	0.80	0.75
C	1	0	0	0	0.50	0.45
C	2	0	0	0	0.52	0.47
C	3	1	0	0	0.60	0.55
D	1	1	1	0	0.75	0.70
D	2	1	1	0	0.77	0.72
D	3	1	1	1	0.85	0.80
E	1	0	1	0	0.65	0.60
E	2	0	1	0	0.67	0.62
E	3	1	1	1	0.80	0.75
F	1	0	0	1	0.60	0.55
F	2	0	1	1	0.70	0.65
F	3	1	1	1	0.82	0.78

The Table 1 above presented the Employment Outcomes of College Students that across six different institutions in Yibin, China, over for three years. The presented table focus on the participants internships, counselling, and placement services including of employment rate, placement services, and job quality.

At rows of A, B, and D represent the college that exhibits the high employment rate and job quality at the thirds year. While, College C shows the lowest employment rates and job quality across three years. Finally, the college F displays a gradual improvement in both employment rates and job quality over the years. Thus, the data indicates that institutions providing a set of support services, particularly internships, counselling, and placement services, tend to achieve higher employment rates and better job quality for their graduates [10]. In contrary, those with fewer such services, like College C, tend to struggle with lower employment outcomes. This highlights the importance of structured support systems in enhancing the employability and job quality

of college graduates. Then the analysis continue with the configuration to understand the key area for improvement and optimisation.

Table 2

Employment Rate (EmpRate) Analysis

Intern	Counsel	Placement	OUT	n	incl	PRI
0	0	0	0	2	0.510	0.039
0	0	1	0	1	0.600	0.333
0	1	0	0	2	0.660	0.485
0	1	1	0	2	0.700	0.571
1	0	0	0	1	0.600	0.333
1	1	0	0	2	0.760	0.684
1	1	1	1	8	0.831	0.797

Table 2 above about the Employment Rate Analysis showed the results three conditions that is Intern (Internship), Counsel (Counseling), and Placement are present (Intern = 1, Counsel = 1, Placement = 1), there is a high likelihood of achieving a positive employment rate (OUT = 1) [17]. This configuration has the highest inclusion score at 0.831 and aggregate PRI 0.797, encompasses eight cases, making it the most effective integration [18].

Table 3

Job Quality (JobQual) Analysis

Intern	Counsel	Placement	OUT	n	incl	PRI
0	0	0	0	2	0.460	0.000
0	0	1	0	1	0.550	0.182
0	1	0	0	2	0.610	0.361
0	1	1	0	2	0.650	0.462
1	0	0	0	1	0.550	0.182
1	1	0	0	2	0.710	0.592
1	1	1	0	8	0.784	0.724

Table 3 about Job Quality Analysis interpret the context of job quality, the configuration of the analysis as follows (Intern = 1, Counsel = 1, Placement = 1), based on the configuration state high composition does not provide high job quality (OUT = 0), even though the result aggregates the highest inclusion score at 0.784 and PRI 0.724 [17]. The results promotes that these three factors Internship, Counseling, and Placement contribute to job quality, yet, it could not sufficient by contribut to ensure high job quality

[18]. In addition, factors beyond these conditions might be necessary to improve job quality outcomes of the policy.

Table 4

Summary of Qualitative Comparative Analysis (QCA)

Outcome	Configuration	Sufficiency Inclusion Score (Incl.)	Proportional Reduction in Inconsistency (PRI)	Outcome Presence	Minimized Solution
EmpRate	Intern* Counsel* Placement	0.831	0.797	High	Intern * Counsel * Placement
	Intern* Counsel	0.760	0.684	Medium	Intern * Counsel
	Counsel* Placement	0.700	0.571	Low	Counsel * Placement
JobQual	Intern* Counsel* Placement	0.784	0.724	Medium	None (No consistent high outcome)
	Intern* Counsel	0.710	0.592	Low	None
	Counsel* Placement	0.650	0.462	Low	None

Table 4 presents a Summary of QCA an analysis of two outcomes, that is the Employment Rate (EmpRate) and Job Quality (JobQual). Based on different configurations of conditions run that are Intern, Counsel, and Placement. First the Employment Rate, the configuration combining Intern, Counsel, and Placement is the most robust predictor, with a high sufficiency inclusion score of 0.831 and a proportional reduction in inconsistency of 0.797 [19]. This result has indicated a strong and reliable prediction of a high Employment Rate respectively. While, the configuration of Intern and Counsel alone also predicts Employment Rate moderately well, with scores both aggregate at 0.760 and 0.684 respectively [20]. Subsequently, the configuration of between Counsel and Placement shows weaker predictive power, with lower sufficiency and inconsistency reduction scores of the results [17].

Second, for Job Quality, none of the configurations showed a lead to a high outcome of the relationship. Only one configuration of Intern, Counsel, and Placement has a medium level of sufficiency and proportional reduction in inconsistency at 0.784 and 0.724, respectively, but it does not reliably predict high Job Quality [14]. Following

to the next analysis configuration run, it has similarly show and even lower sufficiency and inconsistency reduction scores. The result indicating that they are less reliable predictors of Job Quality, with the configurations of Intern and Counsel, and Counsel and Placement. Overall, based on the both analysis provided respectively show an employment rate configured strong prediction towards intern, counsel and placement. While Job Quality remains challenging with the given conditions for those prediction. This situation is understandable as the college student typically state at the entry level in job market. To acquire high quality job is big challenging for them, even though with the contribution from the counseling or job placement event program.

5 CONCLUSION AND DISCUSSION

At this section this paper provide a conclusion that recapitulation from the previous section. The ultimate findings of the paper revealed that the configuration make from college employment policy significantly influence the employment outcome for graduates in Yibin, China. Where the influence from the predictor of internship, job placement program and counseling, indeed contributed to the employment rate. This findings can validate through the Dynamic Panel QCA approach for the policy analysis. Moreover the result from that also has underscore the important of integration approach for employment policy through synergy action increase the employment rate and graduate employability. Thus, this paper has meet the objective that derive in the earlier section, to find the optimization of the contributing predictor, which is the synergies from three predictor.

Apart from that this paper also significantly contribute to the existing literature by providing a configuration perspective on how employment policies can be optimized to meet the dynamic needs of the labor market. By highlighting the successful combinations of policies, this research offers actionable insights for policymakers and educational institutions aiming to improve employment outcomes for college graduates. The evidence from this study suggests that a well-rounded, supportive environment that includes internships, counselling, and placement services is critical to equipping graduates with the necessary skills and opportunities to succeed in the job market.

The results of this study have several implications for policymakers and educational institutions. Firstly, the consistent success of certain policy configurations suggests that a one-size-fits-all approach to employment policy may be less effective than a more tailored, integrated strategy. The QCA methodology used in this study demonstrated the value of considering the interplay between different policies and how their combinations can lead to better employment outcomes. This paper study approach allows for a deeper understanding involved in graduate employability and the importance of aligning educational offerings with market demands.

In conclusion, this paper study provides valuable insights into the effectiveness of college employment policies from a dynamic panel QCA analysis configuration run perspective. By identifying the key policy combinations that promote employment, this research offers a roadmap for institutions and policymakers to optimize their strategies and better support graduates in their transition from higher education institution into employment era. Finally for the future research, the researcher could expand on these findings by exploring the applicability of these configurations in different contexts and further refining the understanding of how various policy elements interact with different predictor factor such as, economic condition, climate changes or demographic preferences.

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REFERENCES

Appelbaum, S.H., Bhardwaj, A., Goodyear, M., Gong, T., Sudha, A.B., Wei, P.: A study of generational conflicts in the workplace. *European Journal of Business and Management Research*. 7, 7–15 (2022)

Duşa, A.: *QCA with R: a comprehensive resource*. Springer (2018)

Ferreira, P., Dionisio, A.: Using QCA to explain firm demography in the European Union. *Journal of Business Research*. 101, 743–749 (2019)

Fischer, M., Maggetti, M.: Qualitative comparative analysis and the study of policy processes. *Journal of Comparative Policy Analysis: Research and Practice*. 19, 345–361 (2017). https://doi.org/10.1080/13876988.2016.1149281

Gao, L., Woo, R.: China's home-price slump deepens to new 9-year low despite stimulus, disponível em: https://www.reuters.com/markets/asia/chinas-home-price-slump-deepens-july-new-9-year-low-2024-08-15/ (2024)

Global unemployment rate set to increase in 2024 while growing social inequalities raise concerns, says ILO report | International Labour Organization, disponível em: https://www.ilo.org/resource/news/global-unemployment-rate-set-increase-2024-while-growing-social, acesso em: 2024/08/2

Hanik, M.: Bridging the gap: towards a philosophically inspired theory of knowledge management. *Philosophy of Management*. 6, 115–131 (2008). https://doi.org/10.5840/pom20086325

Koerber, A., McMichael, L.: Qualitative sampling methods: a primer for technical communicators. *Journal of Business and Technical Communication*. 22, 454–473 (2008)

Kroft, K., Lange, F., Notowidigdo, M.J., Katz, L.F.: Long-term unemployment and the Great Recession: the role of composition, duration dependence, and nonparticipation. *Journal of Labor Economics*. 34, S7–S54 (2016)

Oana, I.-E., Schneider, C.Q.: A robustness test protocol for applied QCA: theory and R software application. *Sociological Methods & Research*. 004912412110361 (2021). https://doi.org/10.1177/00491241211036158

Oana, I.-E., Schneider, C.Q.: SetMethods: an add-on R package for advanced QCA. *The R Journal*. 10, 507–533 (2018)

Registered unemployment: Sichuan: Yibin | Economic indicators | CEIC, disponível em: https://www.ceicdata.com/en/china/registered-unemployment-urban-prefecture-level-city/registered-unemployment-sichuan-yibin, acesso em: 2024/08/21

Rihoux, B., Ragin, C.C.: *Configurational comparative methods: qualitative comparative analysis (QCA) and related techniques*. Sage (2009)

Schneider, C.Q., Wagemann, C.: *Set-theoretic methods for the social sciences: a guide to qualitative comparative analysis*. Cambridge University Press (2012)

Schneider, C.Q., Wagemann, C.: Standards of good practice in qualitative comparative analysis (QCA) and fuzzy-sets. *Comparative Sociology*. 9, 397–418 (2010)

Vis, B.: The comparative advantages of fsQCA and regression analysis for moderately large-N analyses. *Sociological Methods & Research*. 41, 168–198 (2012). https://doi.org/10.1177/0049124112442142

Woo, R., Wang, E.: China's rising youth unemployment breeds new working class: "rotten-tail kids", disponível em: https://www.reuters.com/world/china/rotten-tail-kids-chinas-rising-youth-unemployment-breeds-new-working-class-2024-08-21/ (2024)

World development report 2023: migrants, refugees, and societies, disponível em: https://www.worldbank.org/en/publication/wdr2023, acesso em: 2024/08/22 OECD: *Education at a glance 2021: OECD indicators*. Organisation for Economic Co-operation and Development, Paris (2021)

Zihan, Z., Huiqin, R.: A study on the configurational pathways of rural revitalization driven by the digital economy: based on dynamic QCA analysis of inter-provincial panel data. In: *West Forum on Economy and Management*. pp. 45–56 (2023)

Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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