

# A Clustering Study on the Entrepreneurial Policy Texts of Wenzhou University Students

-- Based on Policy Texts from 2012 to 2023

Xinya Xu, Gaoxiang Chen\*, Cong Ding, Jiayi Chen, Xinxin Zheng, Kaidong Wang, Lu Zuo

Wenzhou Polytechnic, Zhejiang Wenzhou 325004, China

\* Corresponding author: Gaoxiang Chen (Email: yiefanshin@163.com)

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**Abstract:** With the success of the 20th National Congress of the Communist Party of China, Chinese path to modernization, the construction of Zhejiang Demonstration Area for Common Prosperity, rural revitalization, and the new situation of epidemic prevention and control, Wenzhou's economy will usher in a new round of growth. As the birthplace of China's private economy, entrepreneurial consciousness is deeply rooted in this land, and college students, as the new generation of entrepreneurial forces, their entrepreneurial activities will be an important force for Wenzhou's private economy to shine again. The entrepreneurship policy for college students, as an important influencing factor driving entrepreneurial activities, is worth exploring whether it can adapt to the current environment and whether there are areas for optimization. This study collected entrepreneurship policies in Wenzhou over the past 8 years and used the research method of co word clustering analysis to quantitatively study the policies. The results show that Wenzhou is currently committed to establishing and improving a high-quality service system for relevant college student entrepreneurship groups. At the same time, the Wenzhou government has fully realized the predicament of the development of local key industries in Wenzhou and has provided targeted assistance for different entrepreneurial problems.

**Keywords:** Entrepreneurship policy, College students, Co word clustering analysis, Text analysis.

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## 1. Background

Wenzhou has always been a pioneer in innovation and entrepreneurship in Zhejiang and even across the country, with a fertile land for entrepreneurship. One of the main reasons for the good entrepreneurial atmosphere in Wenzhou is the relatively relaxed policy environment. Research has shown that tax reduction policies, rural revitalization policies, and other supporting policies for entrepreneurship have a positive promoting effect on activities such as independent entrepreneurship, secondary entrepreneurship, college students returning to their hometowns for entrepreneurship, and the survival and development of entrepreneurial enterprises. The entrepreneurship policies in Wenzhou area mostly belong to encouraging and supportive policies rather than restrictive ones. The main content of the policy is tax reduction and incentive subsidies, both of which are substantive support policies. They lower the threshold and provide more financial support, providing tangible subsidies and incentives for entrepreneurs. As early as 2012, Wenzhou City issued the guiding policy document "Implementation Opinions on Implementing Tax Supporting Policies to Support Zhejiang Entrepreneurship and Innovation and Promote Wenzhou's Development". In the past five years, more than 30 policy documents have been issued, including the Supplementary Notice of the Wenzhou Municipal People's Government on Doing a Good Job in Current Employment and Entrepreneurship Work, the Pilot Implementation Plan for Deepening the Comprehensive Reform of Financial Services for Private and Small and Micro Enterprises with Financial Support in Wenzhou, and the Implementation Measures for Wenzhou Entrepreneurship Guarantee Loans, to further support the initiation and development of private enterprises.

Wenzhou City has also introduced targeted policies for college student entrepreneurship. Among them, the most prominent policy is the issuance of the "Opinions on Further Promoting Innovation and Entrepreneurship among College Students in Wenzhou" in May 2022, which clarifies 9 aspects and 18 guiding opinions on supporting innovation and entrepreneurship among college students. The policy requires adhering to the principles of innovation leading entrepreneurship and entrepreneurship driving employment, deepening the integration of industry and education, promoting the linkage between universities and cities, and achieving more comprehensive and high-quality employment and entrepreneurship for college students. For the college student group, we have further optimized the inclusive financial policies for innovation and entrepreneurship and the college student innovation and entrepreneurship ecosystem, and increased the efforts to attract college student innovation and entrepreneurship competitions. Therefore, this study takes the entrepreneurship policy in Wenzhou City as the research object, and uses the research method of co word clustering analysis to conduct text correlation research on the entrepreneurship policy.

## 2. Selection of Policy Sample

Since the founding of the People's Republic of China, Wenzhou people have created a miracle of economic growth based on the private economy with the spirit of daring to take risks, daring to innovate, and fearless of difficulties, giving birth to countless entrepreneurs and entrepreneurs. The "entrepreneurial gene" seems to have deeply ingrained in the bone marrow of every Wenzhou person. Throughout the years, the entrepreneurial spirit of innovation, superior social resource organization ability, convenient geographical location for external communication, rich labor skills, and

policy support have led to waves of entrepreneurial enthusiasm in Wenzhou. However, early entrepreneurial policies were relatively scattered and policy implementation was not precise enough. Until the concept of "mass innovation and entrepreneurship" was proposed in 2014, a development wave of "innovation for all, grassroots entrepreneurship" emerged in various parts of the country. The country attached great importance to promoting entrepreneurship for all and made overall plans for innovation, gradually introducing a large number of policies to promote entrepreneurship for all. Wenzhou also followed in the footsteps of the country and gradually introduced a large number of entrepreneurship policies.

Therefore, this study selected innovation policies released between 2014 and 2023 as policy samples; In order to comprehensively collect the innovation policies introduced by Wenzhou City, this study manually screened all policies (including municipal government documents, municipal government office documents, municipal government normative documents, etc.) in the "Policy Documents" section of the "Wenzhou Municipal People's Government Website" (wenzhou.gov.cn). A total of 215 policy texts were collected from 2014 to December 2023, and all collected policy texts were read through. After removing files with low

relevance and duplicate content, a total of 47 valid files were retained.

### 3. The Co-occurrence Network Characteristics of Policy Text Theme Words

Read through 47 policy documents one by one, and with a thorough understanding of the policy content, use the jieba library in Python to segment the collected 47 policy documents. After removing meaningless words such as "this method", "used for", "based on", etc., count the frequency of each theme word. A total of 139 theme words were obtained. After consulting expert opinions, similar theme words were merged, such as "graduating college students" Merge "college graduates" and others into "graduates" and so on. Using the high low frequency word calculation formula proposed by Donohue to calculate the word frequency of theme words, and considering the actual situation of this article, we ultimately selected theme words with a word frequency greater than 5 as the object of policy text analysis, and obtained 41 high-frequency theme words that basically cover entrepreneurial policy content, as shown in Table 1.

Table 1. High-frequency Theme Word Frequency Data of Policies

Theme Word	Frequency	Theme Word	Frequency
Entrepreneurship	640	Countryside	178
Subsidy	576	Resource	174
Obtain employment	483	Platform	172
Government	465	Colleges and universities	164
Innovate	395	Mechanism	161
Small and micro enterprises	373	Loan	160
Science and technology	369	Reform	159
Project	365	Encourage	144
Mechanism	313	Pilot demonstration	143
Industry	306	Entrepreneurship incubator	136
Personnel	295	Economic development	125
Talent	282	Intellectual property	123
Graduate	248	Public service	122
Guarantee	242	Capital	121
Market	241	Financial support	117
Tax support	228	Guide	112
Education	220	Investment	109
Train	220	Skill	105
Technology	217	Crowd creation space	92
Reward	206	Guarantee	92
Supervise	178		

Using Python language to construct a high-frequency co-occurrence matrix for theme words and visualize it, a co-occurrence network that reflects the complex relationships between different theme words is obtained, as shown in Figure 1. The lines in the figure represent whether the theme words appear in the same policy document, the centrality size (node radius) represents the number of times the theme words appear, and the blue and yellow lines in the figure represent the number of times the two theme words appear together. The yellow line between two theme words indicates that they frequently appear together in the same policy document.

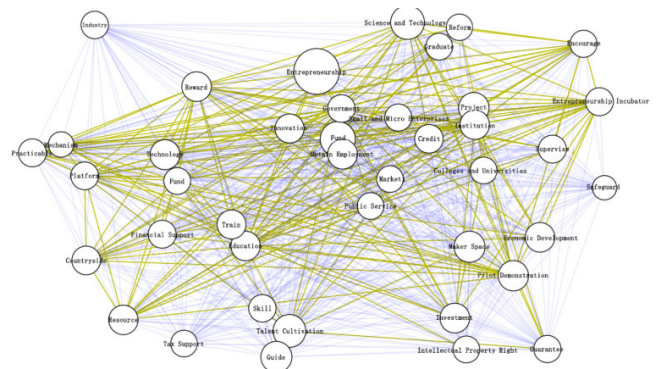


Figure 1. Co-occurrence Network of High-frequency Theme Words in Innovation Policies

As shown in the figure, the entrepreneurship policy in

Wenzhou mainly focuses on promoting employment stability and social harmony through entrepreneurship, and enhancing the vitality of Wenzhou's economic development. Specifically, we must adhere to the main work direction of "innovation leading entrepreneurship and entrepreneurship driving employment", with a focus on college graduates, migrant workers, and others. Specific needs and difficulties for rural returnees and other groups to carry out entrepreneurial activities, and targeted assistance, such as popularizing entrepreneurial knowledge and strengthening entrepreneurial guidance; Strengthen investment in resources, investment, personnel, education, training, technology, skills, and other resources and services required for entrepreneurship, providing a solid foundation for all entrepreneurial groups; Vigorously promote the construction of new entrepreneurial service platforms that combine convenience, openness, and sharing advantages, such as maker spaces and entrepreneurial incubators, innovate service models, and create a convenient entrepreneurial atmosphere and environment; At the micro level, we will use fiscal subsidies, financial support, tax reductions and incentives, entrepreneurship guarantee loans, and pilot projects to share the risks and alleviate the financial pressure of individuals, enterprises, and other groups in the entrepreneurial process, stimulate entrepreneurial vitality, create more employment opportunities, and promote social stability and harmony, injecting new vitality into Wenzhou's economic growth.

#### 4. Cluster Results of Policy Text Theme Words

In order to further explore the inherent relationship and deep characteristics between Wenzhou entrepreneurship policy keywords, this study transformed the co-occurrence matrix obtained earlier into a correlation matrix, and used the Ward minimum variance method based hierarchical clustering analysis to cluster policy keywords (excluding words such as government, market, and economic development). Each theme keyword was divided into different categories to explore the main focus of the policy and study its inherent characteristics. Class refers to a group of relatively homogeneous research objects. The tree chart results obtained from cluster analysis using SPSS software are shown in Figure 2.

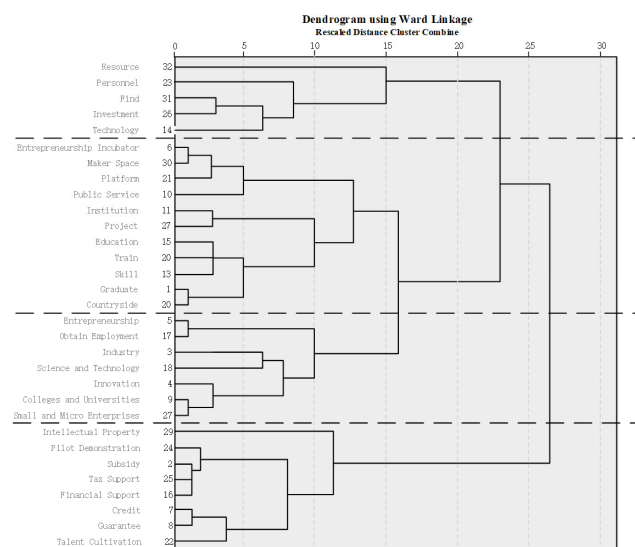


Figure 2. Cluster of Policy Theme Words

As shown in Figure 2, the main focus of Wenzhou's innovation policy includes four categories: the construction of entrepreneurial resource system, entrepreneurial service system, industrial development system, and policy support system. Wenzhou, as a port city with developed private economy, abundant warm commercial resources, and flexible institutional mechanisms, is the earliest place for individual businesses in China, and the entrepreneurial atmosphere in the entire city is very strong. After years of development, Wenzhou has embarked on the path of Wenzhou, created the Wenzhou model, formed the Wenzhou spirit, gained Wenzhou experience, and made indelible contributions to China's reform and opening up. However, in recent years, due to the constraints of traditional concepts, weak innovation awareness, low attractiveness of local industrial development, difficulties in attracting and losing talents, and funding shortages caused by financing difficulties have seriously affected the creation of a good entrepreneurial atmosphere and constrained Wenzhou's economic development. Moreover, since 2004, Wenzhou's economic growth rate has plummeted to the bottom of Zhejiang. This shows how to gather entrepreneurial resources, improve entrepreneurial related services, and Promoting industrial transformation and upgrading to promote mass entrepreneurship, stabilize employment, and promote economic growth has become one of the urgent problems to be solved. According to clustering results, the construction of entrepreneurial resource systems includes policy keywords such as personnel, funds, and technology, indicating that the current policies are fully aware of the existing problems, and when formulating policies, targeted measures are taken. Policies emphasize the integration of existing resources Introduce high-quality social resources and allocate them reasonably, focusing on solving the pain points of human, material, financial shortages and mismatches, as well as technological deficiencies in the current promotion of mass entrepreneurship in Wenzhou, to meet the basic elements required by the entrepreneurial community.

#### 5. Text Analysis Conclusion

According to the clustering analysis of policy text keywords, the Wenzhou government has different focuses on entrepreneurship policies for different types of college students.

The construction of entrepreneurship service system mainly includes theme words such as crowdsourcing spaces, entrepreneurship incubators, graduates, training, etc. It can be seen that in order to create a vibrant entrepreneurial ecological environment, Wenzhou is currently committed to establishing and improving a high-quality service system for relevant entrepreneurial groups. Firstly, it aims to popularize more professional and practical entrepreneurial knowledge to relevant entrepreneurial groups, For example, conducting various forms of entrepreneurship education for college students and organizing participation in entrepreneurial practice activities, providing entrepreneurship training for migrant workers, rural returnees, and other objects with entrepreneurial intentions, organizing specialized training on entrepreneurship guidance, vocational skills, etc. for small and micro enterprises in conjunction with relevant departments, and providing various public services such as talent training, legal rights protection, and exhibition services; At the same time, in order to provide entrepreneurs with a

good workspace, online space, social space, and resource sharing space, efforts are being made to build convenient, all factor, and open new entrepreneurial service platforms such as crowdsourcing spaces and entrepreneurial incubators, innovate service models, and provide low-cost and high-level comprehensive entrepreneurial services for entrepreneurs and entrepreneurial enterprises; In addition, encourage entrepreneurship service platforms to hold various entrepreneurial activities, organize enterprise competitions, and encourage the transformation of excellent innovation and entrepreneurship projects, further promoting the gathering of entrepreneurial elements such as talent and capital.

The construction of industrial development system is one of the focuses of Wenzhou's entrepreneurship policy. Since the reform and opening up, Wenzhou has gradually developed its five traditional manufacturing industries, including electrical, footwear, clothing, automotive parts, and pumps and valves, into its economic lifeline based on its own geographical location and resource conditions. After years of development, these industries have reached a high level. However, there are huge problems in Wenzhou's current industrial development mode, such as high consumption of resources. There is an urgent need to develop new technologies and industries to overcome the severe environmental pollution and low product added value. The construction of industrial development system includes policy keywords such as innovation, industry, technology, and small and micro enterprises, indicating that the government has fully realized the current predicament of industrial development. The current policies are committed to stimulating the innovation vitality of traditional industrial enterprises and actively guiding entrepreneurs to open up new technology industry tracks. At the same time, we are accelerating the construction of a new pattern of collaborative innovation with enterprises as the main body and universities and research institutions participating together, Building a strong innovation system, promoting industrial development in Wenzhou, providing more opportunities for entrepreneurs, but also bringing more employment opportunities, and promoting social stability and harmony.

To ensure the smooth development of entrepreneurial resource aggregation, industrial development model transformation, and entrepreneurial service system construction, Wenzhou's entrepreneurial policies have also provided targeted assistance for different issues. The government support system includes policy keywords such as pilot demonstrations, financial support, subsidies, tax support, loans, etc. This indicates that the Wenzhou government has shared the entrepreneurial risks of entrepreneurs from multiple aspects. While establishing demonstration zones to spread entrepreneurial experience and attract talent gathering, it also adopts financial measures such as issuing subsidies and implementing entrepreneurial guarantee loans, Encourage and guide financial institutions in the banking industry to further expand credit and other means of financial policies, as well as tax support through tax reductions and exemptions, to build an open and efficient entrepreneurial support system, in order to assist entrepreneurial groups in carrying out entrepreneurial activities.

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### Notes on contributors

Xinya Xu is a student in the Yongjia College at Wenzhou Polytechnic, People's Republic of China.

Gaoxiang Chen is a lecturer in the Yongjia College at Wenzhou Polytechnic, People's Republic of China.

Cong Ding is a lecturer in the Yongjia College at Wenzhou Polytechnic, People's Republic of China.

Jiayi Chen is a student in the Yongjia College at Wenzhou Polytechnic, People's Republic of China.

Xinxin Zheng is a student in the Yongjia College at Wenzhou Polytechnic, People's Republic of China.

Kaidong Wang is a student in the Yongjia College at Wenzhou Polytechnic, People's Republic of China.

Lu Zuo is a student in the Yongjia College at Wenzhou Polytechnic, People's Republic of China.

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