

Research on the Characteristics of High-Level Talents in Culture and Tourism Industry and Education Mode for its Development

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Abstract

It is quite important to strengthen the training of high-level talents in culture and tourism industry to boost the high-quality development of China's tourism industry. Based on big data mining technology, this paper selects 12 cities of different sizes in 58 cities as research objects, and uses word frequency analysis and semantic network analysis to explore the status quo, trend, demand characteristics and industry talent structure of urban tourism recruitment. The results show that job seekers are most concerned about social security and welfare, as well as living costs, such as accommodation, meals and five insurances and one fund, rather than flexibility in salary negotiations, indicating that job seekers pay more attention to stability and quality of life. The recruitment positions cover tour guides, tourism consultants, scenic spot management, hotel services and other aspects, which reflects the diversified demand for talents in the tourism industry. The connection between different positions indicates that the tourism industry may be more inclined to recruit comprehensive talents with various abilities, such as "technology", "operation" and other technology-related positions, which may indicate that the tourism industry is transforming to digital. In addition, regional differentiation is also widespread, and relevant policy suggestions to promote tourism education are given.

Keywords: Semantic network analysis; Diversification; Comprehensive type; digitization; Tourism talent

1.0 Introduction

In the post-epidemic era, China's tourism industry has shown a significant growth trend. In 2023, the domestic tourism market has experienced a strong recovery, showing the potential of tourism as a new growth point of the national economy. According to the data of the Ministry of Culture and Tourism, the number of domestic tourists will reach 4.891 billion in 2023, up 93.3% year on year, and the total travel spending of domestic tourists will reach 4.91 trillion yuan, up 140.3% year on year. These data show that the domestic tourism market has recovered to 81.38% and 85.69% of the 2019 levels. At the same time, the review of the

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tourism market in 2023 shows that after three years of deep adjustment and remodeling, the tourism industry will resume its growth in 2023, showing vigorous vitality. The domestic tourism market in this year showed obvious peak season characteristics, especially during the holidays, the tourism market data frequency reached a new high. Long-term travel has become the mainstream again, outbound travel has also recovered rapidly, and the trend of consumption diversification is prominent. This has brought great impetus to economic development. However, the proportion of high-quality professional technology and compound talents in China's tourism industry is too small, especially the lack of high-quality, practical and innovative compound talents, which restricts the development of the industry. Especially with the vigorous development of culture and tourism industry, talent is the core element of the development of the industry, and the quality of talent training is directly related to the overall level of the industry. Therefore, how to effectively cultivate high-level talents with high cultural quality, professional skills and innovative spirit has become an urgent demand for the development of the industry.

From the current situation, the inter-annual changes of the setting of tourism majors and the number of tourism personnel in China are generally in a growing trend. As an education method with culture as the core and environment, atmosphere and activities as the carrier, cultural infiltration can improve the cultural quality, professional ability and innovation ability of talents in a subtle way. This is also in line with the current needs of the current tourism market. At the same time, China's cultural tourism industry is not only national, smoke-free or the world, is an important display window of multicultural confidence. Especially in the new era, the deepening of globalization and the increasingly frequent cross-cultural exchanges have brought new opportunities for the development of the cultural tourism industry. At the same time, the culture and tourism industry is also an important part of China's national economy, and its high-quality development is the key to achieve the goal of cultural power. However, the shortage of high-level talents in the industry of China's cultural tourism industry restricts the development of the industry. The marginal contribution of this paper lies in that this paper aims at cultural infiltration, analyzes how to meet the market demand, optimizes the training methods of high-level talents in the cultural and tourism industry, and promotes the comprehensive development of talents in the tourism industry. We not only improve the adaptation theory of higher education, but also put forward corresponding suggestions for the depth and diversification of talent training in the cultural and tourism industry.

2.0 Literature review and research hypotheses

2.1 The soul role of cultural infiltration on the development of cultural tourism industry

For a long time, the tourism industry has taken emotional substitution, entertainment and leisure as the main industry value. More and more people pay more attention to the cultural experience, and show the value demand of multi-level cultural tourism products. Salvatierra (2008) discusses the importance of adding cultural value to tourism products, and analyzes the characteristics of the process of cultural development and dissemination of tourism

introduction and the contradictions in rural tourism. With the rapid development of cultural tourism industry, it has gradually become an important force to promote economic growth and cultural inheritance. The value of cultural and tourism products has also been widely concerned. Wen brigade product value is a contains economic, cultural, social, ecological and other multiple value of complex system, its composition and the influence factors by tourists perception experience, digital technology application, cultural connotation mining, ecological space planning factors, related research also from product design, consumer experience, communication mechanism, ecological value realization, resource value assessment and social value, etc. For example, the role of digital technology in the design of national tourism products and the innovative path to improve tourist experience were proposed (Zhou Yi et al., 2024); the influencing factors and mechanism process of consumer presence experience of tourism products were analyzed (Zhou Shiju et al., 2024), and the transmission mechanism of different aesthetic forms of audio-visual products under the multiple system of regional audio-visual tourism products was discussed (Tang Jun and Huang Yaping, 2022). Meanwhile, the comprehensive evaluation of the value of cultural tourism resources (Hou et al., 2023); the assessment of the social value of cultural heritage tourism (Szromek and Bugdol, 2023). In particular, the transmission mechanism and value flow of tourism and cultural creation (Bai Xiaoqing and Li Disha, 2021). At the same time, regional cultural tourism characteristics are also gradually explored, such as the causes, dilemmas and countermeasures of the development of "web celebrity Chongqing" (Zhang Weiqi, 2021); the competitiveness analysis of Henan rural cultural tourism brands (Huang Jun and Wang Jiao, 2022); and the optimization of tourism cultural and creative products (Yang Yong, 2022) all reflect the cultural connotation characteristics of the current tourism industry. The development of culture and tourism is becoming more integrated.

In addition, how to improve tourist satisfaction has become a local tour product focus (Zheng Jieke and Tang Xiuyuan, 2022), these studies reflect the tourism market for the cultural element recognition and acceptance, how to effectively the competitiveness of the tourism industry, conform to the development of tour industry new demand, meet the people's cultural experience new demand, mining tour market demand and higher education reform has become particularly important.

2.2 The balance relationship between tourism market demand and education

The demographic structure and population quality have always been a hot topic for scholars, and the popularization of higher education is undoubtedly the main hot topic in this century (Zhang Yingqiang et al., 2022; Yu Xiulan, 2021; Luo Fuzhen et al., 2022). China has established the world's largest higher education system, with more than 44.3 million students. The gross enrollment rate of higher education has increased from 30 percent in 2012 to 57.8 percent in 2021, an increase of 27.8 percentage points, marking a historic leap. Higher education has entered the world recognized stage of universal education. The number of people receiving higher education in China has reached 240 million, and the average number of years of education for the new labor force has reached 13.8 years. The quality structure of the labor force has undergone major changes, and the quality of the whole nation has been

steadily improved (Wu Yan, 2022). For individuals, education is a major source of effective income growth, by learning the knowledge and skills to earn a living. From the perspective of the all-round personal development and the social role as social people, education can enrich people's hearts, help people establish correct values, generate positive energy to boost social development, and promote the harmony of the relationship between people and society. From the perspective of the macro influence of education, education can promote the overall improvement of the cultural quality of the Chinese population, cultivate high-quality talents of all levels and types needed by economic and social development, and make great contributions to social development. In addition, from the perspective of regional labor supply and demand, there is always a dynamic equilibrium in the regional labor supply market, and this dynamic equilibrium needs to continuously promote the adjustment of structural labor supply and alleviate the impact brought by the demand contradiction. And with the development of the Internet, big data and digital economy, machines will replace some simple labor to some extent, generating a greater demand for highly skilled personnel. At the same time, from a macro point of view, modern regional development theory believes that to a certain extent, regional growth is the premise of regional development, but it does not mean that all regional growth will lead to regional development. Regional growth should cooperate with the all-round development of regional society, ecology, culture and other factors. Under the high-quality development model, the regional economic growth and the regional economic development are coordinated and unified. Regional economic growth depends more on improving the quality of workers, improving the efficiency of capital utilization and improving the level of technology to achieve the sustained growth of output. Innovation, talents and a good ecological environment all play an important role in regional economic growth and regional development. Economy, culture, environment and system play a more and more important role in the regional population distribution. Modern economic theory also shows that, from the perspective of marginal growth, in economies closer to technological frontiers, technology-based human capital boosts the growth of total human capital more strongly (Vandenbussche et al., 2006). And from the perspective of market demand, educational and cultural service comfort, as well as climate comfort, are more driven to the highly skilled labor force, (Qi Honggang et al., 2024). Relevant documents of the State Council has pointed out that "deepen the education chain, talent chain and industrial chain, innovation chain organic link, is the current promote the structural reform of human resources supply side, for the new situation to improve education quality, expand employment entrepreneurship, promote economic transformation and upgrading, cultivating new momentum pointed out the direction. With the rapid development of the Internet, tourism has been completely integrated into the network era and become the key driving force to promote the innovative development of China's tourism industry. Network, intelligent, collaborative national wisdom tourism public service platform, the convenience of the scenic spot booking tourist promotion not only provides great convenience to the tourist professional quality and ability put forward new challenges, an urgent need to establish a synchronization with the Internet age of tourism professional talent training platform, to meet the new demand of the development of the industry (ZhuoYi, 2021). At the same time, the relatively complex relationship between human capital and tourism economic efficiency, a research based on data envelope analysis-manquist index (DEA-MI) model and spatial measurement model in

the relationship between human capital and regional tourism economic efficiency analysis concluded that different regions of human capital mismatch phenomenon, the need to build the coordination mechanism of human capital and tourism economic efficiency, in order to improve the overall efficiency of tourism(Sheng Yanchao and Liu Qing, 2020). National strategies such as all-region tourism and smart tourism have brought development opportunities for tourism. Higher vocational colleges of tourism need to cultivate high-quality skilled tour guide talents to adapt to the new situation, new changes and new market, and have the competence characteristics of professional and skilled talents (Cheng Zhaoyu and Duan Ying, 2022).

From the perspective of the external environment and efficiency of the tourism industry, the city in the economy, tourism performance, culture exhibition and other emerging industries emerging bring new impetus to urban development and rural tourism management drive, operation, marketing, industry is crucial to the development of agriculture, rural areas and farmers, rural leisure tourism become the key to rural revitalization. However, the current policy tools prefer environmental type, but the structure is unbalanced and lack the support of cultural and ecological value dimensions. It is necessary to optimize the combination of policy tools in the future and establish a perfect policy system and supporting mechanism for rural leisure tourism (Gao Ruilong and Hu Xiaozhou,2021). Market and life quality have become important issues in the development of tourism market after the renewal of resources. Related technologies have changed from transplantation to local innovation, and cultural communication from industry to social. Shows that the characteristics of tourism discipline pursue autonomy, but also internalization, fragmentation and disconnection of theory and practice, enhance the vitality of academic community, professional, policy, critical and public tourism has different functions, critical tourism is the key to realize the value bridge (Ma bo, 2024).

3.0 Study subjects, data sources, and methods

3.1 Study subjects

As a well-known comprehensive classified information website, 58 Tongcheng not only provides recruitment information, but also provides a variety of other services. The site brings a lot of job information to provide a wide range of job candidates. In order to more comprehensively grasp the current situation and trend of the job market in China's tourism industry and provide reference for job seekers, enterprises and policy makers, this paper comprehensively selects samples of different sizes for analysis. Specifically, this paper selects the four mega cities (Dongguan, Wuhan, Chengdu, Hangzhou) and four large cities (Beijing, Tianjin, Shanghai, Chongqing), and four small cities (Luliang city, Ezhou, Wuhai city, Shenzhen) as a research object, for the city tourism industry related recruitment information for the data collection. In order to deeply analyze the collected data, this study uses text analysis tools, with its ability to efficiently process a large number of text, to gather the tourism recruitment information of each city into a unified comprehensive text set for follow-up analysis.

3.2 Main research methods

This paper mainly adopts the text analysis method, also known as the content analysis method, which is a kind of objective and systematic quantitative description of the explicit content in the collection of information dissemination based on the text information. The analysis is made through heat map, semantic network, semantic emotion and qualitative comparison. Text analysis is mainly analyzed by recollecting mining information and showing the affinity. Semantic network analysis is both a research method and a theoretical framework. Conceptually, semantic network analysis refers to a visual text analysis system involving semantic relationships, representing knowledge and building models by constructing network graphs with edges (edges) and nodes (nodes). In related studies, scholars generally use "vocabulary" and "concept" to describe the corpus objects of semantic network analysis, and use "vocabulary chain" and "relationship" to refer to the relations between the corpus units. In the semantic network analysis, the co-occurrence matrix and the co-occurrence network between the words should be constructed first. The co-occurrence matrix refers to a matrix relationship formed by nodes and edges, a data format for network analysis. In the co-occurrence matrix, words are listed on both sides of the ranks, and each cell represents a numerical value representing the co-occurrence weights between words. If the text unit is created by multiple authors, then the semantic network can also reflect the collective cognitive context between the text creators, and the heavier the lines between words, the more frequently the two words appear together. The morphology and numerical value of the matrix are determined based on the probability of word co-occurrence rather than the order and coherence of the words. Second, the semantic network of the matrix generation is expanded and analyzed. The main analysis dimensions are as follows: 1. Overall network analysis, such as network size, density and diameter, in which the network size is the total number of nodes, the density measures the connectivity between nodes, and the diameter represents the density of the semantic network. Figure 1 illustrates the specific ideas and methods of this study.

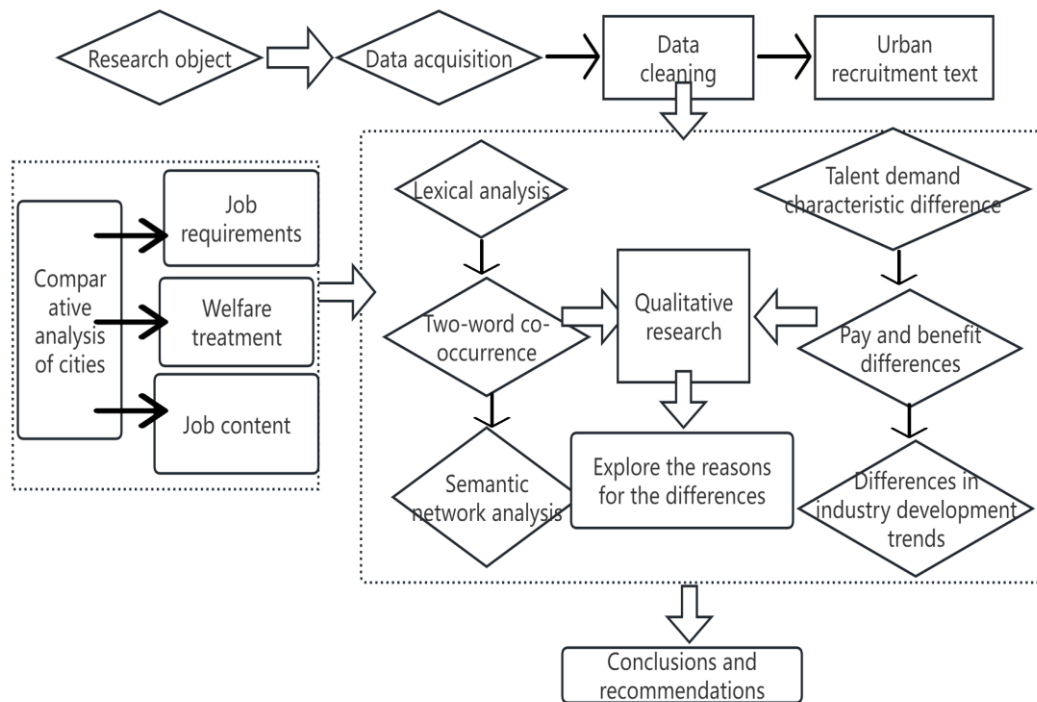


Figure 1: Study framework

4.0 Empirical results

4.1 Thermal matrix results of high-frequency vocabulary

In this paper, according to the analyzed high frequency vocabulary to reflect the frequency characteristics of word frequency. The top four cities with word frequency are Shanghai, Beijing, Chongqing and Wuhan. Figure 2 shows the highest frequency thermal word frequency in the above four cities. Except for the differences in density, they have the following characteristics:

(1) Five social insurance and one housing fund in Shanghai appeared 1,544 times: this high frequency shows that in Shanghai, job seekers attach great importance to social security and welfare. The five social insurance and one housing fund is China's standard social insurance welfare system, including endowment insurance, medical insurance, unemployment insurance, work-related injury insurance, maternity insurance and housing provident fund. In big cities like Shanghai, where the cost of living is high, job seekers particularly value these guarantees to ensure that they have basic financial support for possible future risks and challenges. The high frequency of this keyword shows that the cost of housing is an important consideration for many job seekers looking for jobs in Shanghai. Shanghai is a city with relatively high housing prices and the cost of living, so providing accommodation or housing subsidies can significantly improve the attractiveness of jobs. 828 times: Although package eating is less important than housing, five social insurance and one housing fund, the frequent occurrence of this keyword shows that job seekers are still concerned about the relationship between work and diet. It may be because diet is also part of the cost of living, or

because job seekers want to get convenient and potentially cheaper meals when they are busy at work.735 times negotiable: The high frequency of this keyword reflects the flexibility of wage negotiations in the Shanghai job market. In Shanghai, due to vary in different industries, experience and positions, many positions are negotiated through negotiation, which gives job seekers and employers more freedom to reach mutually satisfactory salary agreements.455 weekend breaks: The relatively low frequency of this keyword may reflect that the flexibility of work hours in Shanghai may be more competitive than other benefits. While two weekends are the standard job system for job seekers, there may be overtime culture and flexibility in some industries such as finance, technology and counseling, so this benefit may not be as attractive as others.

(2) 3,272 times in Beijing: This high frequency shows that in Beijing, providing accommodation or housing subsidies is a very important benefit for job seekers. As the capital of China, Beijing has a high cost of living, especially the cost of housing. Therefore, including housing or housing subsidies can significantly reduce the cost of living for job seekers and improve the attractiveness of jobs. In Beijing, package eating or catering service is also one of the focus of job seekers. It may be because job seekers want to get convenient and potentially cheaper meals when they are busy, or because food and beverage benefits are also part of the cost of living. Five social insurance and one housing fund appeared 1695 times: the frequency of this keyword is high, indicating that in Beijing, job seekers also attach great importance to social security and welfare. The five social insurance and one housing fund is China's standard social insurance welfare system, including endowment insurance, medical insurance, unemployment insurance, work-related injury insurance, maternity insurance and housing provident fund. In big cities like Beijing, offering these benefits can ensure that job seekers have basic financial support in the face of possible future risks and challenges.895 weekend breaks: The relatively low frequency of this keyword may reflect that work schedule flexibility in Beijing may be more competitive than other benefits. Although two weekends are the standard work system generally expected by job seekers, in some industries, such as the Internet, finance, there may be an overtime culture and flexible work system, so this benefit may not be as attractive as others.580 times: The relatively low frequency of this keyword may indicate that the flexibility of salary negotiations is not the focus of job market in Beijing for job seekers and employers. Alternatively, it may reflect that in Beijing, salaries are usually open and transparent and therefore less negotiable.

(3) Chongqing negotiable appears 17679 times: this very high frequency shows that in Chongqing, the salary of many positions is determined through negotiation. This may be because the cost of living in Chongqing is lower than that in first-tier cities such as Beijing and Shanghai, so employers and job seekers have more room to negotiate on their salaries. In addition, Chongqing, as a city with an active economy, is likely to have a more flexible job market, and employers and job seekers are more willing to discuss specific salary benefits. This high frequency shows that job seekers also attach great importance to social security and welfare. The five social insurance and one housing fund is China's standard social insurance welfare system, including endowment insurance, medical insurance, unemployment insurance, work-related injury insurance, maternity insurance and housing provident fund.

The concern of job seekers in Chongqing about these guarantees may be related to their need for stability and future planning. Life delivery personnel appeared 11,352 times and 11,352 times without limit. The frequency of these two keywords shows that the demand for the position of life delivery personnel in Chongqing is relatively high, and employers have more relaxed requirements for candidates in recruitment. This may be related to Chongqing's economic development, urban size and residents' living needs. With the rapid development of e-commerce and express delivery industry, the demand of daily delivery personnel is also increasing. The high frequency of this keyword shows that in Chongqing, providing accommodation or housing subsidies is also an important benefit for job seekers. As a big city, the cost of housing is also an important consideration for job seekers, so the provision of housing conditions can improve the attractiveness of jobs. 4,768 times: The frequency of this keyword indicates a demand for the apprenticeship in Chongqing, but not particularly high for other positions. This may be related to the development level of the fashion industry and the demand of cosmetics sales and beauty services in Chongqing.

(4) 8,959 times in Wuhan: This high frequency shows that in Wuhan, providing accommodation or housing subsidies is a very attractive benefit for job seekers. As the capital city of Hubei Province, Wuhan has a relatively high cost of living, especially in the central urban area. Therefore, including housing or housing subsidies can significantly reduce the cost of living for job seekers and improve the attractiveness of jobs. In Wuhan, package food or catering service is also one of the focus of job seekers. It may be because job seekers want to get convenient and potentially cheaper meals when they are busy, or because food and beverage benefits are also part of the cost of living. Five social insurance and one housing fund appeared 6,245 times: the frequency of this keyword is high, indicating that in Wuhan, job seekers also attach great importance to social security and welfare. The five social insurance and one housing fund is China's standard social insurance welfare system, including endowment insurance, medical insurance, unemployment insurance, work-related injury insurance, maternity insurance and housing provident fund. The concern of Wuhan job seekers on these guarantees may be related to their need for stability and future planning. The frequency of this keyword shows that the welfare system of double salary at the end of the year is relatively common in Wuhan. Year-end double pay is often seen as an additional incentive that increases their annual income and has a positive effect on improving employee satisfaction and loyalty. In Wuhan, overtime allowance is also one of the focus of job seekers. It may be because there is a certain degree of overtime culture in Wuhan's job market, or because job seekers have high expectations for reasonable compensation after overtime work.

In conclusion, the keyword distribution in each city reflects the characteristics of the local job market and the needs of job seekers. For example, the frequent words in Chongqing and Wuhan include "accommodation" and "package food", which may be related to the large number of manufacturing and construction jobs in these cities, which often require accommodation to attract labor. In Shanghai and Beijing, the high-frequency words are more inclined to "five social insurance and one housing fund" and "double weekends", showing that these big cities attach great importance to standardized welfare and work-life balance.

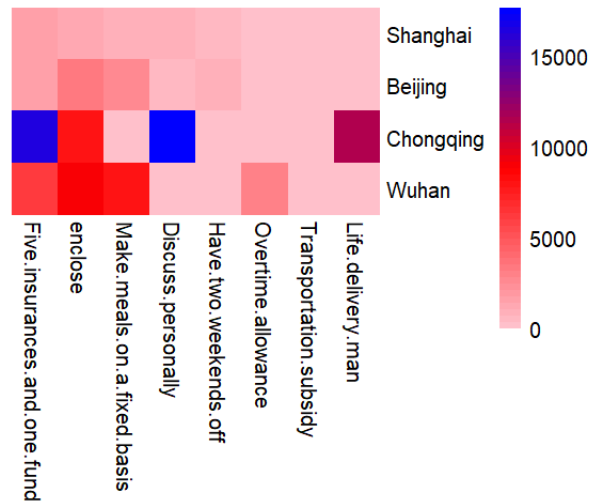


Figure 2: Word frequency heat map

4.2 Semantic network analysis results

Tables 1 and 2 and Figures 3 and 4 show the results of the semantic network analysis in the 12 cities. From the results in Table 1 and Figure 2, it can be seen that, in general, there are a large number of semantic associations between the tourism recruitment information in each city, indicating that the tourism industry is highly driven. In the case of cities, in the northern Beijing and Tianjin region, "management" and "high salary" may indicate that some positions have higher salary levels, while "hotel" and "assistant" may indicate that some positions hold assistant positions in the hotel industry. In addition, some positions such as "insurance", "broker and" property "may be directly related to the tourism industry, while other positions such as "junior college ", "China "and" high school " may be indirectly related to the tourism industry. In Beijing, "Beijing" is directly connected to "tourism" and "company", which may mean that Beijing is one of the most important destinations for tourism, while many travel-related companies are located in Beijing. The "company", in turn, is directly linked to positions like "travel", "Beijing", "assistant", "service" and "operation", suggesting that the company may be an employer or manager in the travel industry. In addition, "travel" also with several other positions such as "subway", "real estate", "high" school ", " technology ", " transportation ", " college ", "room", "hotel", "sales", "China", "brokerage", ", " consultant ", " insurance ", "end", "double ", " Hugh ", " shares ", " Shanghai ", " culture ", " catering ", " overtime ", "security", " eat ", " live ", " hours ", " Hangzhou ", "director", " ", "salary", "the", "interview", " manager ", " waiter ", " and "distribution" etc directly connected, indicating that the tourism industry is very extensive.

Table 1: High-frequency keywords of Urban tourism industry recruitment#1

| Region | City | Position related name:high-frequency keywords |
|------------------------|----------|---|
| Beijing- Tianjin Delta | Beijing | "Subway", "real estate", "High school", "Technology", "transportation", "college", "room", "Hotel", "sales", "China", "brokerage", "" consultant ", " insurance ", " year end ", " double ", " shares ", " travel ", " Beijing ", " life insurance ", " property ", " management ", " company ", " operation ", " security ", " health ", " commissioner ", " Shanghai ", " culture ", " catering ", " overtime ", " security ", " eat and live ", " hours ", " Hangzhou ", " supervisor ", " high salary ", " interview ", " manager ", " service Member "and" distribution ", etc |
| | Tianjin | "Management", "high salary", "hotel", "assistant", "seeking", "", " base salary ", " insurance ", "after sales", " broker ", " college ", "property", " consultant ", " double, ", "China", "", " sales ", " Tianjin ", " shares ", " "estate", " security ", " life insurance ", " commissioner ", "property", " security ", " peace ", "commission", "manager", "high school", "Beijing" and "security", etc |
| Yangtze River Delta | Hangzhou | "Business", "Zhejiang", "high school", "logistics", "weekend", "double holiday", "the deposit", "commissioner", "subsidies", "length of service", "attendance", "rider, distribution", "delivery", "room", "food", "freight", "operation", "science and technology", "management", "transportation", "transportation", "Hangzhou", "hotel, drivers", "subsidies", "the end of the year", "overtime", "sales", "brokers", "energy", "real estate", "find a home", "real estate", etc |
| | Shanghai | "Manager", "consultant", "year end", "double", "shares", "commissioner", "room", "weekend", "China", "cleaning", "overtime", "insurance", "", " sales ", " life ", " high school ", " clerk ", "brokerage", "allowance", "real estate", "attendant", "clerk", "agent", "traffic", "property", "management", "front", "high salary", "hotel", "live" eat ", " cost ", " consulting ", " service ", " catering ", " negotiable "and" college ", etc |
| Pearl River Delta | Shenzhen | "Driver", "car", "allowance", "traffic", "traffic", "management", "massage", "science and technology", "Suzhou", "apprentice", "" Shenzhen ", " delivery ", " distribution ", " future ", " health ", " operation ", " negotiable ", " development ", " yiwu ", " model ", " clothing ", "part-time", "safeguard", "Shenzhen", "", " etiquette ", " sales ", " job ", " middle age ", " older ", " mother ", " culture "and" media ". |
| | Dongguan | "Manpower", "test", "room", "eat", "brokerage", "service", "at the end of", "delivery", "driver", " freight ", "resources", "quality", "traffic", "accident", " quality "inspection", "management", "weekend", "overtime", "logistics", "Dongguan", " subsidy ", " hotel ", " sales ", " science and technology ", " double rest "and" rider", etc |

In the recruitment information of Hangzhou in the Yangtze River Delta in East China, there is a direct connection between some positions such as "business" and "Zhejiang", which may mean that the demand for business positions in the Zhejiang region is high or closely related to the tourism industry in the region. While other positions such as "full attendance", "rider" and "delivery" are connected to other positions by arrows, indicating that they may be different links or related positions in the tourism chain. Shanghai in the same region also shows more obvious business characteristics, with a direct connection between the "manager" and the "consultant" in the relevant positions, which may indicate their job responsibilities or partnerships. There is also a link between "year-end" and "double holidays", which could mean that employees may receive weekends or other benefits at the end of the year. Furthermore, the link between "shares" and "commissioners" may indicate a shareholding corporate structure in which the commissioners may be involved in the decision-making process or enjoy some form of equity.

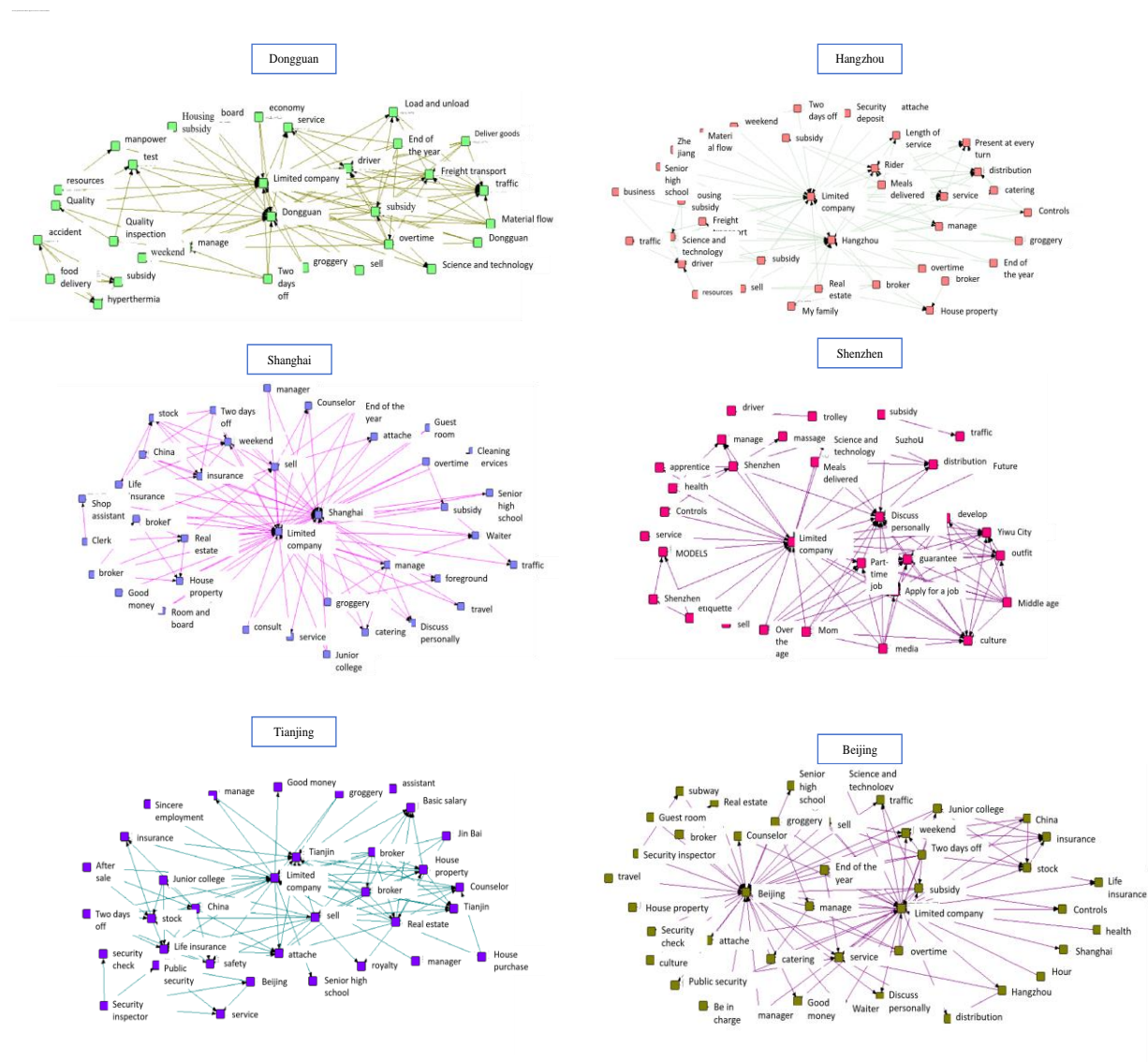


Figure 3: Semantic network analysis results # 1

In the recruitment information in Dongguan, in the Pearl River Delta in southern China, "manpower" is directly linked to "test", which may indicate some form of testing or evaluation during the recruitment process. "Housing subsidy" is directly linked to "food and accommodation", which indicates that the housing subsidy may be considered when considering the accommodation problem of the applicant. The direct connection between "brokerage" and "service" may mean that the role of brokers, who are responsible for coordinating and managing various tourism services, is involved. "Handling and unloading" is directly linked to "the end of the year", which may imply that at the end of the year, handling work may be involved, possibly to prepare for travel activities or other related matters during the festival. "Delivery" is directly linked to the end of the year, which may suggest that at the end of the year, delivery may be involved at work, possibly in preparation for holiday travel activities or other related matters. In many tourism-related words in Shenzhen in the same area, there is a direct connection between "driver" and "car", which may indicate the need for drivers and cars.

For the central city of Ezhou, it can be seen that there is a direct connection between "food and accommodation" and "logistics", which may mean that the two positions need to work closely together in tourism recruitment to ensure that tourists' accommodation and logistics needs are met. Similarly, there is a link between "car" and "freight", indicating that the need for vehicle transport and cargo delivery also needs to be met in travel recruitment. Moreover, the link between "safeguards" and "drivers" may mean that the safety and safeguards for drivers also need to be valued in travel recruitment. As for Luliang city, it can be seen that there is a direct connection between "Shanxi" and "culture", which may mean that in Shanxi region, cultural factors have a certain influence on tourism recruitment. "Human resources" and "development" show that the development of human resources is crucial for the future development of tourism. The connections between other positions such as "logistics", "century" and "supervisor" also reflect the organizational structure and the division of responsibilities within the tourism industry. As for Wuhan, "clerks" and "salesmen" may need to cooperate with each other to complete work tasks, "brokers" may be responsible for communication and negotiation with customers, and "weekend" may indicate the working schedule of certain positions. In addition, the graph shows the hierarchical relationships between different positions and locations, such as where the "clerk" may be a "salesperson" or "commissioner".

In the western region, Chengdu can see a direct connection between "waiters" and "media", which may indicate that the two positions have common requirements or responsibilities in some aspects. Similarly, there is a "sales" and "management" link, suggesting that sales and management positions may need to work together to accomplish certain tasks. Furthermore, the association between "culture" and "part-time" may imply the influence of cultural background on part-time work. Other positions such as "Sichuan", "business", "clerk", "weekend", "subsidies", "western" Sichuan ", " service ", " traffic "and" car "also associated with center node" Chengdu co., LTD. ", this may mean that these positions are part of Chengdu co., LTD., or they are related to the company's operations and services.

Table 2: High-frequency keywords of urban tourism industry recruitment #2

| Region | City | Position related name: high-frequency keywords |
|---------------------|-----------|---|
| Central China | Wuhan | "Shop assistant","assistant","commissioner", "management","overtime","shares ", "broker ", "waiter ", "weekends ", "receptionist ", "insurance ", "sales ", "the end of the year ", "Hubei ", "college ", "China ", "hotel ", "college ", "subsidies ", "real estate ", "high school ", "Wuhan ", "co., LTD.,"service", "Wuhan ", "consultant","science and technology","transportation ", "accommodation ", "consulting ", "manager ", "negotiable ", etc. |
| | Ezhou | "Live", "logistics", "supply", "car ", " freight ", " high school ", " security ", "the" driver ", " Wuhan ", " ge shop ", " management ", " limited co.," ", " weekend ", " wuchang ", " job", "end", "college" , " traffic ", " resources", "double" overtime ", " work ", " interview ", " Hubei ", " subsidies ", " operation ", " Hubei ", " only ", " store ", " Ezhou ", " service ", " human "and" Ezhou ", etc. |
| Central north China | Luliang | "Shanxi", "culture", "human","development", "development", "logistics", "century", "director", "hotel", "engineering", "the" north ", " manager ", " cashier ", " waiter ", " construction ", " hotpot ", " room ", " college ", " rich ", " luliang ", " front ", " sen ", " reception ", " barbecue ", " hotel ", " accounting ", " zero ", " interview ", " chef ", " garden ", " business "and" water ", etc. |
| Southwest | Chengtu | "Waiter","media","sales","management","culture","part-time","job","passenger","overtime","double","security","security", "clerk", "business", "business", "clerk", "weekend", "subsidies", "western", "Sichuan", "service", "traffic" and "car", etc. |
| | Chongqing | "Traffic", "square", "three orges", "experience", "car", "technology ", " business ", " service ", " culture ", " Chongqing ", " driver ", " management", "eat", "waiter", "allowance", "food", "beauty", "beauty", "Chongqing", "assistant", "studio", "food", "trade", "weekend", "distribution", "apprentice", "overtime", "double rest", "end", "shares", "Chengdu", "China", "makeup", "part time", "logistics ", " peace ", " life insurance ", " junior college "and" immediate ". |
| Northwest | Wuhai | "Guide","fitness coach","director","promotion","weekend school teacher", "manager", "Hugh" double ", " style teacher ", " guarantee ", " hotel ", " job ", " commissioner ", " overtime ", " art ", " Beijing college science and technology service Hebei Wuhai logistics Wuhai traffic Inner Mongolia diamond wanda plaza railway appropriate maintenance uda ", etc. |

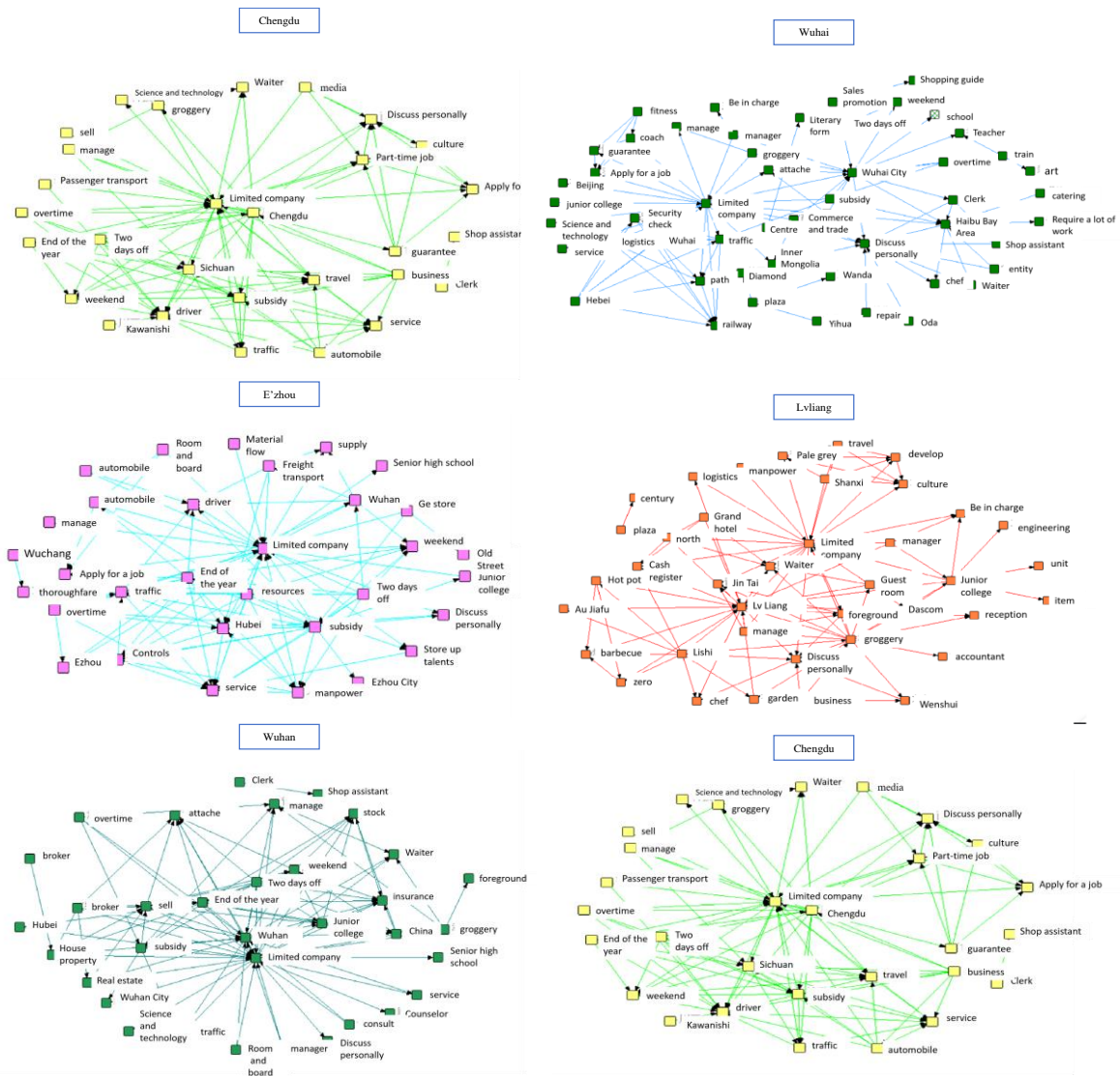


Figure 4: Semantic network analysis results # 2

For Wuhai city, you can see, "guide" and "coach", "director", "promotion", "weekend" school teacher ", " manager ", " double ", " style ", " guarantee ", " the "teacher", "hotel", "job", "commissioner", "overtime", "art", "Beijing Wuhai college science and technology service logistics Wuhai traffic in Inner Mongolia diamond wanda plaza railway appropriate maintenance uda" have direct or indirect contact. This suggests that there may be some relevance and interactivity in these positions in the tourism industry. For Chongqing, we can see that "transportation" is directly connected to "square": this may mean that in tourism recruitment, transportation hubs or vehicles (such as bus stations, subway stations) are usually located near the square, or the square is part of the transportation distribution center. The "square" is connected to the "Three Gorges": this means that the square is a starting point or transit point to the Three Gorges region, or that the square has a tourism information center or service related to the Three Gorges."Car" is directly linked to "technology": this may indicate that the automotive industry or automotive services involve the application of technology in travel recruitment, such as the use of technology to improve car rental services, navigation systems or intelligent transportation management."Technology" is connected to

"business": This may indicate that in the travel industry, technology is closely related to business activities, such as using technology platforms for business meeting scheduling, online bookings, or electronic payments. "Business" is directly linked to "service": This may mean that business tourism is an important market that involves providing specific services for business travelers, such as business hotels, conference facilities, or professional reception services.

5.0 Development strategy of tourism education

During the observation period, the tourism education in various places has developed rapidly, but there are also some differences, which can be reflected in the significant expansion of the enrollment scale. But there are big differences in local development. The number of students in tourism colleges in Shanghai increased by 17.18%, and the number of higher tourism colleges increased by 126.67%. The number of students in tourism colleges in Beijing dropped by 52.6 percent, while the number of higher tourism colleges increased by 21.43 percent. The number of students in tourism colleges in Tianjin increased significantly by 160.75%, and the number of higher tourism colleges increased by 500.0%. Similarly, the number of students in tourism universities in Chongqing increased by 44.79 percent, and the number of higher tourism universities increased by 345.0 percent. The enrollment of tourism colleges and universities in Tianjin increased by 23.96%, with a total enrollment of 6939,534, with an average annual enrollment of 433,721. The number of tourism colleges in Jincheng dropped by 6.06 percent, with a total enrollment of 1472,339, and an average annual enrollment of 81,797. The number of tourism colleges in Zibo decreased by 10.67%, with a total enrollment of 709,829, with an average annual enrollment of 44,364. Similarly, the enrollment of tourism colleges in Fuyang also dropped by 6.76 percent, with a total enrollment of 6008,074, with an average annual enrollment of 500,673. The above qualitative statistical analysis shows that there are obvious regional differences in tourism education, which is consistent with the regional differences in tourism market recruitment.

At the same time, after in-depth analysis of the keyword data of the tourism recruitment market, we found that the high-frequency term "limited company" generally appears in the recruitment information of many regions, suggesting that private enterprises occupy the dominant position in the market. At the same time, the frequent mention of regional names not only reflects the importance of geographical location in recruitment, but also reflects the employer's preference for local talent. In addition, the high frequency of positions such as "distribution", "waiter" and "sales" in many regions indicates that these positions are in greater demand in the tourism industry. It is worth noting that the emergence of "negotiable" as the key word highlights the negotiation importance of compensation and benefits in the recruitment process. Finally, the high frequency of the keywords "hotel" and "management" in specific areas reveals the specific needs and industry characteristics of these regions in the hotel industry or tourism industry management. Therefore, for the above characteristics, we propose the following strategies to improve tourism education.

First of all, the education level should start on the optimization of professional setting and the update of teaching content. Educational institutions should pay close attention to the dynamics of the tourism industry, timely adjust the direction of majors, and ensure that the educational content is synchronized with the market demand. At the same time, we should strengthen the cultivation of students' practical ability, and provide students with more practical opportunities for operation through school-enterprise cooperation, so as to enhance their employment competitiveness.

Secondly, schools should play a more active role in talent training. Through in-depth market research, the school can more accurately grasp the pulse of the industry, optimize the curriculum system accordingly, and make it more in line with the actual needs. At the same time, build a school-enterprise cooperation platform to provide students with a bridge between internship and employment, and promote the close combination of industrial school research. Finally, for tourism major students, improving their comprehensive quality is the key. Students should take the initiative to master professional knowledge and skills, actively participate in practical activities, and pay attention to the development trend of the industry, and fully prepare for their career. Through such efforts, students will be able to better adapt to the development needs of the tourism industry and become high-quality talents needed by the industry.

6.0 Conclusions

Based on big data mining technology, 12 cities of different sizes in 58 cities were selected as research objects, and word frequency analysis and semantic network analysis were used to explore the status quo, trend, demand characteristics and industry talent structure of urban tourism recruitment. By means of text analysis method and qualitative comparative analysis, through the statistical analysis of Chinese word frequency, from which some key words with high frequency are excavated and the heat map is drawn. Secondly, the high-frequency keyword co-occurrence matrix and the semantic network graph function. We have found that the typical urban tourism market has diversified demand for jobs, more relaxed, more experiential wave of modern tourism innovation is emerging. At the same time, the demand for professionals in the tourism industry also makes the cultivation of Chinese tourism talents become an important issue. In view of the above needs of the tourism market, cultural confidence is highlighted, and innovative training of cultural tourism and economic management majors is carried out through cultural infiltration, so as to improve the training efficiency of cultural and tourism professionals. It is particularly important to explore good Chinese stories, prosper culture and civilization, improve the quality of employees to achieve the effect of professional cultural confidence, enhance the soft power of Chinese culture, cultivate high-level talents in the cultural tourism industry in a broad sense, and strengthen the safety bottom line of education opening to the outside world. And this is also in line with the original intention of professional education to cultivate people and promote people's all-round development.

Acknowledgment

This paper was supported General project of the 13th Five-Year Plan of National Education and Science(No:BIA200203) and The 2022 Social Science General Cultivation Program of Hebei University (No:2022HPY030).

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