# Balancing the Supply and Demand for Public Administration Professionals: A Big Data Analytics Approach

Xiao Dou[1], Yi Wang[1], Ruyi Zhang[2,*]

[1]Public Management Department of Shandong Agriculture University, Taian, Shandong, China
[2]Shandong College of Medical and Pharmaceutical Technology, Taian, Shandong, China
*Corresponding Author

**Abstract: Understanding social needs and optimizing professional talent training to adapt to market demands are major challenges facing universities. In fact, the rapid development of big data technology has provided new scientific paths and methods to solve the contradiction between talent supply and demand. This study focuses on Shandong Province and employs big data and text analysis methods to examine 4,757 job postings related to public administration, collected from the Zhaopin.com. The purpose is to explore the characteristics of labor market demand and propose countermeasures to resolve the disconnect between talent training and market expectations. The findings reveal significant regional disparities in job demands for public administration professionals. Most positions require associate or bachelor's degrees and 1–3 years of work experience. These jobs are primarily concentrated in managerial and entry-level roles, with job descriptions emphasizing skills in human resource management, communication and coordination, and data analysis. However, several issues persist, including discrepancies between training objectives and enterprise needs, uneven regional talent distribution, insufficient talent reserves in emerging fields, and inconsistent talent evaluation standards. This paper proposes targeted strategies from multiple dimensions, including university training systems, school–enterprise cooperation mechanisms, and policy guidance, to better align talent training with labor market demands, thereby promoting a more effective match between education supply and industry demands.**

**Keywords: Social Demand for Talent; Professional Talent Training ; Supply-Demand Balance; Text Analysis; Big Data**

## 1. Introduction

From medieval universities to the Renaissance, the focus of higher education has gradually shifted from the pure academic knowledge to addressing the practical needs of society [1]. Since industrialization, cultivating talents who can adapt to industrial development and the requirements of the times has been one of the central tasks for universities [2,3]. The Chinese government has emphasized that education is a fundamental strategy for the nation, and colleges and universities bear the important responsibility of "training talents for whom, who trains talents, what kind of talents to train, and how to train them" [4]. Thus, understanding the general trend in social needs and optimizing professional talent training to meet the social needs has become a pressing challenge for universities.

Research on social demand for professional talent has always been a hot topic in the academic community, covering the current situation and characteristics of talent demand [5,6], education and training systems and models [7,8], training paths and countermeasures [9,10], influencing factors, and the degree of alignment between education and employment [11]. This study covered almost every popular university subject, including economics, sociology, medicine, management, and linguistics [12-16]. In recent years, with the continuous application of big data technology, using web scrawlers and text analysis to examine professional talent demand has become an emerging trend [17-20]. The research on public administration talent demand primarily explores issues and countermeasures in talent training and training models. Key problems existing in the current education system are the mismatch between training objectives and social needs, unscientific curriculum design, weak practical teaching, and underdeveloped mechanisms for integrating education and industry [21,22]. In this regard, scholars suggest improving differentiated training models, standardizing professional construction through "university-government cooperation," identifying the direction of public administration talent demand, and enhancing students' innovative practical abilities [23]. For example, some scholars proposed diversified and

interdisciplinary training models based on a comprehensive analysis of the current situation in public administration education [24,25]. At the same time, other researchers constructed graduate training systems and interdisciplinary models that combine public administration and corporate management from the perspective of social needs [26,27].
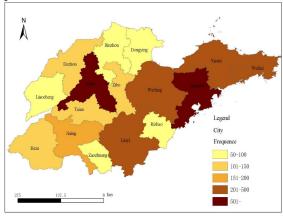
In recent years, big data technology has provided comprehensive data support for public administration talent demand analysis [28], which transforms abstract labor market demands into quantifiable, traceable, and predictable structured information, facilitates a shift of talent training from "supply-driven" to "demand-responsive", and ultimately optimizes the allocation of human resource in public administration. Using the recruitment information from the Zhaopin.com, as well as the big data and text analysis methods, this paper clarifies the characteristics of employers' demand for public administration talents from the perspective of employers' recruitment needs. In response to the mismatch between talent training supply and market needs, the study proposes targeted strategies to address the information asymmetry between education providers and the labor market, promote more precise connection between the education supply and the industry demand, and provide date support for colleges and universities to develop public administration training models that are more responsive to market needs.

## 2. Profile of Social Demands for Public Administration Talents

With the rapid development of information technology, online recruitment has become the preferred method for both employers and job seekers in the labor market due to its efficiency, convenience, and intelligence, significantly enhancing the efficiency of talent allocation. Submitting resumes through online recruitment platforms such as Zhaopin.com, 51job, 58.com, and BOSS Direct has become the primary approach for graduates to find jobs. These platforms act as a "real-time mirror" of talent demand, offering unprecedented opportunities to accurately capture market dynamics. This study focuses on Shandong Province and utilizes the "Octopus" web scrawler software to collect recruitment information related to public administration from the Zhaopin.com. Based on the retrieved data, a database of public administration talent demand was constructed. The data collection covered job postings through March 2025, for a total of 4,757 job positions.

### 2.1 Regional Distribution of Job Positions

Using GIS spatial analysis, the spatial distribution of public administration talent demand in various cities in Shandong Province in 2025 (Figure 1) reveals significant regional disparities. Jinan, as the provincial political center, and Qingdao, a strong coastal economic city, exhibit significantly higher demand for public administration professionals compared to other regions due to their advanced economic development. Cities such as Yantai, Weifang, Linyi, and Weihai belong to the second tier of demand. These cities, characterized by lower administrative levels and more limited resource allocation and coordination capabilities, have comparatively weaker influence and participation in provincial or national policy pilots and major public projects. Therefore, the scale and level of talent demand in public administration are at a moderate level. Dezhou, Zibo, Tai'an, and Heze form the third tier, where slower economic development and insufficient public resource investment contribute to lower demand and a reduced degree of specialization in public administration positions. Dongying, Rizhao, and Zaozhuang rank in the lowest tier. These cities not only lag economically but are also dominated by traditional industries, with insufficient talent supply and the weakest demand for public administration professionals.



**Figure 1. Spatial Distribution of Demand for Public Administration Professionals**

### 2.2 Educational Background and Work Experience Requirements for Public Administration Professionals

Public administration is an interdisciplinary field that aims to cultivate compound talents with public management theory, methodology, and technical skills, who could take on various administrative positions in the public sector. Consequently, public administration usually has specific requirements for applicants' educational background and work experience. In fact, the social demand for public

administration professionals shows a wide educational spectrum, from junior high school to doctoral degree. 46.9% of the postings require college degree, and 39.3% require a bachelor's degree (Figure 2), which together accounts for 86.2% of the total positions. In practice, the "college+undergraduate" academic level is sufficient to meet the basic requirements of theoretical knowledge and practical skills, and also aligns with the entry threshold for most corporate administrative positions. Therefore, these two academic levels constitute the dominant qualification for current recruitment.

Employers prefer candidates who possess practical capabilities and can quickly adapt to the workplace, 37.09% of job postings ask for 1–3 years of relevant experience. This approach helps reduce training costs and enables organizations to handle complex public affairs more efficiently. Additionally, this approach leaves room for new entrants while prioritizing candidates with short-term experience who can contribute immediately. Another 26.61% of job postings require 3–5 years of experience, typically for positions involving team management, policy development, or project coordination. Candidates with this experience are expected to independently manage projects or departments. Meanwhile, 19.68% of positions do not require any work experience. Most of these positions are basic administrative or policy-related jobs, which focus more on fundamental capabilities and development potential, and are generally more accessible to fresh graduates.

## 2.3 Job Demand for Public Administration Professionals

The Micro Word Cloud platform was used to conduct text analysis on the extracted "job requirements" content, and a high-frequency word cloud was generated by screening the top 100 most frequent job title terms appearing in recruitment information. The results show that the top 100 job titles account for 83.26% of all word frequency data, effectively covering most of the potential jobs for public administration graduates. These positions primarily include: manager, supervisor, specialist, administrator, HR officer, coordinator, HR manager, administrative supervisor, and HR and administration roles (Figure 2). Notably, job titles containing "manager" and "supervisor" appear more than 1,000 times, collectively accounting for over 21% of all top 100 job title terms, making them the most significant employment targets for graduates in this field.

Considering the characteristics of public administration, roles such as specialist, administrator,

HR officer, coordinator, warehouse manager, HR and administrative assistant, and clerical staff all appear more than 200 times in the dataset, accounting for 44.5% of the top 100 postings. Unlike managerial roles, these entry-level positions often serve as starting points of a career, emphasizing core competencies such as organizational coordination, administrative handling, and human resource management. These requirements are closely aligned with the competencies developed in public administration programs, and are highly sought after by students majoring in this field due to their high demand and broad applicability across industries.

In addition, job titles such as procurement officer, recruiter, HR supervisor, administrative supervisor, operations manager, project manager, and sales representative are also among the top 100, accounting for approximately 34.5% of the total. On the one hand, this reflects the increasing emphasis employers place on practical skills in effort to shorten the adaptation period for new hires. On the other hand, it suggests that improvements in hands-on and practical training within universities are starting to bear fruit. Sales and operations roles also indicate that public administration education is gradually shifting towards market-oriented and interdisciplinary talent development to meet the increasing diverse management needs of modern organizations.



**Figure 2. Word Cloud of Top 100 High-Frequency Terms in Job Postings**

## 2.4 Job Responsibilities for Public Administration Professionals

Based on recruitment information, an analysis of job responsibility-related terms that appear more than 100 time was conducted. It reveals that public administration graduates are expected to undertake core responsibilities such as managing human resources, optimizing administrative operation systems, coordinating interdepartmental administrative affairs, allocating and managing enterprise resources, and possessing a solid understanding of laws, regulations, and institutional rules (Figure 3). Among them, "human resources"

appeared with the highest frequency of 2,664 times. The main reason is that HR-related functions (e.g., recruitment, training, compensation, performance evaluation) are fundamental across enterprises of all sizes, making such roles highly prevalent. Additionally, public administration programs are closely aligned with the HR modules of business management, making graduates a natural fit for human resource positions. This also reflects that there is a gap between the training directions of college and university and actual enterprise needs, and that the public administration education system is out of touch with market requirements.

Other high-frequency responsibility terms, such as "administrative management," "resource management," and "management tasks", all appeared more than 900 times. Optimizing internal administrative systems, coordinate departmental operations, and manage enterprise resources effectively are the core demands of recruiting companies for public administration graduates. They are thus expected to handle multidimensional management roles, acting as key personnel in day-to-day organizational operations—demonstrating an all-around, "end-to-end management" capability.

Furthermore, job responsibility terms that appeared more than 100 times indicate that core skills and competencies for public administration graduates include: strong communication and coordination skills, proficiency in data analysis, strong organizational and managerial skills, high learning ability and clear expression skills, effective problem-solving and adaptability and strong sense of responsibility and team collaboration. Notably, "communication skills" appeared 951 times, underscoring its role as a critical requirement. From co-occurrence and correlation analysis, communication skills frequently appear alongside organizational coordination, learning ability, service awareness, adaptability, and teamwork. This reflects that public administration roles are inherently people-oriented, relying on soft skills to guide processes such as resource allocation and workflow optimization, rather than relying soley on technical or academic knowledge.

Other high-frequency skill terms with over 300 occurrences include "data analysis," "organizational coordination," "learning ability," and "presentation skills", indicating that employers are shifting from traditional management expectations to a demand for hybrid skill sets and dynamic adaptability. Specifically, the term "data analysis" appeared 402 times, ranking second among all skills, showing that relevant companies expect graduates to utilize data to identify administrative inefficiencies, predict compliance risks, and optimize resource allocation, combing qualitative and quantitative approaches to enhance performance. Furthermore, the rising demand for "organizational coordination" and "learning ability" reflects an expansion of management roles into full-process planning and oversight. In addition to basic communication, employers require graduates to deliver information effectively through written reports or visual tools such as PPTs and Excel charts, elevating "presentation skills" as a key employability indicator. In addition, terms like "problem-solving," "responsibility," "adaptability," and "team spirit", which all appeared more than 100 times, highlight the risk management nature of these roles. The ability to handle unpredictable challenges and internal issues is essential, while individual accountability and cooperation help enhance organizational efficiency and cohesion.



**Figure 3. Word Cloud of Top 100 High-Frequency Terms in Job Responsibilities**

## 2.5 Salary and Employee Benefits for Public Administration Graduates

The average salary for public administration positions typically ranges between 3,000 and 10,000 CNY, which is at a medium-low level in China's current job market. Among them, positions offering 6,000–10,000 CNY account for 47.49% of all recruitment postings, followed by postings with a salary of 3,000–6,000 CNY, accounting for 41.45%. This wage distribution reflects the sector's unique "stability premium", which trades short-term income for long-term career security, making such positions relatively attractive to recent graduates.

The basic employee benefits provided by enterprises to public administration graduates primarily include: basic salary, five insurances and one fund, performance bonuses, statutory holidays, paid vacations and sick leave, etc. (Figure 4) Some enterprises also offer supplementary benefits, such as commercial insurance, health checkups, and transportation and catering subsidies. These

additional provisions further enhance employee welfare and reduce their financial burden. Moreover, many companies provide graduates with various training opportunities, such as induction training, professional skill development and managerial competency training, for graduates. In order to enrich employees' personal lives and enhance team cohesion, companies may also offer holiday gifts and organize team-building activities regularly. These initiatives not only enhance employees' sense of belonging and identification with the organization, but also contribute to a positive working environment, thereby significantly increasing the attractiveness of these postings to new graduates.

## 3. Mismatches between Talent Cultivation and Market Demand & Policy Recommendations

### 3.1 Mismatches between Training Objectives and Enterprise Needs

3.1.1 Misalignment between Educational Objectives and Enterprise Demand Orientation

The current talent training in public administration major primarily focuses on cultivating students' capabilities in policy analysis, administrative management, and public service, etc. required by government agencies and institutions. Accordingly, the curriculum is largely designed around theoretical frameworks such as public affairs, social governance, and policy and legal systems. In contrast, enterprises are more concerned about applicants' practical abilities in human resource management, data analysis, learning capacity, and communication skills, etc. As a result, there exists a disconnect between graduates' knowledge structure and the practical needs of enterprises, hindering their ability to quickly adapt to actual work requirements.



**Figure 4. Word Cloud of Top 100 High-Frequency Terms in Employee Benefits**

In terms of practical competence, although universities have emphasized the importance of internships, case analysis, and simulation-based training, limitations such as the number of corporate partners, internship bases, and the duration of internships restrict students' exposure to real business environments. Lack of hands-on experience, particularly in cross-department collaboration, end-to-end project management, and crisis response, results in graduates falling short of the "plug-and-play" standards that employers expect.

3.1.2 Mismatch between Regional Talent Distribution and Geographic Labor Demand

The training of public administration talents in Shandong Province is mainly concentrated in cities with rich higher education resources like Jinan and Qingdao, Graduates are also more inclined to work in these provincial capitals and economically developed areas. However, the demand for public administration professionals in inland undeveloped cities, counties, and township enterprises is also strong, and these regions face significant challenges in attracting and retaining talents. Moreover, small and medium-sized social service organizations and emerging digital governance enterprises struggle to attract graduates due to their limited scale and weaker salary competitiveness, further exacerbating the talent shortage at the grassroots and in emerging sectors.

3.1.3 Imbalance between Talent Reserves in Emerging Fields and the Demands of Industrial Upgrading

With the rapid development of digital governance, smart administration, ecological management, and rural revitalization, companies have seen a surge in demand for talents with a hybrid background in public administration, digital skills, and industry-specific knowledge. However, data on the job market demand for public administration graduates shows that high-frequency keywords such as "manager," "supervisor," "specialist," "HR and administration," and "human resources" are concentrated in traditional management postings. In contrast, terms related to "digital management" and "strategic planning" appear far less frequently. This indicates that many enterprises in Shandong Province still perceive public administration professionals primarily as operators and have yet to fully explore their potential value in policy interpretation, organizational transformation, and risk management at the strategic level. Therefore, public administration graduates should not only consolidate their capabilities in traditional management, but also proactively embrace trends in digital transformation and strategic management, to expand their career development opportunities and adapt to the evolving demands of modern industries.

3.1.4 Misalignment between Talent Evaluation Standards and Enterprise Employment Criteria

Colleges and universities primarily evaluate students based on academic achievements and theoretical

examination scores, while enterprises pay more attention on practical job performance, problem-solving ability, communication skills, teamwork spirit, and stress resilience, etc. Some graduates may perform well in exams and academic assessments but struggle when faced with the complex real-world corporate tasks. They may demonstrate limited perspectives in problem analysis, a lack of innovation, and ineffective communication and coordination. This disparity in evaluation standards between higher education institutions and employers leads to a cognitive mismatch in talent assessment, thereby reducing the efficiency of job-market alignment and hindering effective talent placement.

### 3.2 Policy and Suggestions

To address the imbalance between the supply of public administration graduates and the talent demand of enterprises in Shandong Province, collaborative efforts among universities, enterprises, and government are essential. Coordinated efforts, such as demand-oriented curriculum reform, practice-driven university and enterprise cooperation, Policy incentives to facilitate talent mobility and Enterprise recruitment practices that value potential, should be made to build a public administration talent training ecosystem that integrates industry and education and matches supply and demand. This paper puts forward concrete measures from multiple dimensions, including higher education training systems, university–enterprise collaboration mechanisms, and policy-level guidance, to promote a more adaptive and dynamic model for public administration talent development.

3.2.1 Optimizing University Training Systems: Align with Enterprise Needs and Strengthen Practical and Interdisciplinary Skills

Continuously adjust the curriculum structure by incorporating practical elements from enterprises. Introduce interdisciplinary courses such as Nonprofit Organization Management and Applications of Digital Governance Tools. Integrate real-world cases like grassroots social service project planning and smart community platform development into scenario-based teaching, cultivating students' ability to translate public policy into enterprise service solutions. Reduce hours for certain theoretical courses and introduce "Industry Frontier Workshops," inviting business executives and industry experts to deliver lectures on topics such as industrial operations in rural revitalization and the evolution of digital governance technologies. Simultaneously, update the knowledge system. Offer minors or micro-courses in digital technologies and economics, and encourage students to take electives like Data Analysis and Fundamentals of Big Data to meet the demands of emerging industries.

Enhance practice-oriented education by building a "dual-track model" that combines on-campus training with enterprise-based practice. Establish on-campus facilities such as a Digital Governance Lab and Public Service Simulation Platform, using role-play and data modeling to enhance students' hands-on abilities. Co-establish "targeted internship bases" with enterprises, requiring students to complete 3–6 months of full-cycle internships before graduation, with internship performance included in graduation assessments.

Encourage students to participate in innovation and entrepreneurship competitions like "Internet+" and "Challenge Cup," designing projects around actual enterprise needs to foster innovation and practical implementation skills. Conduct regular surveys on enterprise satisfaction with graduates and incorporate feedback into training program revisions to form a feedback loop between talent development and market needs.

3.2.2 Deepening University–Enterprise Cooperation: Establish Long-Term Coordination Mechanisms to Align Talent Supply with Demand

Track labor market dynamics in real time and implement "order-based" training to precisely match job demands. Universities should sign talent training agreements with leading enterprises and jointly develop training programs based on job descriptions to deliver graduates with specific skills. Set up "corporate scholarships" to support students in targeted training tracks with tuition subsidies or guaranteed internships and job offers, enhancing training relevance.

Establish platforms for industry-academia-research collaboration to promote knowledge transfer and talent sharing. Apply for government-funded projects jointly with enterprises, allowing students to participate in field research and data analysis to strengthen problem-solving abilities through real-world experience.

Promote corporate mentorship on campus by implementing a "dual-mentor system," where students' theses or capstone projects are co-supervised by university faculty and enterprise mentors, focusing on actual business challenges with results applicable to enterprise operations. Organize regular forums with HR managers and frontline staff to help students refine their learning priorities and job expectations in advance.

3.2.3 Proactive Enterprise Involvement: Participate in Talent Training and Optimize Hiring Mechanisms

Enterprises should open more internship and training opportunities to build talent pipelines. Create "management trainee" roles that offer job rotation internships for students, and implement a "internship–evaluation–retention" model to identify and secure suitable talent early, reducing onboarding friction.

Design "professional skill enhancement programs" for new hires to bridge the gap between university education and workplace requirements. De-emphasize rigid requirements for major alignment, and instead prioritize candidates' learning potential, interdisciplinary knowledge base, and public service mindset—thereby offering greater opportunities to versatile talents.

### 3.2.4 Policy and Market Guidance: Improve Talent Mobility and Incentivize Supply–Demand Matching

Introduce regional talent subsidy policies to encourage talent flow to grassroots and emerging sectors. Offer benefits such as household registration score boosts, housing subsidies, and graduate school exam advantages to graduates working in county or township enterprises, helping to correct regional imbalances in talent distribution. Establish special funds for talent in emerging fields to provide vocational training subsidies to graduates entering industries such as digital governance and environmental protection, and encourage enterprises to hire multi-skilled candidates.

Create platforms to connect universities and employers and reduce matching costs. Education departments, in coordination with human resource departments and industry associations, should organize Public Administration Talent Recruitment Fairs, targeting employers in government outsourcing, social services, and smart city development to improve recruiting precision. Develop a Big Data Platform for Public Administration Talent Supply and Demand, which publishes real-time job openings and graduate capability profiles, using algorithmic matching to facilitate two-way selection.

## 4. Conclusions and Discussion

With the deepening development of the digital era, the field of public administration is undergoing profound transformations. Emerging areas such as digital governance and emergency management are continuously evolving, leading to a new landscape in the demand for specialized professionals. At the same time, the mismatch between the talent cultivation models of universities and the needs of the job market in public administration is becoming increasingly prominent. This study explored the supply-demand balance of public administration professionals in the context of digital governance, using big data analysis to identify key discrepancies between university training and labor market needs. By integrating multi-source data and applying semantic analysis techniques, we found that current public administration programs fall short in preparing students with practical skills, particularly in data analysis, digital technology application, innovation and communication, as well as interdisciplinary knowledge integration.

The results suggest that higher education institutions should reevaluate their curricula and pedagogical approaches to better align with the evolving requirements of public sector employers. Specifically, embedding digital literacy, policy analytics, and cross-disciplinary training into core public administration education is essential. Moreover, closer collaboration between academia, government, and industry can help establish more responsive and adaptive talent development mechanisms. Future research may expand the data sources to include employer interviews and longitudinal tracking of graduates' career paths, providing a more comprehensive understanding of the dynamics between education and employment in public administration.

## References

[1] Newman, J. H. (1854). The Idea of a University. Introduction and notes by Martin J. Svaglic.

[2] Brubacher, J. S. (2002). Philosophy of Higher Education. Trans. by Wang Chengxu, et al. Hangzhou: Zhejiang Education Press.

[3] Chao, C. A., & Shih, S. C. (2005). Organizational and end-user information systems job market: An analysis of job types and skill requirements. Information Technology, Learning, and Performance Journal, 23, 1–15.

[4] Wang, Z. N. (2024). Education as a National Priority: On Education and Related Majors. College Admissions (Gaokao Guidance), (10), 54–56.

[5] Lee, S. M., & Lee, C. K. (2006). IT managers' requisite skills. Communications of the ACM, 49(4), 111–114.

[6] Li, S., Zhang, D., Zhang, W., et al. (2025). Talent demand analysis of logistics majors based on complex networks. Logistics Science and Technology, 48(01), 52–54.

[7] Zeng, T., Du, J., & Li, F. (2025). Research on constructing a talent training model for new energy vehicle technology based on industrial demand. Automotive Test Report, (01), 142–144.

[8] Cheng, F., Gu, Z., Tang, Q., et al. (2024). Exploration of a talent training system for digital economy innovation and entrepreneurship based on market demand. Investment and Entrepreneurship, 35(18), 22–24.

[9] Sun, X. (2024). Talent demand analysis and training strategy for Chinese and Western pastry technology majors in vocational colleges. China Food, (18), 40–42.

[10] Guo, J. (2024). Exploration of optimized talent training model for automotive testing and maintenance technology based on industry demand. Teachers' Journal, (23), 108–110.

[11] Liu, Y., Ge, Y., Chen, X., et al. (2024). Analysis of demand and influencing factors for midwifery professionals in Guangxi hospitals. Health Vocational Education, 42(01), 117–120. https://doi.org/10.20037/j.issn.1671-1246.2024.01.35

[12] Deng, C., & Zhang, T. (2025). Research on talent market demand for big data technology majors. Fujian Computer, 41(04), 52–55. https://doi.org/10.16707/j.cnki.fjpc.2025.04.010

[13] Liang, X. (2025). Exploration of reform ideas for talent training in modern agricultural economic management based on industrial demand. Journal of Yangling Vocational and Technical College, 24(01), 67–71. https://doi.org/10.19859/j.cnki.cn61-1403/G4.2025.01.017

[14] Wang, Q., Zou, Y., Liu, B., et al. (2024). Training path for engineering management talents to meet enterprise demand in the AI era. Shanxi Architecture, 50(24), 196–198. https://doi.org/10.13719/j.cnki.1009-6825.2024.24.048

[15] Zhang, Y. (2024). Research on talent training strategies for e-commerce majors based on demand. Occupation, (24), 49–51.

[16] Wang, Y., Wang, G., & Zheng, L. (2014). Investigation and enlightenment on demand and training model of business English talents. Foreign Language World, (02), 34–41.

[17] Sodhi, M. S., & Son, B.-G. (2010). Content analysis of OR job advertisements to infer required skills. Journal of the Operational Research Society, 61(9), 1315–1327.

[18] Lin, Z., Liang, S., & Wang, X. (2025). Analysis of talent demand in economic statistics based on web scraping. China Management Informatization, 28(02), 157–159.

[19] Yan, A., Jiang, H., Chen, K., et al. (2022). Demand analysis and training strategies for audit professionals under the new liberal arts background based on text mining. Journal of Xinyu University, 27(02), 118–124.

[20] Tong, F., & Xu, J. (2024). Analysis of professional post and skill demand based on text mining—A case study of accounting majors. Business Accounting, (09), 126–129.

[21] Wang, X., & Lü, H. (2019). Problems and solutions in the training of public administration professionals. International Public Relations, (04), 130. https://doi.org/10.16645/j.cnki.cn11-5281/c.2019.04.100

[22] Sun, Y., & Yang, X. (2014). Issues and countermeasures in the training of public administration professionals from the perspective of social demand. Contemporary Continuing Education, 32(06), 82–86.

[23] Gao, Y. (2019). Problems and solutions in the training of public administration talents. Talent Resource Development, (02), 46–47. https://doi.org/10.19424/j.cnki.41-1372/d.2019.02.024

[24] Wang, J. (2020). Discussion on the construction of diversified talent training model for public administration majors. Business Information, (08), 189–190.

[25] Huang, W., & Wang, J. (2017). Interdisciplinary and application-oriented talent training model in public administration majors—A case study of Wuhan Institute of Technology. Theory Study, (01), 182–184.

[26] Zou, Q., Su, Y., & Niu, Y. (2019). Research on postgraduate training model of Master of Public Administration (MPA) based on social demand. Journal of Zhejiang University of Technology (Social Science Edition), 18(04), 452–456.

[27] Fu, C. (2019). Innovation of enterprise administrative management talent training model from the supply-side perspective. Journal of Guangzhou Radio and TV University, 19(03), 53–58+110.

[28] Wang, Y., Dou, X., & Wang, Y. (2024). Analysis of social demand for public administration talents in the era of big data. Employment and Security, (12), 184–186.