Creation and Investigation of a Big Data Technology-Driven Auxiliary Employment Platform for Public Utilities Management

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Abstract

With the development of society and the advancement of science and technology, the current employment problem has gradually become hotter. At the same time, the number of college graduates has shown rapid growth. However, due to the development of science and technology in our country, the demand for labor has declined, and various factors have caused college students to find themselves in a difficult situation.The purpose of this article is to conduct research on the design of a public utility management assisted employment platform based on big data technology. Based on the analysis of the employment history and current situation of college students in New China, this paper analyzes the employment dilemma of college students from the perspective of "New Public Management", applies the concept of new public management to the public service platform of college student employment, and proposes that college students should be further improved. The degree of marketization of employment, the construction of a diversified employment service platform for college students, etc.Further clarify the focus of solving the employment problem of college students. Due to the theoretical and practical deficiencies of the new public management itself, the employment platform for college students derived from the perspective of the new public management has deficiencies. The experimental research results show that the effectiveness of the auxiliary employment platform for public utilities management is better is the auxiliary employment platform C for public utilities management, with an effectiveness of 75.83%. In general, the effective average of the auxiliary employment platform for public utilities management is 70. It can be seen that the actual use of these auxiliary employment platforms is not large, and at the same time, it also shows that there is a lot of room for.

Keywords: Big Data, Public Utilities, Management, Employment platforms

1. Introduction

With the development of society and the advancement of science and technology, the current employment problem has gradually become more heated [1-2]. At the same time, the number of college graduates has shown a rapid growth trend [3-4]. However, due to the development of science and technology in our country, labor demand has declined, and various factors have caused college students to find themselves in trouble [5-6]. College students are a relatively special group. The employment of college students is related to the stability of the society, the income of the majority of families' investment in education, the quality of higher education, and the reasonable mobility of all social classes [7-8]. Solving the employment problem of college students is an urgent need for economic development, political stability and social prosperity [9-10].

Many scholars at home and abroad have conducted research on the employment prospects of public service management under the background of big data, and have achieved good results. Berman proposed that employment competitiveness is not a specific work ability, but a horizontal aspect. Competence related to all industries and vertically related to all positions [11]. Borysenko believes that employment competitiveness is a manifestation of comprehensive ability and comprehensive quality, including integrity, responsibility, practical ability, expression ability, etc.[12].

Based on the analysis of the employment history and current situation of college students in New China, this paper analyzes the employment dilemma of college students from the perspective of "New Public Management", applies the concept of new public management to the public service platform of college student employment, and proposes that college students should be further improved. The degree of marketization of employment, the construction of a diversified employment service platform for college students, etc. Further clarify the focus of solving the employment problem of college students. Due to the theoretical and practical deficiencies of the new public management itself, the employment platform for college students derived from the perspective of the new public management has deficiencies.

2. Research on the Design of Auxiliary Employment Platform for Public Utilities Management Based on Big Data Technology

2.1. Current Problems with Employment Platforms

2.1.1. The degree of professional recognition of public administration college students is low

Compared with other management college students, subject comprehension has a great influence on the employment competitiveness and final employment situation of public administration college students. The higher the subject comprehension, the more willing public administration college students are to pursue employment that is closely related to the profession. The higher the competitiveness, the more competitive advantage it will have in employment competition. Employers also attach great importance to the subject understanding and professionalism of public management college students. The subject understanding of public management college students has become an important criterion for the selection and employment of different types of employers, and it has also become an important indicator for evaluating the training system of colleges and universities. However, relative to its importance, although the level of academic comprehension of public administration college students is at an intermediate level, public administration college students have the lowest recognition of their own professions. This phenomenon is extremely abnormal for more professional college students. This has a certain relationship with the public administration college students' understanding of their majors and their exploration of market demand and professional connections [13-15]. However, the low recognition of this major is also a feedback to the market employment situation, which is more related to the public management training system of colleges and universities. There is an important relationship. The public management training system of colleges and universities does not reflect its professional characteristics, professional extension, professional focus, professional skills, etc. The construction of the training system is out of touch with the market, lacks interaction with the market, does not reflect market demand, and does not convey its expertise to the market and gain market recognition, and this will also be a process of continuous improvement.

2.1.2. The self-planning level of public management college students is low

Career planning ability is an important aspect of employment competitiveness [16-18]. However, in the survey, it is found that the public management college students have certain cognition and planning of self and employment, but they are still at a low level, far less than the business administration college students and engineering management college students. As many as 11.03% of public administration undergraduates have no plans for their employment direction and professional relationship. Compared with undergraduates, the professional degree of master students is an important advantage of their employment competition, but the professional recognition and planning level of public administration undergraduates is low. Basically did not take advantage of this professional advantage. In comparison with other management majors, it is found that the advantages of public administration college students' employment competitiveness are their personal qualities and their ability to influence others. However, public administration college students have not exerted their superior abilities, or have not discovered their superior abilities. Among them, some public administration college students have deviations in their understanding of self-ability and employment situation. Compared with other management majors, public administration college students have the greatest employment pressure, and the initial employment rate in previous years is also the lowest. However, in terms

of their expected employment direction, public administration college students are obviously concentrated in government agencies and institutions with low demand and high competition pressure. The employment direction of the company is relatively indifferent to other employment units. This kind of narrow employment direction and lack of professional advantages and ability advantages ultimately result in a low level of self-planning or self-planning based on misconceptions.

2.1.3. The practical ability of public management college students needs to be improved

This is the common urgent requirement of management students and also the requirement of employers for university students. Practical ability is also the ability to transform knowledge and theory, and the ability to apply the learned theoretical knowledge to practice is also an ability that employers pay more attention to. The so-called practice leads to true knowledge. Only through practice can we continue to scrutinize theories, and only through practice can we continuously study and improve our ability and quality. The skill dimension of employment competitiveness is not only the ability level after transformation, but also the manifestation of comprehensive skills. In the skill dimension, different majors do not show significant differences [20]. Combined with the requirements of management majors, public management students are the pursuit of high skills can be found in the existing education system that still emphasizes theoretical study and research, and still neglects the cultivation of the hands-on and practical abilities of college students. The lack of practical ability is not only the weakness of public management college students, but also a common problem that exists in management major universities.

2.2. Design Reason

2.2.1. Oversupply of college students

From a demand perspective, the labor market as a whole has insufficient demand in recent years. Through the foregoing discussion, it can be seen that although my country's economy has maintained rapid growth in recent years, the rapid economic development has not brought about a corresponding increase in employment. In this situation, the overall labor demand in society is insufficient, and the rapid growth of the supply of college students in our country and the lack of demand have combined to cause an oversupply situation. The phenomenon of oversupply can be confirmed by the continuous decline in employment rate and the continuous decline in the starting salary of graduates. From the perspective of the quality of employment of college students, in addition to the continuous decline in income, we also see that the proportion of major labor market positions held by college graduates is also declining. The proportion of professional and technical jobs is also declining. In fact, even in the case of oversupply according to the classical labor employment theory, full employment can be achieved through the downward adjustment of labor prices, but at the same time, the continuous downward adjustment of labor prices will result in more voluntary unemployed. And if the oversupply of labor is more serious, the situation of voluntary unemployment will also be more serious. Therefore, under the situation of oversupply, the employment rate will fall or the unemployment rate will rise.

2.2.2. The management system of higher education is backward

At present, our country's higher education model mainly follows the education model under the planned economy system. Although there have been reforms, the speed of reform is much lower than the speed of China's market economy development [21]. The professional settings and training goals of colleges and universities have shown strong plans. Sexuality, lack of market research, difficult to match with social needs. Due to the lack of research on the employment market of college students, colleges and universities cannot predict the employment situation of college students more accurately.

2.2.3. My country's industrial structure adjustment is not in place

Over the past 30 years of reform and opening up, my country's economy has developed rapidly, but the employment situation is not optimistic. The specific manifestation is that social investment continues to increase, the growth-oriented economy continues to grow, and the economic growth rate remains at a certain high level, but social employment The total increase is smaller than the economic growth and the employment elasticity declines. College students have the characteristics of high human capital quality and innovation ability, and are suitable for engaging in

modern service industries or private enterprises to optimize their own human capital. However, the slow development of my country's tertiary industry and the fact that state-owned capital squeezes out private capital also cause college students' employment.

2.3. Design Requirements for Employment Platforms

2.3.1. Improve The Talent Training System in Response To Market Demand

As a talent training unit, colleges and universities have an important influence on the employment competitiveness of public management college students. The most direct manifestation is that the earlier the development of public management colleges and universities, the higher the employment competitiveness of public management masters, and the understanding of the disciplines of public management college students. Competence and professional recognition play an important role. Compared with other management majors, the development of public management started the latest, the public management training system has yet to be improved, and the market's awareness and recognition of public management is still relatively low. Therefore, the School of Public Management can learn from universities with a more mature public management training system, and even learn from the training system of foreign public management college students, to fully tap the potential of public management college students and increase the total human capital of public management college students. At the same time, it maintains continuous interaction with the market, analyzes market demand and job market, trains public management college students who adapt to market development, and solves the phenomenon that college students cannot find jobs and employers cannot recruit suitable talents. At the same time, the public management education training system should pay more attention to skills and practical ability. In the employment competitiveness enhancement system, colleges and universities can use and develop social resources, understand the needs of various employers, and invite experts to analyze professional development prospects; at the same time, they can provide job hunting and career guidance to public administration college students. At the same time, in the process of resource interaction, colleges and universities and public administration college students can convey their professional expertise and professional advantages to government agencies, institutions and other public management departments directly related to them, so that their professional qualities and abilities can be recognized and affirmed. Thereby enhancing the competitiveness of public administration college students in employment.

2.3.2. Know Yourself Correctly and Improve The Level of Employment Planning

Good career planning is also based on a correct understanding of oneself, giving full play to personal strengths, rationally planning the employment direction, and at the same time looking for the lack of employment competitiveness in combination with one's career goals and making targeted improvements [22]. Career planning is to link personal human capital with social needs. Therefore, it is also very important to always pay attention to market needs. On the basis of a correct understanding of themselves, public administration college students should also pay attention to the job market, expand the employment direction and employment channels, and increase their attention to different types of units, especially private enterprises, to understand the information and requirements of the job. Determine the nature of the employment unit, employment goals, etc., and then carry out targeted training. In this process, public management college students should increase or re-examine the public management major, strive to establish a close relationship between professional and employment, and improve employment competitiveness. Universities and employment guidance departments should also provide information resources and technical support for public administration college students, and regularly release relevant employment demand information, job information, etc., to guide public administration college students.

2.3.3. Strengthen Social Practice Exercises

Strengthening social practice is the common requirement of management college students and the most intuitive feedback to their needs in the job market. Therefore, in practice, junior public administration college students can ask senior or experienced personnel for advice and learning, so as to quickly improve their employment competitiveness. At the same time, government agencies, social units, and enterprises should take a tolerant attitude towards public administration college students who have no practical experience and participate in the training process of public

administration college students. In college studies, the connection with the market and employment units can broaden the horizons of public administration college students, and also in social learning and practical learning, improve their comprehensive ability and quality, and at the same time provide a way for them to transform from school students to social people.

2.4. Big Data Algorithm

Maximum likelihood estimation is the most commonly used method for estimating unknown parameters in a model in statistics, and it has been widely used in various application fields of statistics. Let $X1, \cdots, Xn$ be a simple random sample with independent and identical distribution from the distribution function $F(x)$, and its density function is $f(x,\theta)$. Except for the parameter θ, f is a known function. Therefore, the likelihood function under the known conditions of observation sample A is:

The log likelihood function is:
$$L(x_1, ..., x_n, \theta) = \prod_{i=1}^{n} f(x_i, \theta) \tag{1}$$

$$l(x_1, ..., x_n, \theta) = \sum_{i=1}^{n} \log \log f(x_i, \theta) \tag{2}$$

The meaning of maximum likelihood estimation is the parameter value when the observation sample is most likely to appear. In other words, the maximum likelihood estimate is:

$$\theta MLE = argmax l(x_1, \cdots, x_n, \theta) \tag{3}$$

3. Experimental Research on the Design of Auxiliary Employment Platform for Public Utilities Management Based on Big Data Technology

3.1. Experimental Subjects and Methods

In this experiment, students majoring in public utility management and public utility management assisted employment platforms are used as the research objects. The employment situation of students is analyzed through the method of questionnaire survey, and then the employed and unemployed students are studied. The factors affecting employment are analyzed and discussed. On this basis, the effectiveness of other public utility management auxiliary employment platforms is also studied.

3.2. Data Collection

The survey team assigns tasks, makes questionnaires, distributes, collects, organizes and counts the questionnaires, and obtains survey data.

4. Experimental Research and Analysis of the Design of Auxiliary Employment Platform for Public Utilities Management Based on Big Data Technology

4.1. Analysis of Other Factors Affecting Employment Rate

This experiment conducted experimental research on students majoring in public service management to analyze the main factors that affect the employment rate of students. The experimental results are shown in Table 1:

Table 1. Analysis of factors affecting employment rate

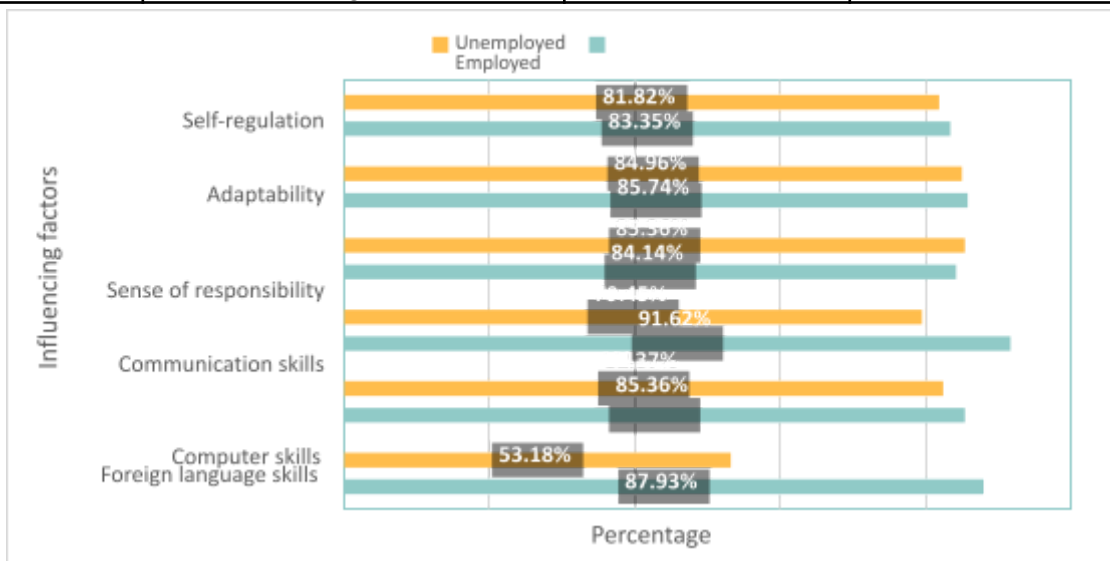|		Employed	Unemployed
Skill	Foreign language skills	87.93%	53.18%
	Computer skills	85.36%	82.37%
	Communication skills	91.62%	79.45%
Quality	Sense of responsibility	84.14%	85.36%
	Adaptability	85.74%	84.96%
	Self-regulation	83.35%	81.82%

Figure 1. Analysis of factors affecting employment rate

As shown in Figure 1, the skills of employed students in this major are much higher than those of unemployed students, especially in foreign language ability, which is 35 percentage points higher than that of unemployed students. In terms of personal qualities, they are relatively equal, with a difference of about 3%. Therefore, graduates still have to work hard on themselves to improve their skills.

4.2. Analysis on the Effectiveness of the Auxiliary Employment Platform for Public Utilities Management

This experiment conducted a comparative analysis of the effectiveness of a certain public utility management assisted employment platform by studying the effectiveness of the three public utility management assisted employment platforms. The experimental results are shown in Table 2:

Table 2. Analysis of the effectiveness of employment platform

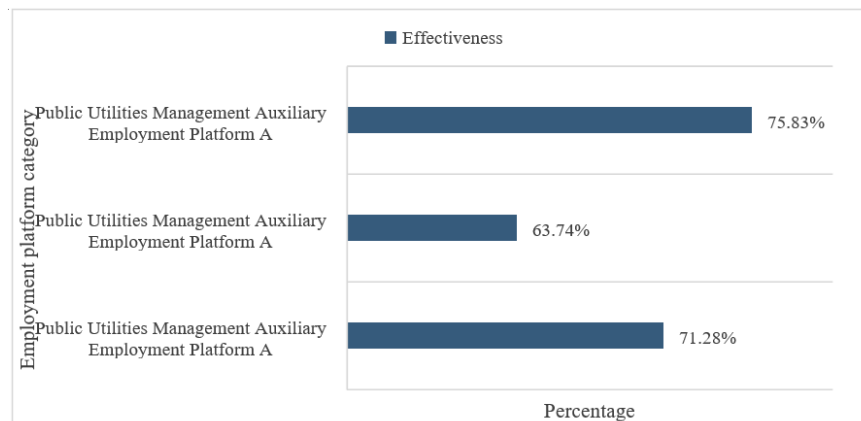|	Effectiveness
Public Utilities Management Auxiliary Employment Platform A	71.28%
Public Utilities Management Auxiliary Employment Platform A	63.74%
Public Utilities Management Auxiliary Employment Platform A	75.83%

Figure 2. Analysis of the effectiveness of employment platforms

As shown in Figure 2, the effectiveness of the public utility management assisted employment platform is better than the public utility management assisted employment platform C, with an effectiveness of 75.83%. In general, the effective average of the public utility management assisted employment platform is About 70%, it can be seen that the actual use of these auxiliary employment platforms is not large, and at the same time, it also shows that there is a lot of room for improvement.

5. Conclusion

This research has made a systematic study on the status quo and countermeasures of the auxiliary employment platform of public utilities management, and found that it is caused by a number of factors, including social environment and policy factors, higher education system structural factors, and college graduates' personal views Factors and family factors of the graduates.If you want to solve the employment problem of college graduates, you must start from multiple aspects in a targeted manner, improve the policy guidance mechanism, deepen the reform of higher education, change the employment concept of graduates and their families, and strengthen public utility management assistance The practicality of the employment platform. Especially in the current situation of serious employment fight, it is necessary to provide a relatively fair job market competition environment for the majority of college graduates, establish a sound and powerful supervision and feedback mechanism, and implement the relevant employment promotion policies issued by the state.In the final analysis, it is necessary for the state to develop jobs around multiple channels of economic development, actively adjust the industrial structure, vigorously develop the tertiary industry, and help provide strong support for college graduates to start their own businesses, especially to provide public utility management auxiliary employment platform services.

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