

An Analysis of the Influencing Factors of College Students' Employment Based on Student Source Data

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Abstract: This paper takes 2010-2014 undergraduate students of Jinan University as samples, makes statistical analysis and scale analysis on the source data and employment data, and obtains the factors that have a significant impact on the employment of university graduates. The influencing factors are as follows: a. Although the employment rate of female college students is higher than that of male college students, they are relatively at a disadvantage in the actual employment process; b. The overall employment rate of rural college students is higher than that of urban college students, but in the actual employment competition, they are relatively at a disadvantage; c. Candidates with excellent results in the college entrance examination have a better employment situation when they graduate; d. The overall employment situation of popular majors is good, However, still need to be vigilant that the situation of “employment in cold” of popular majors is happening. On this basis, the paper puts forward some suggestions on college enrollment, training and employment guidance.

1. Introduction

According to the survey in Zhao's “demographic sociological survey of China's higher education needs”, under the current social environment, 90% of parents support their children's participation in the college entrance examination, and 85% of them support their children's participation in the college entrance examination because they can get better employment opportunities through the college entrance examination^[1]. These data show that, in fact, the expectations of the society for universities are mainly concentrated in the college entrance examination and employment, and the “enrollment” and “employment” of universities are the hot issues in the current society. As a bridge, universities connect these two hot issues. Then, from the perspective of enrollment, how should we solve the problem of graduates' employment difficulties? What are the key factors that need to be considered? From the perspective of college entrance examination, this paper attempts to explore the factors that have a significant impact on the employment of college graduates based on the data of undergraduate enrollment of Jinan University. At the same time, through further in-depth research and analysis, establishes a set of factor analysis model for the employment of college graduates for reference. Combined with the research conclusions, provides guidance for college enrollment and employment To the training work to provide some reference.

2. Data Acquisition

This paper collected the data of students, majors and employment from the database of Jinan University. According to the database, the dependent variable and independent variable are set.

There are two dependent variables: whether the employment is successful, whether the employment salary is higher than the average salary.

The 6 independent variables were selected: Students' gender, student origin, registered residence, entrance examination scores, popular majors and professional subjects.

3. Theoretical Analysis

The primary independent variables are 6, including classification variables and continuous variables; the dependent variables to be studied are two classification variables. Because the research direction of this paper is divided into two levels, one is to explore whether the influence of each independent variable on the dependent variable is significant, that is, whether the independent variable is related to the dependent variable; the other is to further analyze the related variables to explore their specific positive and negative influence relationship. Firstly, we can use the method of correlation analysis^[2] to screen out the variables with high correlation and significant influence, and then we can make logistic regression for the variables with significant correlation to quantitatively analyze the specific internal influence. Considering that the selected variables may have multicollinearity^[3], it is necessary to detect the multicollinearity of variables before regression analysis.

The binary logistic regression method can be used to analyze the two binary dependent variables of employment success and salary higher than the average salary, and the corresponding equation of the regression model can be obtained.

The functional form of logistic regression model^[4] is defined as follows:

$$\text{logit}(P) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$

From logistic regression model, can get the following results:

$$P = \frac{\text{EXP}(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n)}{1 + \text{EXP}(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n)}$$

Where p represents the probability of occurrence of event with dependent variable value of 1. $X_1, X_2 \dots X_n$ is used to fit n variables that affect the occurrence of an event. The logistic model takes 0.5 as the cut-off point, and the value range of P is [0,1]. When the value of P is greater than 0.5, the event occurs. That is, the value of dependent variable is 1, and the larger the value is, the greater the possibility of the event is.

4. Empirical Data Analysis

First, the independent variables and three dependent variables were analyzed by chi square test or point two series correlation analysis to test whether there is statistical significance between different independent variables and dependent variables. The conclusions are as follows:

(1) gender, student origin, registered residence category, popular majors, the proportion of college entrance examination, and academic rankings all have significant correlations with the success of employment.

(2) There is a significant correlation between gender, student origin, registered residence, popular majors and the proportion of college entrance examination.

After eliminating the influence of multiple collinearity among independent variables, two variables Logistic regression can be used to explain the variables such as gender, student source area, popular professional, registered residence category, subject rank, and the successful employment of graduates.

Table 1 Logistic Regression Model of Each Variable and Successful Employment

Variables in equations		B	S.E.	Wals	df	Sig.	Exp (B)
step 1 ^a	Gender X_1	-.752	.078	93.702	1	.000	.472
	Source Province			68.299	2	.000	
	Source Province (1) X_2	.138	.126	1.214	1	.270	1.148
	Source Province(2) X_3	.718	.102	49.691	1	.000	2.051
	Is it a popular major X_4	.120	.101	1.408	1	.235	1.128
	Registered residence category X_5	-.296	.086	11.750	1	.001	.744
	Subject ranking X_6	-.046	.078	.345	1	.557	.955
	constant	2.612	.189	191.000	1	.000	13.623

a. The variables entered in step 1 are gender, source area, whether hot subjects, registered residence category or subject level.

According to the coefficients in the above table, we can construct logistic regression model (1):

$$\text{Logit}(P) = 2.612 - 0.752X_1 + 0.718X_2 + 0.138X_3 + 0.120X_4 - 0.296X_5 - 0.046X_6$$

The regression model (1) is observed and interpreted. In the independent variables, the coefficient corresponding to gender is negative, which indicates that the risk of unsuccessful employment of male college students is higher than that of female college students.

The probability of graduates' employment success from high to low is: the eastern region, the central region and the western region, that is, the degree of economic development of the region is directly proportional to the probability of graduates' employment success. Generally speaking, the employment probability of hot graduates is higher than that of non major graduates. City registered residence students have higher probability of employment failure than those of rural registered residence. The influence of subject ranking on the probability of employment success is positive. Taking into account the hot enrollment of popular majors and high admission scores, it is easy to find that there is a strong correlation between the score ratio and popular majors. Therefore, it can be considered that the score ratio has a positive impact on the employment success of graduates.

In the same way, we can build a regression model of "whether the salary is higher than the average salary" and get the following conclusions through analysis:

The probability that the employment salary of male college students is higher than the average is higher than that of female college students.

The probability of employment salary level of hot graduates is higher than average than that of non hot majors; According to the probability that the salary is higher than the average, the order is: Eastern student source region, central student source region, western student source region; The average employment salary of urban college students is higher than that of rural college students; The score ratio of college entrance examination has a positive effect on the higher than average salary.

5. Conclusion

5.1 Main Conclusions

(1) The salary of female students is relatively low, but in terms of employment rate, the employment rate of female students can be higher than that of male students, which may be because female college students are at a competitive disadvantage, so they may rationally take the initiative to reduce employment expectations^[5], thus improving the probability of successful employment.

(2) In the actual employment process, the employment rate of rural students is relatively higher, but the average employment salary is lower than that of urban students. Because of the lack of self-confidence in employment, and limited by economic and social resources, rural students often choose to work first and then choose a job.

(3) The economic development degree of the students' source area is directly proportional to the employment success rate and salary level^[6]. The students in the western region are at a disadvantage in the employment competition after graduation.

(4) Compared with non popular majors, the employment rate of popular majors is relatively higher, and the proportion of hot Majors' salary higher than the average is also higher than that of non popular majors. However, the problem that needs to be warned is that the phenomenon of employment of popular majors being cold has begun to appear.

(5) College entrance examination results have a positive impact on the employment success and salary level of college graduates.

(6) There is no significant difference in the salary level of graduates with different discipline ranking levels.

5.2 Countermeasures and Suggestions

The employment guidance department should pay attention to mining and using the rich

information contained in the enrollment stage, provide information support for the employment guidance work, and guide students to reasonably set employment expectations and establish employment self-confidence; The enrollment department should make full use of the employment feedback information to improve the enrollment work. Colleges and universities should pay attention to market-oriented, optimize and adjust the professional structure.

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