Journal of Computational Science & Engineering 24 (2016) 726-729

Available at http://www.asocse.org ISSN 1710-4068

Research on the Demand of Statistical Talents in the Era of Big Data

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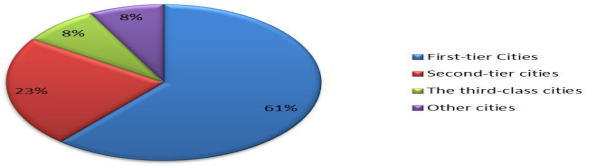

Abstract: **Talent training should be guided by market demand. Based on the survey of a large talent recruitment website in China, this paper analyzes the distribution characteristics of the demand for the professional talents in the market and the characteristics of the requirements for the quality of statistical professionals.**

Keywords: Matlab; Face recognition; Image preprocessing; Principal component analysis; Singular value decomposition

Received 20 April 2016, Revised 23 May 2016, Accepted 25 May 2016

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1. Introduction

In order to understand the demand for statistical professional market, according to Zhaopin (www.zhaopin.com) statistics related to the recruitment information as the research content, search related position information and statistics of various professional needs. We are on the recruitment network position information through the statistics keyword search, a total of search to March 2016 release of the statistics for the professional recruitment of information 30645. In this paper, a systematic sampling method was used to randomly select 300 recruitment information as a sample.

2. The Distribution of Statistical Talent Demand

Through the analysis of the results of the survey can be found (see Figure 1), the industry is mainly concentrated in the Internet, e-commerce, processing, manufacturing, medicine, transportation and financial industry. Of particular concern is that the Internet and e-commerce industry has a considerable demand for statistical personnel. With the continuous development of the Internet, and gradually entered the era of big data, urban data, corporate data, medical data, website data has become an important part of our virtual and real life. The integration of big data and electricity suppliers is the future trend of the development of electricity suppliers. The two industries will become a force for statistical talent demand. The demand for statistics professionals in the market depends on the degree of economic development in the region. The more economically developed cities, the greater the demand for statistical professionals (see Figure2). The large demand for statistical talent in the city is mainly concentrated in Beijing, Shanghai, Guangzhou and Shenzhen.

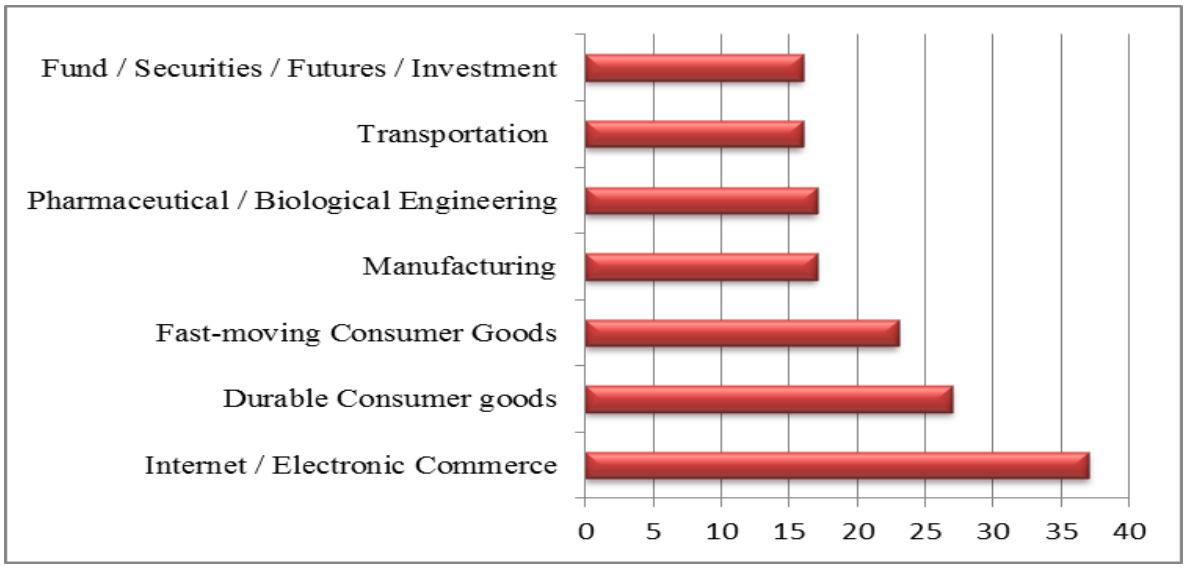

Figure 1. Statistical talent demand industry distribution.

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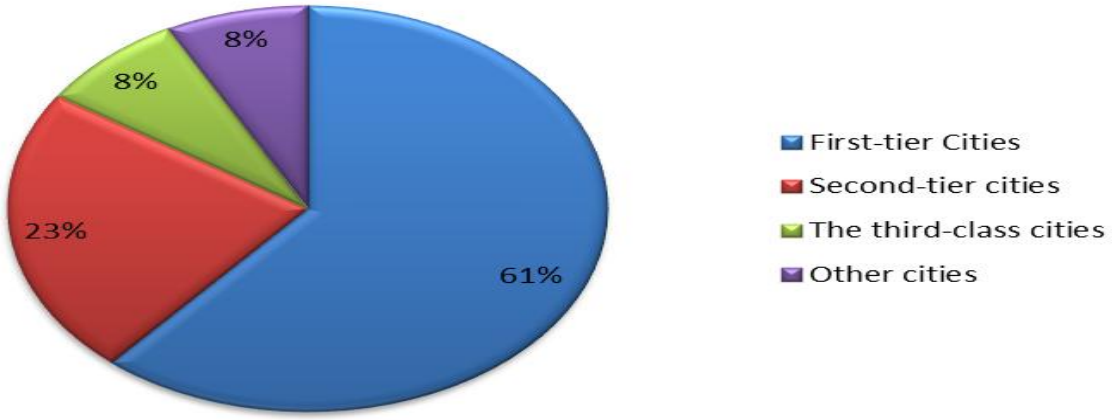

Figure 2. Regional distribution of statistical talent demand.

3. The Enterprise Needs Multi-level Statistical Professional Talents

Can be seen from Figure 3 and Figure 4, Due to the different nature of each enterprise and business scope of the enterprise, the demand for the professional talents of statistics show many levels. "Statisticians" and "Administrator" in the survey accounted for the largest proportion, 59.7%. "Statisticians" have four different types of jobs: production statistician, warehouse statistician, financial statistician and data statistician. The administrator is responsible for the collation and preservation of large amounts of data generated in the enterprise operations. According to the post definition, for the enterprise, no matter which industry, all cannot do without the analysis of data processing and preservation, "statistician" and "Administrator" within the company must be set. In the statistical requirements of professional personnel, demand for college education accounted for 53%, master's degree or above, less demand. Most of the demand for the low level of statistical talent comes from a number of common sense of statistics, most of the statistical staff are engaged in a simple statistical data collection, input and statistical reports compiled. This kind of post demand quantity is more, the demand for statistical skills is not high, the general requirements of skilled operation of office software, have a certain understanding of statistics, treatment is generally low. Statistical job demand for high level from professional and technical positions, requirements of professional statisticians mainly engaged in survey research, data mining, statistical analysis and report writing information management system. The business needs of these statistical professionals is urgent, put forward higher requirements on the professional skills of statistics, general requirements for master professional statistical software and database management system, good ability of data analysis, treatment is superior and has a larger space for development.

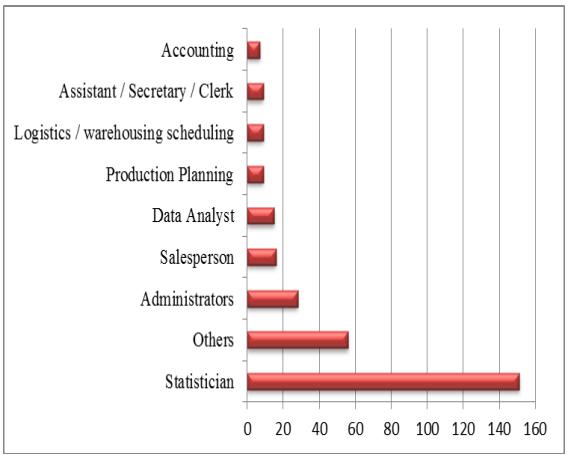

Figure 3. Statistical talent demand job distribution.

4. Enterprises Need Compound Talents

Found in the grasp of professional knowledge requirements of enterprise survey, enterprises require statistical personnel master related knowledge, such as financial knowledge, financial knowledge, storage knowledge, knowledge of economics, legal knowledge, computer knowledge, management knowledge etc. In a survey of enterprise statistical talents have certificate, some enterprises need statistical personnel have statistical certificate, certificate of accounting qualification of securities, and the motor vehicle driving license. The enterprise demand for accounting certificate is higher, indicating that part of the enterprise make statistics of professional accounting office jobs, such as cashier, accounting. The post office is very diverse. The emergence of this phenomenon is the characteristics of performance of market demand for statistical personnel tending to compound.

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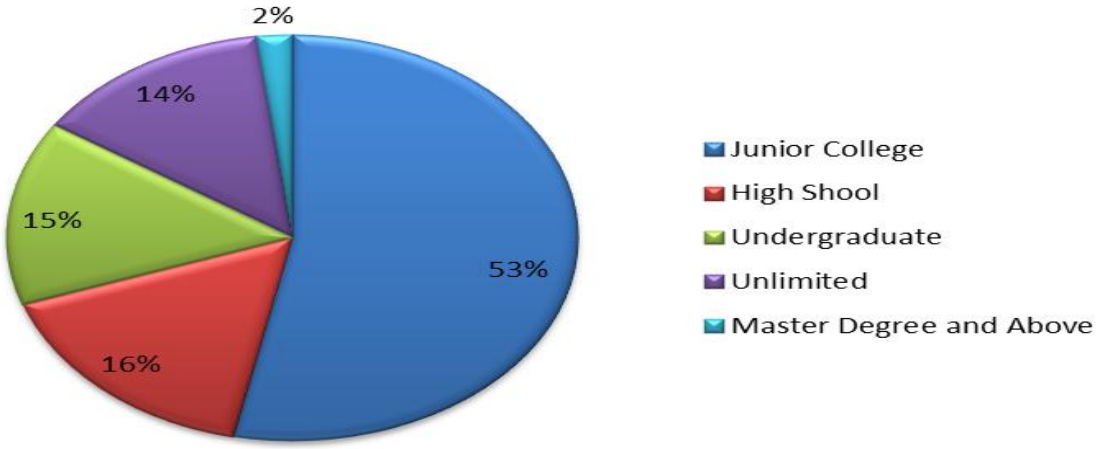

Figure 4. Statistical talent demand degree.

5. The Enterprise Pays Attention to the Comprehensive Quality

The most important value of enterprise's comprehensive quality ability is the ability to understand and analyze the data(see in Figure 5), and the second is the communication ability, compressive ability, learning ability, language expression ability, organization and coordination ability, etc.. The core of the statistical work is data processing, so the ability to understand and analyze the data is not the lack of statistical professionals. In the workplace, effective communication can solve the problem more quickly. Learning ability is helpful to grasp the working skill and knowledge of the industry quickly after work. Language skills contribute to the writing of the report, communication and collaboration with people. Therefore, enterprises value the ability of statistical professionals. In the requirements of the quality of talents, the enterprise to the statistical professional quality requirements of the spirit of the quality of the requirements are more serious and careful, responsible, team work spirit. Statistical work needs to deal with a large number of data. Serious and careful statistical professionals in the work cannot be the lack of the spirit of quality. For the heavy workload, the responsible staff will not give up halfway, completing the work quality and quantity. On improving the work efficiency, team spirit is necessary, in order to speed up cooperation with other colleagues. These qualities are very important for the professional people, so enterprises in the market in the recruitment of statistical professionals will pay attention to whether the talent has these qualities.

6. Enterprises Need Applied Talents

Most companies in the recruitment of information on the candidates have a clear requirement, such as: to use a certain kind of statistical software, to develop the survey program, to write a statistical analysis of the report. For a higher level of technical requirements of the data analysis class positions, more companies require to master the SPSS and SAS software, followed by R and MATLAB software. This shows that the professional level of the candidates for a higher level of statistical professionals, SAS and SPSS are important softwares will be used in the work. MATLAB and R also need to understand. Enterprises of statistical professionals in other computer software and function of the situation is also a requirement, most of the requirements of the "proficiency in the operation of office software". The study of office software is very important for the applicant and must be skilled, followed by "familiar with the programming language", "will operate the financial software". Due to the characteristics of the market demand of the composite, statistical professionals in learning the professional knowledge, but also pay attention to learning computer software applications and functions, including applications like financial software, combined with the future work areas, enhance their practical ability, learn how to use these functions and software to solve practical problems.

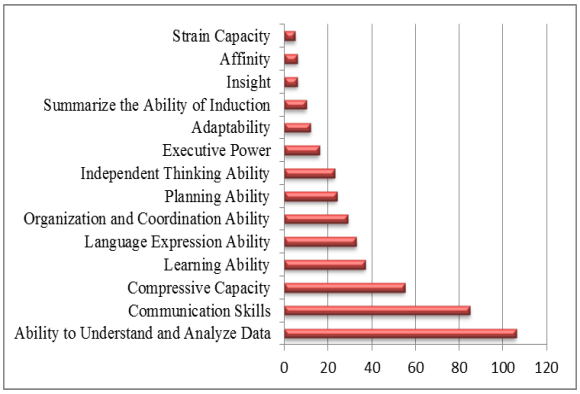

Figure 5. Statistical talent demand distribution.

7. Conclusion

Through the above analysis, training should first establish the direction of training talents in the correct statistics statistical personnel, personnel statistics ordinary undergraduate level training should be

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oriented to market demand, adapt to the market demand for statistical professionals. In the development of personnel training plan, according to the market, enterprises should be based on the quality requirements of statistical professionals, customized corresponding training plan. Market oriented statistical professional personnel training should be combined with the statistical learning content and the actual application field of statistics, and should adapt to the changes in the field of statistical applications. Secondly, the analysis of data processing is the statistics of the founding of the graduates. Through the above analysis, we know that the market is the most important statistical talent of the data processing and analysis capabilities. Finally, strengthen the training of students' practical ability and computer ability. Under the condition of market of enterprise statistics professional statistical theory quality requirements is not very high, the enterprise pays attention to the practical ability, is also able to use statistical expertise to solve practical problems faced by enterprises. Therefore it is necessary to cultivate students' practical ability in the process of statistical teaching.

Acknowledgements

This work was supported Supported by "Construction of diversified practice teaching system, training innovative logistics information personnel (2015-ms175)".

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