Research on the Ability Demand of Internet Related Positions for Talents in Chengdu Area

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Abstract. Based on the data of Zhaopin website, this paper obtains job types and ability demand keywords through data preprocessing and word frequency analysis. Excel and other tools are used to get job type factors that affect ability demand. This paper aims to provide reference for relevant fresh graduates that are interested in the Internet, and provide certain guiding roles on how can job seekers quickly identify the job demand of the Internet and then match own job demand.

Keywords: recruitment, Internet, data analysis.

1. Introduction

Online recruitment is the most efficient and direct way since the rise of the Internet, which contains a large amount of information on talent demand, and it can reflect the demand trends and characteristics of the whole talent market to a certain extent. The ultimate goal of this research is to use the current popular recruitment methods to understand the job information of most Internet jobs at present, and provide reference for relevant fresh graduates that are interested in the Internet, and provide certain guiding roles on how can job seekers quickly identify the job demand of the Internet and then match own job demand.

2. Research Method of This Paper

Content analysis method is a method which analyzes content; it obtains the trends and regularity through statistical analysis of the quantity; this paper uses content analysis and other methods to analyze the Internet job information on the recruitment website, so that job seekers can quickly identify the demands of Internet jobs, and then provide suggestions for matching their own proper job demand.

3. Acquisition and Preprocessing of Recruitment Information

(1) Data source

Because the current main recruitment websites have: Zhaopin, 51job, Liepin, among them, Zhaopin and 51job are the most comprehensive and influential websites. However, in order to enable more people to know more about their job information, the recruitment enterprises usually delivers the same position on multiple websites, some of the job contents are identical, and some contents are still partially changed, which makes the data difficult to fetch, which cause the analysis results to be not accurate enough, so this paper only selects a website for data fetching.

(2) Data acquisition

(1) Field division

The Zhaopin website is used as the data source in this paper, start from the "job name", "monthly salary", "experience", "education background", "job type" and "ability demand" six aspects, and randomly grabbed 1258 latest Internet job information in March..

(2) Data acquisition technology

Octopus collector: 1258 data information of the latest Internet job in March 2018 were fetched from Zhaopin website, the collection process is as follows.

R language: the R language is used to perform word frequency analysis on job type and ability demand, and obtain high-frequency words of the job type and ability demand.

(3) Excel analysis: Excel formula is used to classify these high-frequency words for job type and ability demand; then use content analysis method to analyze the types of Internet jobs, ability demand under different types of Internet jobs;

(3) Data preprocessing

(1) Missing value processing

Rewrite the missing value to nothing, and delete the data if the missing is too serious.

(2) Field preprocessing

Using the keywords of the R language word frequency statistics, the ISNUMBER, FIND, IF, RIGHT and other functions are used to match the assignment of key fields, which is convenient for analysis. The specific field settings are shown in Table.1:

Table 1. Field setting description

data field	description
ID	numerical value
type	Internet job division
monthly salary	monthly salary for different jobs
experience	business scope: no limit, no experience, less than 1 year, 1-3 years, 3-5 years, 5-10 years, more than 10 years
educational background	education level: polytechnic school, secondary technical school, high school, junior college, undergraduate, master, no limit
specified experience	whether the ability demand mention an experience that needs to be specified
project	whether the ability demand mention participating in the project
design	whether the ability demand mention design aspects
test	whether the ability demand mention test
product	whether the ability demand mention product-related content
develop	whether the ability demand mention development of hardware and software, framework and other related skills
system	whether the ability demand mention the need to be familiar with the various systems
software	whether the ability demand mention the need to be able to use the software

4. Situation Analysis of Talent Demand

(1) Analysis of the ability demand of Internet jobs

Eight key abilities of "specified experience", "project", "design", "test", "product", "development", "system" and "software" are selected by R language word frequency statistics. After further statistical analysis of the collected data, the ratio of job ability demand is shown in Table.2:

Table 2. Ability demand of Internet jobs

ability demand	specified experience	project	design	test
job number	813	530	574	400
ratio(%)	64.63	42.13	45.63	31.80
ability demand	product	development	system	software
job number	492	580	463	642
ratio(%)	39.11	46.10	36.80	51.03

The data shows that the most demanding ability of Internet jobs is the specified experience and software ability, more than half of Internet jobs have these two demands, they account for 65% and 51% of the number of Internet jobs, respectively, it shows that specified experience or software expertise are basic requirements for most Internet jobs. Moreover, Internet posts with specified experience requirements are close to twice the test ability demand, and the gap between the two is obvious.

In addition, although the development, design, and project ability are lower than the specified experience and software ability, and are still between 40% and 50% of all jobs, which is superior to test, product and system demands, and also in sub-important demand of Internet jobs.

(2) Analysis of Internet job types

By using the R language word frequency statistics, the first six high-frequency words "communication", "IT technology", "software", "test", "hardware" and "development" are selected as keywords to classify the Internet jobs, and the remaining jobs are classified as "others" category. The proportion of data after further statistical analysis is shown in Table 3.

Table 3. Distribution of Internet job types

job type	communicate-on	IT technology	software	test	hardware	development	others	total
job number	156	109	52	145	148	184	464	1258
ratio(%)	12.40	8.66	4.13	11.53	11.76	14.63	36.88	100.00

As shown in Table 3, among the 1258 Internet job data, 156 communication (12.40%), 109 IT technology (8.66%), and 52 software products (4.13%), 145 test classes (11.53%), 148 hardware (11.76%), 184 development (14.63%) and 464 other categories (36.88%).

Therefore, first of all, apart from other kinds, there is more development Internet jobs except other kinds and enterprises demand are nearly 15% of these jobs. Due to the universality of computer technology application, the development of various programming languages bring forth the new through the old, and the gap in the demand for development jobs has become larger, it has become one of the most important parts of the Internet.

Secondly, communication, test and hardware Internet jobs are all about 12% demand rate, and they are the main jobs in the Internet industry. As 4G is about to leave, on the eve of the 5G era, communication technology like a raging fire and the future is indispensable. And there will be tests and development, because the development kind needs a lot, the test class jobs is not fully popular, but it cannot be underestimated, there is enough development space.

The demand for IT technology and software is small; they reach 9% and 4%, respectively. These two types of professional and technical requirements are not high, the audience is wide, and the talent demand is half saturated.

To sum up the above information, the development job belongs to core occupation of the Internet industry development, because the demand is large, job seekers choose to the work related to development best; communications, testing and hardware jobs are the main occupations of the Internet, it is also worth everyone attention; IT technology and software category supply and demand are small, opportunity competition is greater; and other categories are many small categories of Internet job collection, enrich the diversity of the Internet industry, but also provide diverse opportunities for job seekers.

(3) Analysis of ability demand under different types of Internet jobs

Table 4. Distribution of ability demand for Internet job types

	communication	IT technology	software	test	software	development	others
specified experience	87	50	30	90	97	126	333
ratio(%)	55.77	45.87	57.69	62.07	65.54	68.48	71.77
project	53	35	29	62	58	101	192
ratio(%)	33.97	32.11	55.77	42.76	39.19	54.89	41.38
design	75	25	29	56	103	129	157
ratio(%)	48.08	22.94	55.77	38.62	69.59	70.11	33.84
test	37	16	15	119	68	72	73
ratio(%)	23.72	14.68	28.85	82.07	45.95	39.13	15.73
product	64	26	14	39	76	92	181
ratio(%)	41.03	23.85	26.92	26.90	51.35	50.00	39.01
development	50	30	40	75	84	153	148
ratio(%)	32.05	27.52	76.92	51.72	56.76	83.15	31.90
system	24	65	23	53	48	89	161
ratio(%)	15.38	59.63	44.23	36.55	32.43	48.37	34.70
software	54	53	34	109	73	117	202
ratio(%)	34.62	48.62	65.38	75.17	49.32	63.59	43.53

As can be seen from Table 4, the specified experience is the main body of the Internet job ability demand, and basically exceeds 50% of the demands of the various job types on the Internet, and it occupies an important part of the Internet ability demand.

In addition, the test class requires testing ability, and the development class requires development capability, which accounts for more than 80%, it shows that these two types of jobs have the most demands for professional technology and are most valued.

The main ability demand of communication jobs are specified experience and design ability; IT technology jobs need to be familiar with system and software ability; software jobs require development and software ability; hardware jobs generally require design ability or specified experience; other types of jobs focus on specified experience..

5. Conclusion

(1) Data analysis conclusion

In allusion to the analysis of Chengdu Internet job recruitment information, the following conclusions are drawn:

(1) Classification of abilities for Internet job

In general, the Chengdu region has the following needs for Internet jobs: "specified experience", "project", "design", "test", "product", "development", "system" and "software". Among them, according to the order of importance are: "specified experience", "software", "development", "design", "project", "product", "system", "test".

The most demanding abilities for Internet jobs are specified experience and software ability, the next are project, design, development ability, testing, product and system ability, test, product and system ability are the least required. Therefore, from the perspective of ability demand alone, if there are more abilities, especially for larger ability demand, the selected range of Internet jobs will become larger and easier to obtain job opportunities.

(2) Type division of Internet jobs

The demand for development, communication, test, and hardware jobs is large, at present, it is the main part of Internet jobs, but the main ability demand for development and test are development and testing abilities, and the professionalism is strong. Therefore, job seekers can avoid it, and choose the communication or hardware jobs.

(3) Ability demands under different Internet jobs

Through analysis, the ability demands of the following divided jobs are obtained. From the results, the ability demand for job seekers is more specific with a wide range of Internet jobs.

The test class requires test ability, and the development class requires development ability, which accounts for more than 80% of the total. It shows that these two types of jobs have the most demands for professional technology and are most valued.

The main ability demand of communication jobs are specified experience and design ability; IT technology jobs need to be familiar with system and software ability; software jobs require development and software ability; hardware jobs generally require design ability or specified experience; other types of jobs focus on specified experience.

(4) Factors affecting monthly salary

The results of the data decision tree show that educational background is a key requirement for the monthly salary of Internet jobs. According to the different requirements of the Internet jobs, the monthly salary is also very different, the higher the requirements of the enterprise for the educational background, the higher the salary provided. However, when not limited to educational background, enterprises pay more attention to their ability requirements, the higher their own ability, the better their salary, the job seekers should improve their ability on the basis of pursuing their educational background.

(2) Suggestions for job seekers

In allusion to the above conclusions, job seekers can prepare from the following abilities:

(1) Strengthen the accumulation of social practice experience

The most important abilities for Internet jobs are: specified experiences and projects. The acquisition of these two abilities is inseparable from the accumulation of practical experience.

For fresh graduate of the society, it is recommended that you do not expect too much, from the accumulation of your own experience, only after gaining a certain experience can you become better and better in the later development.

For job seeker with social experience, it is recommended to highlight practical experience when apply for a job, so that the job recruiter can see his or her practical ability.

(2) Identify own advantages and match suitable jobs

The next demanding ability of Internet jobs is to look from divided jobs, as the saying goes, "an inch has length and ruler has short." The divided more focus on the needs of professional ability. If the test class requires test ability, the development class requires development capability, which accounts for more than 80% of the total, it shows that these two types of jobs have the most professional and technical requirements and most value.

The main ability demand of communication jobs are specified experience and design ability; IT technology jobs need to be familiar with system and software; software jobs require development and software ability; hardware jobs generally require design ability or specified experience; other types of jobs focus on specified experience.

6. Summary

In order to study the demand for various abilities of Internet-related jobs in Chengdu, this paper adopts content analysis and other methods, and obtains the most important and professional test and development tools in specified experience in the capability requirements must have test and development abilities, it provides a direction for job seekers to quickly identify job demands and then match their satisfied job needs.

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