

Analysis on the Right Person of Major National Companies through the correspondence analysis

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Abstract. In the era of uncertainties, securing human resources who can create new knowledge and technology beyond the boundaries of academic disciplines is expected to have significant influence on the business performance of enterprises. In the era of industrialization, human resources who were diligent and had a strong sense of responsibility were preferred by companies, but after we entered the 2000s, those who were constantly pursuing convention in their creative pursuits based on expertise and ethics were favored. We conducted an analysis on the top 100 businesses using the R statistical software to identify keywords of their demands for human talents. As a result, the top 10 selected keywords include challenge, creativeness, cowork, innovation, passion, morality, expertise, responsibility, openness, and communication. In this regard, this study set up the each company's business type, total assets, sales fluctuations, and operating incomes fluctuations as variables, and carried out a correspondence analysis to assess the recent demand trends for human resources and predict the characteristics of future needs for human talents.

Keywords: Right person (Right people), Human resources, the convergence human resource, Cultivate people of talent, Correspondence analysis

1 Purpose of study

The perception of ideal human resources has been undergoing constant alterations due to the changing industrial environment. When the nation started becoming industrialized in the 1960s, companies were in need of the so-called supporters who had a strong sense of responsibility and diligence. In the 1970s, the enterprise and social skills emerged as the buzzwords in terms of the ideal traits of employees. As the Korean society entered the stable growth period in the 1980s, there was a strong need among people for sharing of economic success. When the nation jumped on the bandwagon of global competition in the 1990s, challenging spirit, ambitiousness, enterprise, creativity, expertises and insights were regarded as the ideal traits of human talents. In the 2000s, companies were scrambling to recruit those who had in-depth knowledge in their own specialty and were also armed with broad common

knowledge in various fields. Furthermore, human resources who goes beyond the simple expansion of knowledge and can see and solve a problem from various interdisciplinary perspectives are being preferred in the recent years[1].

More diversified analysis approaches are needed to respond to such changing needs of the time with flexibility. While the previous studies focused on the ideal traits of employees, this study aimed to carry out a comparative analysis of the top 100 businesses by analyzing the correlation of preferred traits of employees with the type of business, total assets, sale and operating incomes, to identify the future human resources features.

2 Methods

First, we are going to extract keywords in relation to the ideal features of employees preferred by the top 100 domestic businesses. The year-end settlement data of the top 1000 businesses from Korchambiz (<http://www.korchambiz.net/>) run by the Korea Chamber of Commerce and Industry, and the KOPSI domestic trading market data provided by Finance Information of NAVER, which is a Korean portal site, were used to calculate the sales volumes of the analysis object groups. After that, we visited the official websites of the top 100 businesses to collect keywords in relation to their preferred traits of prospective employees and narrow down the list of the selected keywords through the text-mining technique by using the R program. The text mining technique is a method of processing atypical data (about 80%) such as wordprocessor, e-mail, presentation, spreadsheet and PDF file formats into data which meet specific forms and conditions, and is useful for extracting keywords to predict a future trend and as a quantitative data analysis tool to supplement qualitative data of experts[2]. Before we start to analyze the ideal features of human resources, we converted phrases contained in their statement about human talents into text files in the UTF-8 format, extracted keywords using the R program, and analyzed the frequency and correlation of the keywords. In order to present the extracted keywords in a maximally integrated manner, we minimized the semantically identical keywords on basis of the one-on-one Behavioral Event Interview (BEI) by the panel of experts and the thematic analysis method[3].

Second, a correspondence analysis was conducted using the SPSS ver. 18, a statistical analysis package program. Since the 1980s, the correspondence analysis has been commonly utilized for the homogeneity analysis, non-linear principal component analysis and multi-variate analysis, and is a type of statistical downscaling methodology to analyze the specific relation between categories by expressing dependent and independent variables as points on the intersecting space of rows and columns[4]. After extracting the keywords related to the ideal traits of human resources, we carried out the frequency analysis on each of the extracted keywords, performed a cross analysis by setting up the keywords as independent variables while fixing the sales volumes, total assets, operating incomes, sales fluctuations, and operating fluctuations as dependent variables, and conducted a correspondence analysis based on the results of the cross analysis to produce graphs to visualize possible similarities between variables.

3 Results

3.1. Right Person's Features of Domestic Businesses

After the command '(extractNoun, USE.NAMES=F)' to extract keywords from the websites of the top 100 domestic businesses through the text mining method of the R program, we carried out the frequency analysis by inputting the commands in the following order: ① talent<-read.csv ("talent.csv", header=TRUE), ② install.packages("descr"), ③ library(descr), ④ freq(talent\$talent-on-demand). After conducting the analysis on the top 30 businesses, it was found that the 5 highest ranking human resource talents were Challenge (23), Expertise (14), Morality (13), Creativity (10), and Cowork (10). In contrast to this, the results of the analysis of the top 100 domestic businesses showed that the highest ranking was Challenge(78), followed by Cowork(76) and Creativity (60), which respectively accounted for 13%, 12% and 10% of the entire extracted keywords. Apart from it, Innovation (49), Passion (45), Morality (45) and Passion (44) respectively took up more than 7%.

3.2. Results of Correspondence Analysis

After classifying the types of companies by business type and dividing the regions into Seoul, Incheon-Gyeonggi, Metropolitan cities, Cities and provinces, the cross analysis was carried out in consideration of the relations with total assets, sales volumes, and operating incomes. The numerical contents of the cross analysis were reinterpreted through correspondence analysis in consideration of significance levels, and the results were diagrammed on a 2D plane to visualize the correlation between categories and the density between variables.

First, the categories of rows are as follows: 1-Challenge, 2-Creativity, 3-Cowork, 4-Innovation, 5-Passion, 6-Morality, 7-Expertise, 8-Responsibility, 9-Openness, 10-Communication, 11-Global competence, Self-directedness, 12-Self-improvement, 13-Immersion, 14-Activeness, 15-Value creation, 16-Customer respect, 17-Faithfulness, 18-Positive, 19-Insight, 20-Potential, 21-Manners, 22-Saving. The categories of the columns were classified as follows: 1-Construction, 2-Distribution, 3-Manufacturing, 4-Banking, Securities and Financial Holding Companies, 5-others.

If we look into the correlation between business type and competence, Dimension 1 had the inertia value of about 54%, while Dimension 2 showed the interpretability value of 0.023 and the interpretability value of about 22.5%. Dimensions 3 and 4, respectively, have the inertia values of 0.013 and 0.011 and the interpretability values of 13.1% and 10.3%. The Chi-square value was measured at 65.440, while $p > 0.55$ appeared at the degree of freedom of 88.

It was found that competences 22 and 23 are considered important only in certain business fields. The above table was rewritten after excluding these two competences. Competences 20 and 5 respectively showed a high correspondence in Sectors 1 and 4. Competences 1-14 displayed a high concentration rate in Sectors 3 and 5. The

analysis results showed that the correspondence analysis table in terms of the total assets and sales fluctuations displayed similar patterns.

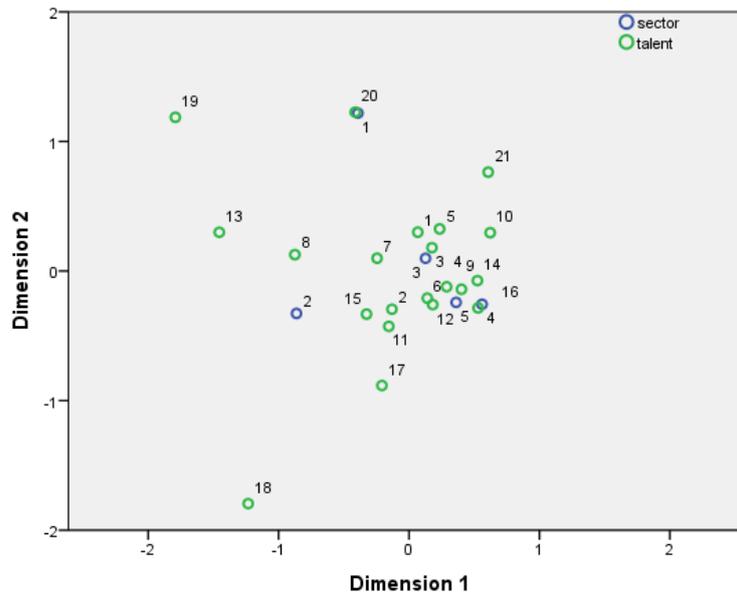


Fig. 1. The correspondence analysis table between business type and talent

4 Conclusion and Suggestion

As the country has entered the period of low growth, businesses are sparing no effort to foster and nurture human resources. Every company aims to sustain growth well-matched to the convergence era by cultivating human talents armed with a balanced combination of these competences and requisites. It is often the case that universities fail to produce human resources who can meet the needs of businesses in terms of their preferred traits of prospective employees. Also, considering that the results of the GOMS analysis showed a wide disparity between job performance and educational achievement, the education system cannot keep up with the pace at which the ideal employee traits are changing. The objectives of education policy and its detailed implementation procedures should be renovated to meet the changing talent demands, and secondary education's way of fostering human talents must allow for more flexibility. The analysis of talent on demand need be done in the future in connection with the analysis of corporate history. By conducting the correspondence analysis on the talent demands that have been changing over time from the diachronic and macro perspective, we will be able to predict the traits of human talents who will lead the future society.

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