

Research on Dimensions of Eco-environment of Talent in Cloud Computing Enterprises: From the Enterprise Internal Perspective

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Abstract. Talents are essential for cloud computing enterprises, and a good enterprise internal eco-environment of talent helps cloud computing enterprises to obtain and retain talent. Through literature research, five dimensions of the enterprise internal eco-environment of talent are identified. Then the characteristics of the enterprise internal eco-environment of talent in the cloud computing enterprise are summarized by sorting out relevant research. Using the Delphi method, the importance score of each dimension in cloud computing enterprise is obtained, and the relative importance of each dimension was explained using the characteristics summarized above. The result shows that the most important dimension for the cloud computing enterprise is the innovation and R & D environment, followed by the institution and culture environment, the performance environment, the personnel environment and the material environment. The cloud computing enterprises should focus on and monitor dimensions with high importance scores, so as to improve the enterprise internal eco-environment of talent more efficiently and more effectively.

Introduction

Cloud computing is a type of Internet-based computing that provides shared computer processing resources and data to computers and other devices on demand [1]. Excellent talent is one of the core competencies and determines the fate of a cloud computing enterprise. How to acquire and retain talent is an essential task for human resource management in cloud computing enterprises. According to Lewin's psychological field theory, a person's behavior depends on the interaction between the individual and the environment he lives, which means that a good environment can help to make talents willing to stay in an enterprise. That's one of reasons why eco-environment of talent is becoming a hot topic for researchers. Eco-environment of talent refers to the system and its state of all the factors that directly or indirectly affect the survival, development and function of talents in a certain region. It also includes the relationship of these factors [2]. Related research has shown that a good eco-environment of talent is conducive to attract and retain talent, which helps enterprises win the war of talent seizing [3].

At present, studies are mostly for the eco-environment of talent outside the enterprise, and there are few researches based on the internal perspective. The impact caused by eco-environment of talent within the enterprise cannot be ignored. Therefore, based on the previous studies, this study attempted to identify different dimensions of the enterprise internal eco-environment of talent and explore the relative importance of these dimensions for the cloud computing industry to help cloud computing enterprises monitor and improve targetedly.

Identification of Dimensions of the Enterprise Internal Eco-environment of Talent

Overview of the Eco-environment of Talent

The concept of eco-environment of talent is relatively new, and there are few relevant researches. R. E. Park first introduced the concept of ecology into the social environment and analyzed the social eco-environment, but he did not propose a clear definition [4]. Until 2001, according to the

characteristics of the era of knowledge economy, Qingguo Yao and Haibo Jiang proposed that human resource management must combine "hard environment" and "soft environment" where human resources live in, and he called the system composed of the hard and soft environment and conditions of the system the human resource ecosystem [5]. R. Harrison focused on the changes in the internal and external environment of human resource management under the background of knowledge economy [6]. Xiyuan Li and Yingying Cha defined the eco-environment of talent as a system of all elements that directly or indirectly affect the survival, development and function of talent within a certain region, the states and interrelationships presented by them [2]. Jun Han researched the impact on talent caused by the eco-environment of talent from the macro and micro perspective [7]. In this paper, the study of the enterprise internal eco-environment of talent is mainly for the micro-level.

Identification and Definition of Dimensions

The enterprise internal eco-environment of talent is a collection of various environmental factors. These environmental factors are both interrelated and different from each other. The factors which have common features constitute a dimension. The enterprise internal eco-environment of talent is composed of a number of dimensions having significant differences between each other.

In this paper, literature research method was used to identify dimensions of the enterprise internal eco-environment of talent. In the early days, management scholars believed that the enterprise environment referred to the enterprise internal structure and culture, such as Gareth R. Jones who said that managers must pay attention to various forces from the enterprise organizational structure and culture. He regarded these forces as the internal environment [8]. With the deepening of research, the scope of the enterprise internal environment began to expand to the physical environment. Xiaoming Li and Guojie Zhao put the material foundation of enterprise into the enterprise internal environment, and they thought that the enterprise internal environment consists of entrepreneurship, enterprise material base, enterprise structure and enterprise culture [9]. Aimin Yan and Shun Li have studied the stability of the enterprise human resource eco-environment, and put forward the factors which influence the human resource ecosystem of the enterprise, such as leadership qualities, enterprise culture, human resource development and management environment, staff quality and so on [10]. These factors also have some connection with the dimensions of the enterprise internal eco-environment of talent. As a researcher of enterprise human resource eco-environment, Guangling Wang divided the human resources ecosystem into human resource system and internal eco-environment system from the perspective of knowledge-based enterprises, and summed up three subsystems of the internal eco-environment system including physical environment, institutional environment and cultural environment [11]. The status of dimensions of the enterprise internal eco-environment of talent directly affects the core competencies of enterprises, so the useful information of dimensions can also be obtained from the composition of the core competencies of enterprises. Xiao-jing Zhou proposed that the core competencies consists of the core technology innovation ability, organization management ability, human resource ability, marketing ability and management safety ability [12].

According to the above analysis and consulting the relevant experts, the following dimensions of the enterprise internal eco-environment of talent were initially summarized: the material environment, the institution and culture environment, the performance environment, the personnel environment, and the innovation and R & D environment.



Figure 1. Five dimensions of the enterprise internal eco-environment of talent.

Table 1. Definitions of five dimensions.

Dimension Name	Definition
Material environment	The physical environment in which the employees are located, including the work environment, the production environment, leisure environment and so on.
Institution and culture environment	The environment including corporate rules and regulations, corporate culture, related training and policies, internal business processes, organizational structure and so on.
Performance environment	The performance of enterprises that employees are able to know and understand, including corporate earnings, business operations, market reputation, business growth ability, etc.
Personnel environment	The personnel and communication environment which staffs face, including the education of employees, the communication between staffs, the flow of staffs, recruitment, and so on.
Innovation and R & D environment	The R & D environment provided by the enterprise, including the view of R & D, the R & D investment, the number of R & D employees, R & D conditions, R & D efficiency, etc.

The importance of each dimension is not necessarily the same for a particular type of business. Taking the material environment as an example, it is extremely important for the traditional manufacturing industry. But for some Internet companies in the form of virtual enterprises, the material environment will become less important. Enterprises should understand the relative importance of the five dimensions according to the situation of their industry, and focus on monitoring and improving the important dimensions, so as to improve the eco-environment of talent more efficiently and effectively.

Determination of the Relative Importance of Dimensions in Cloud Computing Enterprises

The Characteristics of Eco-environment of Talent in Cloud Computing Enterprises

As a part of the high-tech industry and the Internet industry, enlightenment can be obtained from the eco-environment of talent in the high-tech and Internet enterprises. In terms of the micro-environment, cloud computing enterprises are similar to most Internet enterprises. Guanfeng Shi and Gaofeng Yang pointed out that the Internet companies make high demands of introduction and quality of talent [13]. Wenshan Xing pointed out that the Internet enterprises have high employee turnover rate [14]. Huanjie Liu thought that the internal environment of Internet enterprises has the following characteristics: firstly, they provide high wages, lots of opportunities and quickly promotion as well as high pressure of work, lots of challenges and requirement of staffs' adaptability to the growth of business; secondly, they pursue innovation and emphasize employees' ability to acquire new knowledge rapidly; thirdly, they emphasize the passion and creativity of the corporate culture; fourthly, their staffs are diverse; fifthly, their staffs have a strong sense of occupational crisis [15]. Lijuan Tian found that the Internet companies have characteristics of flat organization [16]. These characteristics can be found in those world-famous Internet

companies, such as IBM's focusing on employee motivation [17], Inspur's features including retaining a great number of technical employees and the highly educated, high proportion of young employees, high mobility and emphasizing team spirit [18], and Google's world-famous generous employee benefits.

Based on the existing research literature and relevant information of cloud computing enterprises, the characteristics of enterprise internal eco-environment of talent in cloud computing enterprise were summarized as follows:(1) The enterprises provide high salary and generous benefits. (2) The enterprises provide many opportunities and rapid promotion, and pay attention to the cultivation of young talents. (3) The enterprises make high demands of introduction and quality of talent, and have high pressure of work, lots of challenges and requirement of staffs' strong adaptability to the growth of business. (4) The enterprises have high employee turnover rate and a strong sense of occupational crisis. (5) The enterprises emphasize the knowledge of staff advancing with the times and employees' ability to acquire new knowledge rapidly. (6) The enterprises attach importance to and rely on innovation and new technological achievements, and they pay attention to the R & D environment and intellectual property environment. (7) The enterprises emphasize the passion and creativity of the corporate culture, and most of their employees are young and diverse. (8) The enterprises provide more flexible working hours, place and ways; they emphasize management by objective and teamwork. (9) The enterprises have characteristics of flat organization.

Determination of the Relative Importance of Dimensions

As mentioned earlier, enterprises should recognize the relative importance of different dimensions. Taking the cloud computing industry as the object of study, the relative importance of dimensions in cloud computing enterprises was determined according to the Delphi method and the characteristics of enterprise internal eco-environment of talent in cloud computing enterprises. A nine-point rating scale was developed that labeled 1,3,5,7,9 as "very unimportant", "unimportant", "general", "important" and "very important". Then five relevant experts were asked to rate the importance of each dimension according to the characteristics of cloud computing industry. Based on the feedback and discussion about the results, the average importance score for each dimension was obtained as shown in the Table 2. :

Table 2. The average importance score for each dimension in cloud computing enterprises.

Dimension	Average importance score
Material environment	6.6
Institution and culture environment	8
Performance environment	7.6
Personnel environment	7.4
Innovation and R & D environment	8.4

For the cloud computing enterprises, it's obviously from the table that the most important dimension is the innovation and R & D environment, followed by the institution and culture environment, the performance environment, the personnel environment and the material environment.

Interpretation of Results

To verify the accuracy of the results obtained, characteristics summarized above were used to explain the relative importance of each dimension, according to the thought of qualitative research.

Characteristics (3), (5), (6) emphasize the importance of innovation and R & D, which explain the highest importance of innovation and R & D environment. Characteristics (7), (8), (9) relate to the institution and cultural environment; a perfect institution and culture environment is very important for an enterprise in the context of high proportion of young employees, employee diversity, flat organization and flexible working. Characteristic (3) indicates the impact of performance requirements on the pressure of work and behavior of employees, but the importance of performance environment is lower than that of innovation and R & D environment and institutional and cultural environment because the performance environment is somehow a result of

these two environments. Characteristics (1), (2), (4), (7) point out the characteristics of personnel environment; these characteristics exist in most high-tech enterprises and are easy to be imitated, so it is difficult to become the breakthrough point of improvement. Finally, the characteristic (8) points out that because of the features of the cloud computing business, technical staffs' working hours and place requirements are more flexible, and some enterprises even allow telecommuting, so the material environment is the least important. The above analysis shows that the relative importance of each dimension is objective and accurate to a certain extent.

Summary

According to the literature research, the five dimensions of the enterprise internal eco-environment of talent were identified as follows: the material environment, the institution and culture environment, the performance environment, the personnel environment and the innovation and R & D environment. Using the Delphi method, the relative importance of each dimension for cloud computing enterprises was obtained. The result shows that the most important dimension is the innovation and R & D environment, followed by the institution and culture environment, the performance environment, the personnel environment and the material environment, which agrees with the characteristics summarized above to a certain extent. The results will help cloud computing enterprises to assess the status of the enterprise internal eco-environment of talent more targetedly. The cloud computing enterprises should focus on and monitor dimensions with high importance scores such as the innovation and R & D environment, so as to improve the enterprise internal eco-environment of talent more efficiently and more effectively. The result of this study will help enterprises to win the war of talent seizing and enhance the value of human capital.

The eco-environment of talent outside the enterprise has not been considered. However, as a whole, there is interaction and connection between the enterprise internal eco-environment of talent and the enterprise external eco-environment of talent. They influence and depend on each other. The relationship between the enterprise internal eco-environment of talent and the enterprise external eco-environment of talent remains to be further studied.

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