Research on Human Resource Allocation Model Based on SOM Neural Network

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ABSTRACT

With the fierce competition of the enterprise market, the human resource allocation of enterprises will face multiple risks. This article takes the connotation of human resource configuration management as the research object and establishes the human resource configuration model through SOM neural network. And the model is trained, learned, and tested. What's more, it is applied to human resources management to adjust the allocation of human resources for the enterprise in a timely manner. It provides a detailed basis for proposing coping strategies and has a great application value.

KEYWORDS

Configuration Management, Human Resources, Model Study, SOM Neural Network

1. INTRODUCTION

Since the 1990s, with the global competition and the in-depth development of the market economy, the competition among enterprises has become increasingly fierce, and human resource management has also become an important factor in the success of enterprises. In the actual operation of an enterprise, the reliance on human resources gradually increases, which in turn causes human resources management to face multiple forms of risk.

The risk of human resources management is caused because the employing organization does not use the relevant human resources rationally, resulting in tangible or intangible wastage of human resources, and even the emergence of risks (Gherman et al., 2016). The scope of this risk will involve the key links, such as recruitment, training, performance appraisal, and remuneration of human resources. If these important risks are handled improperly, it will cause incalculable losses, or even cause the decline of the enterprise. Therefore, companies or related organizations should establish daily human resources management to monitor early human resource management risks, so that enterprises can make effective analysis, judgments, and take relevant measures as soon as possible. This has played an important role for enterprises to gain advantages in the highly competitive market economy environment (Xie, 2017; Li & Zhu, 2018)

No matter from the historical development process, or from the current development needs of enterprises, the allocation of human resources is a core issue in the development of enterprises. Because of this, the problem of enterprise human resource allocation has always been of common concern to both theoretical researchers and management practitioners. However, whether it is for the western

developed countries (Marshall & Treuren, 2016; Lin, 2016), or for economically underdeveloped developing countries, people have not come up with the best strategies for human resource allocation.

Since the beginning of the new century, China's economic development has been accompanied by challenges. The situation in the development of enterprises is constantly changing, and the increasing mobility of the company's employees has brought great challenges to human resources management. It can be said that how to achieve "Optimize the allocation of human resources in enterprises to improve their productivity and competitiveness, and to achieve maximum economic benefits under limited human and material conditions" has become a topic of focus. This paper discusses the optimal matching of dynamic allocation of human resources in the enterprise.

Li et al constructs the best human resource management model based on the law of diminishing marginal utility of economics (Yang & Wang, 2016). The model can solve the optimal investment quota of each index under any given total utility level or cost input, and obtain the optimal cost investment plan, so as to realize the optimal allocation of human resource investment in human resource management. Based on the analysis of traditional human resource management methods, Xu et al uses the three-dimensional fuzzy model to construct a new human resource management model of three-dimensional fuzzy mode (Jing & Wang, 2014).

This paper proposes a human resource allocation model based on SOM neural network. Both SOM neural network and human resource management are global. Therefore, the SOM neural network system is used to establish the human resource allocation model, the training function, weight adjustment function and performance function are applied to the model training, learning and testing. The experiment shows that the proposed method can adjust the human resource allocation for the enterprise in time and provides a detailed basis for the different competition strategies of the enterprise.

2. RELATED CONCEPT ANALYSIS

2.1. Enterprise Human Resources Allocation

The so-called "corporate human resources allocation" means that the enterprise scientifically and reasonably arranges various types of talents to suitable jobs through assessment, selection, recruitment, training, etc. Make it better integrate with other economic resources and produce a realistic economic movement to achieve the best results for people and their best use. In other words, the purpose of the allocation of human resources in the enterprise is to maximize the productivity of human resources and improve the overall effectiveness of the organization, which made companies to create more social and economic benefits (Liu, Fu & Deng, 2013; Liu, Fu & Zhao, 2013; Lassi, Musavi & Maliqi, 2016).

In the allocation of corporate human resources, the two most important variables are talents and positions. Among them, talent has two characteristics. One is that there are differences among talents, and different people have different levels of energy development. The second is that different talents are deployed in different ways. Technical talents are deployed vertically based on job requirements, while management talents are mainly based on horizontal deployment. In the same company, the level and type of post are different, and their position and energy level are also different (Yali, 2017; Liu, Liu & Fu, 2015).

2.2. Dynamic Configuration of Human Resources in Enterprises

In theory, the allocation of enterprise human resources is to enable all employees of the company to achieve individual energy levels that correspond to job levels and types. However, in the process of enterprise development, especially in the application of new technologies and changes in the external market environment, the original energy matching model of enterprises cannot gradually meet the business needs of enterprises. We must rebuild the new energy matching model. Therefore, the allocation of human resources in the company presents a dynamic and changing process, namely the dynamic configuration of enterprise human resources (Yang & Liu, 2014; Lopez-Torres &

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