

Chapter 27

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.

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.

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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,

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