Research on Human Resource Management Information System of Logistics Enterprises Based on Cloud Model

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Abstract: With the rapid development of information technology and Internet plus, the concept of enterprise management and the renewal speed of knowledge are accelerating. For logistics enterprises in the forefront of service industry, we should keep pace with the times, pay attention to the training of staff's knowledge and ability, and establish a human resource management system to adapt to the development of modern logistics and promote the development of enterprises. Research on logistics enterprise human resource management information system based on cloud model adopts cloud model theory, expounds the overall research on logistics enterprise human resource management information system using normal cloud model, uses the reverse cloud generator of cloud model, cloud operation principle, combined with the fuzziness and randomness of cloud model, Statistical behavior provides a reference basis for various decisions in human resource management of logistics enterprises.

1 INTRODUCTION

After more than 30 years of development, modern logistics industry has become a pillar industry of the national economy and an important modern service industry. At present, the total scale of China's logistics industry has surpassed the United States and become the first in the world. However, compared with foreign advanced counterparts, Chinese logistics enterprises still have a big gap in technical level and management level. The talent bottleneck and human capital incentive bottleneck in the development of logistics enterprises have seriously restricted the development of logistics enterprises. At present, the important object of competition in the logistics industry is excellent talent resources. For any enterprise, only by building a set of scientific and perfect management mode and continuous reform and innovation can its competitiveness be significantly improved and gain an advantage in the market competition. Enterprise management is essentially human management. Nowadays, whether an enterprise can succeed depends largely on whether its human resource management is scientific and reasonable. Only by establishing a scientific and systematic human resource system can enterprises occupy a place in the increasing competition for market share. Therefore, it is of great practical significance to improve their human resource management level in logistics enterprises. (Kashyap, 2016)

In July 2017, the State Council issued the development plan for a new generation of artificial intelligence, which raised smart logistics to the height of "guiding a new round of economic development and industrial transformation", marking the arrival of the era of smart logistics. The application of smart logistics technology in modern logistics enterprises has changed the human capital structure of logistics enterprises. Logistics enterprises will have a large number of modern logistics talents who understand technology and management. The original extensive human resource management of many logistics enterprises will no longer be suitable for logistics practitioners in the era of smart logistics. Therefore, modern logistics enterprises must attach great importance to human resource management under the new situation, build an appropriate human resource management model and effectively motivate employees, so as to continuously improve their competitive advantage. (The role of emotions in decision-making on employer brands: insights from functional magnetic resonance imaging (fMRI), 2014)

Traditional logistics enterprises are rapidly transforming into modern logistics enterprises (transportation, warehousing and distribution, circulation and processing, packaging and information integration). The basis of enterprise transformation is to rely on the Internet of supply chain integration and its further optimization and upgrading. Logistics enterprises provide customers with multi-functional, integrated and comprehensive services by organizing and managing the operation processes such as transportation, warehousing, loading and unloading, packaging and distribution, information processing. (Stephen, 2012) This is a huge service system. Through modern logistics services, it can reduce the cost of enterprise supply chain, improve efficiency, improve user satisfaction, and bring convenience and well-being to people in modern society. From simple operations (such as loading, unloading and repackaging) to logistics scheme formulation and logistics software development, all need the coordination and cooperation of various professionals. Restricted by the traditional personnel management mode, some logistics enterprises have not established a complete set of modern human resource management system, which greatly hinders the development of the whole enterprise. Therefore, only by establishing a human resource management system that meets the development of the times, can enterprises better select and employ talents and give full play to their intellectual advantages. How to build a human resource management system in the "Internet plus" era of logistics enterprises is of great significance for the logistics enterprises to win in the competition and keep healthy development.

2 CONSTRUCTION OF HUMAN RESOURCE MANAGEMENT SYSTEM FOR LOGISTICS ENTERPRISES IN INTERNET PLUS ERA

At present, the distribution of human resources in the logistics industry is uneven and the base of low-level human resources is huge, but the middle and senior human resources are relatively scarce. Compared with other logistics developed countries, there is still a considerable gap in the number of middle and senior talents engaged in logistics research. (Gomes, 2012)

China's regional economic level shows a decreasing situation from south to north. The southern region has a relatively developed economy and great attraction to excellent talents. Therefore, the South has become a concentration of high-quality human resources. In sharp contrast, some areas in the North lack and drain a large number of high-quality talents due to underdeveloped economy and poor treatment and conditions in all aspects. Affected by many factors, compared with developed countries. China's logistics personnel training is not perfect. There are many problems to be solved in the mechanism and supporting facilities of selecting, educating and evaluating people. It is reflected in the self-contained system of personnel selection, education and employment, and the lack of effective contact and communication, resulting in the trained people can not meet the needs of the society. Due to the difficult post conditions, high labor intensity and cumbersome work in most logistics enterprises, and the unreasonable management system of some enterprises, employees frequently change jobs. (Sels, 2012) The loss of personnel will not only increase the recruitment cost of enterprises, but also bring unnecessary trouble to the normal operation of enterprises.

Under the background of rapid development of information technology, how to use massive data to improve the rationality and rationality of human resource planning in the "Internet plus" era has become a major challenge for logistics enterprises. Taking human resource planning as the breakthrough point and basing on the actual development of logistics enterprises, improving the strategic development of human resources planning of logistics enterprises is an important measure to ensure the establishment of human resource management system in the "Internet plus" era, and also the key to promoting the transformation and upgrading of logistics enterprises in China. In essence, logistics enterprises belong to service industry, and strong personnel mobility is one of its major characteristics. In order to ensure the sufficient supply of talents for logistics enterprises to the greatest extent, it is of great significance to establish and improve the enterprise talent management system based on the actual demand of internal and external human resources of logistics enterprises. (Maxwell Rachael, 2009) Therefore, we must make full use of the big data technology in the information age to scientifically and reasonably predict the future talent demand of enterprises and improve human resource planning.

2.1 Formulate Effective Human Resource Plan to Promote the Sustainable Development of The Enterprise

Under the background of rapid development of information technology and the era of "Internet plus", logistics enterprises have established an information management system. In the era of "Internet plus", for logistics enterprises, relying on cloud computing and big data technology to improve the rationality of human resources management plan, we should give full play to their advantages in technology and services. Based on the analysis of the demand and supply of human resources in and outside the enterprise, combined with the actual situation of human resources management and the long-term development plan, we can build a high efficiency. A practical modern enterprise human resource management system, revise and improve the management system, improve the enterprise talent pool, and realize the transformation and upgrading of the enterprise. Use big data to analyze the professional skills and professional quality of existing talents, select professionals who meet the post requirements, gradually establish a human resource management system, and promote the sustainable and rapid development of the enterprise.

2.2 Establish A Scientific Selection Mechanism and Recruit Talents Through Multiple Channels

Logistics enterprises need high-quality logistics talents in order to develop healthily and long-term. Therefore, on the basis of fully understanding the existing talents' specialties and specialties, we must establish an excellent technical talent team according to the type of demand for talents, which can be recruited externally or selected internally. In the era of "Internet plus", in order to recruit high-quality logistics professionals, logistics enterprises need to make full use of the universality and rapidity of Internet technology information transmission, and publish recruitment information through the Internet, so as to recruit highly skilled talents of logistics technology with rich experience in the industry. In enterprises, we should also establish a post competency model and broaden the channels for talent growth, and select employees with outstanding performance and great potential as senior management talents for training reserve. In the selection of enterprise talents, we should pay

attention to the fairness and rationality of competition, create a scientific promotion channel, and stimulate the work enthusiasm of enterprise employees to the greatest extent. So as to adapt to the post needs and enterprise development strategy, organize employees to participate in enterprise training, and improve personal skills through in-depth practice and training, mentoring and guidance.

2.3 Improve the Incentive Mechanism and Adjust the Salary Structure

Only by paying attention to the innovation of enterprise salary and welfare system and a reasonable incentive mechanism based on salary and welfare can the enthusiasm of employees in logistics enterprises be mobilized. Welfare and performance incentive are important means to stimulate employees' work enthusiasm. In the era of "Internet plus", logistics enterprises can conduct surveys and job evaluations of wages in the industry through big data, further improve the incentive mechanism within the enterprise, scientifically integrate the internal salary structure, and establish competitive salary and welfare incentive mechanisms. Establish a salary management system that fits the "Internet plus" era, maximize the enthusiasm of the work, and encourage all staff to contribute to the development of the enterprise.

2.4 Strengthen Training and Personnel Training

With the rapid development of information technology and Internet plus, the concept of enterprise management and the renewal speed of knowledge are accelerating. For logistics enterprises in the forefront of service industry, we should keep pace with the times, pay attention to the training of staff's knowledge and ability, and establish a human resource management system to adapt to the development of modern logistics and promote the development of enterprises. At present, the competition of logistics enterprises is very fierce. How to deal with the market competition and win in the rapid development of science and technology is a difficult problem faced by the human resource management department of logistics enterprises. As professional technicians and managers of logistics enterprises, they should not only understand technology and management, but also understand law, economy and market operation. In the process of personnel training and development of logistics

enterprises, according to the needs of enterprise development

Trend and characteristics of employees, and establish a scientific and reasonable training system. Hire relevant legal, psychological and economic experts to train internal personnel of the enterprise, improve team spirit and innovative thinking, stimulate employees' innovation ability, cultivate employees' recognition of corporate culture and enhance the core competitiveness of the enterprise.

2.5 Strengthen Performance Appraisal and Improve Employee Relations

At present, the traditional performance evaluation methods of logistics enterprises are changed, efforts are made to build an organic win-win ecosystem, implement the human capital partnership, decompose the company's strategic objectives, allocate employee evaluation indicators, adopt different evaluation methods for different types of employees, and the performance evaluation cycle is combined in various forms. The evaluation results are related to the changes of employees' positions Salary and benefits are related "In the era of Internet plus, the construction of logistics staff's relationship needs to be improved so as to adapt to the development of the new generation of employees. The new generation of employees need to create an open and free innovation environment. Therefore, enterprise human resource management should pay attention to personalized and emotion oriented incentives, build a fair and transparent benefit sharing mechanism, and strengthen employees' sense of corporate responsibility. Change the original

Communication methods, enhance the communication between employees and management, and adopt the modern management mode of two-way interaction and the integration of communication and implementation.

Build a multi-level incentive mechanism. According to Maslow's demand theory, people's demand is hierarchical, from low-level material demand to high-level self realization. Employees' demand for material incentive and spiritual incentive varies greatly at different post levels. Modern logistics enterprises have the characteristics of labor-intensive, technology intensive and knowledge intensive. Specifically, there are great differences in the educational background and skill structure of employees at different levels. At present, for most small and medium-sized logistics enterprises, there are only a small number of operation management and technical employees, but more operators with

rich skills and work experience but low education and knowledge level. Therefore, it is necessary to build hierarchical performance appraisal standards and corresponding incentive mechanism.

Using a variety of non-material incentive means, non-material incentive means that logistics enterprises should adopt ways other than material salary to motivate employees. The logistics industry has high work intensity and great mental pressure on employees. Logistics enterprises should manage employees at different levels according to employees' ability, combined with employees' salary expectations, self-development planning, enterprise development objectives and other indicators, and make full use of non-material incentives such as paid vacation, career development, work incentive, training incentive and honor incentive. Especially the post-90s employees have the requirements and desire to participate in management. They should strengthen their emotional communication, enrich the work content without adding additional work, and stimulate employees to have a sense of work achievement in challenging work.

Logistics enterprises should be people-oriented and pay attention to employees' career planning. In the era of smart logistics, if enterprises want to retain talents, it is very important for enterprises to meet the space for employees' career development. Employee career development planning system is an important part of employees' spiritual salary. Enterprises should establish employees' career development goals according to enterprise needs and in combination with employees' self-development planning. Enterprises should formulate personalized career plans for employees according to their professional abilities, professional interests and business needs.

Give full play to the function of corporate culture and encourage employees. Corporate culture incentive is the highest level incentive mode of human resources incentive. Corporate culture incentive is a psychological contract between organizations and employees. Employees' recognition of corporate culture may promote employees to make selfless dedication and work hard. In the era of smart logistics, employees of logistics enterprises not only need material salary, but also need reasonable and fair return, but also need the care and respect of enterprises for employees. Enterprises should establish a learning and open corporate culture atmosphere, through the publicity and construction of logistics enterprise culture awareness, system and behavior, Let employees form an image of the best employer brand for the enterprise, and make employees identify with the corporate culture from

the heart, so as to achieve a win-win situation between the enterprise and employees. Strengthen training management, develop employees' intelligence in many aspects and levels, and logistics technology is developing rapidly. Enterprises should provide employees with training and learning opportunities in time, so as to improve employees' work skills and quality, generate greater human capital benefits, and meet employees' personal career development. Accelerate the construction of intelligent logistics, formulate talent training plans at different levels of intelligent logistics, establish a reserve pool of intelligent logistics talents, and regularly hold technology application training to improve employee satisfaction.

3 COMPREHENSIVE EVALUATION MODEL BASED ON CLOUD MODEL

Cloud model description

(1) Cloud definition. Let the qualitative concept on a quantitative universe u, u be represented by C, if the quantitative value x is a random realization of C, and $X \in u$, X is the uncertainty of C $\mu(x) \in [0,1]$ is a random number with stable tendency:

$$\mu: U \to [0,1]$$

Then the cloud can be defined as the distribution of X on universe u, and each cloud drop uses $(x, \mu(x))$ to represent.

Figure 1: Forward cloud generator.

The digital characteristics of the cloud. The expected E_x and entropy E_n are generally used. And hyperentropy H_e. Three numerical features are used to represent the cloud model concept. These digital features of cloud reflect the overall characteristics of the concept and belong to the overall qualitative characteristics of qualitative concepts.

Expectation E_x: indicates the expectation of cloud droplet distribution on u, which is the most representative point of qualitative concept.

Entropy E_n: used to measure the uncertainty of qualitative concepts.

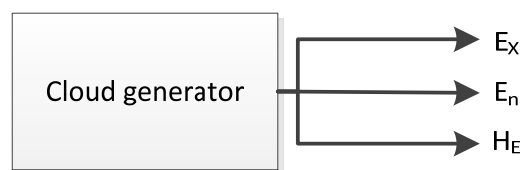Super entropy H_e: used to measure the uncertainty of entropy.

Figure 2: Reverse cloud generator.

4 CONCLUSION

In the era of "Internet plus", with the rapid development of e-commerce, logistics enterprises have opportunities and challenges. Logistics enterprises should take "talent strategy" as the primary task of enterprise development strategy, scientifically and reasonably establish the human resource management system of logistics enterprises, ensure that it is compatible with the enterprise development strategy, ensure that the human resource management strategy can support and serve the enterprise development strategy and promote the realization of the enterprise strategic objectives, To ensure the healthy and stable development of logistics enterprises in the era of "Internet plus".

The cloud model generation algorithm solidified by software modularization or hardware is cloud generator. The relationship between qualitative and quantitative is mainly established through cloud generator. Qualitative and quantitative are interdependent. Cloud generators mainly include forward cloud generator, reverse cloud generator, x-condition cloud generator and y-condition cloud generator. This paper mainly introduces the forward and reverse cloud generators.

According to the three digital characteristics of the cloud: expectation ex and entropy En. And hyperentropy he. Namely (Ex, En, He), cloud droplets are generated, which is called positive cloud generator. Given a group of cloud droplets conforming to the normal distribution as samples, three digital features (Ex, En, He) of the qualitative concept corresponding to the cloud model are generated, which is called the reverse cloud generator.

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