Optimization of Talent Flow Model under Flexible Human Resource Management

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Abstract: Study on talent flow and human resources management, especially study on the talent flow and flexible human resources management have a less quantitative demonstration, however most of the research is qualitative analysis, through the optimization talent flow model and flexible human resources management's coupled analysis, quantitative analysis and verification, the coupling relationship between the optimization talent flow model and flexible human resources management is people-oriented management philosophy with the organization relationship to carry out personnel management, at the same time to pay attention to cultivate the dedication of employees; using two-way communication and fair manner carry out the depth of management; outstanding the talent has a strong corporate culture and team awareness; training organization talent develops the perspective of globalization, and also has strong strategic consciousness. The flexible human resource advantages of talent mobility are very obvious.

1. Introduction

In recent years, the talent flow has gradually developed in talent discipline, a wide range of its flow also gives human resources management to bring certain difficulty, making the research on talent flow field not only stay in the microscopic or macroscopic, but also makes more scholars in many aspects to study the relationship between talent flow and human resource management. In foreign countries, the research on the talent flow is mainly divided into two aspects: one is the domestic labor's internal flow (part relates to human resources), its motivation consequences and so on, it mainly relates to the dynamic migration issues of internal labor resource, including labor mobility's decision factors and effects analysis; the other is the international talent flow's causes consequences, which mainly analyze the economic impact of developing countries brain drain. In China, The research involves the talent scientific introduction to specific talent, talent flow integration and its refinement process, related policy of talent flow, the relevant measures of talent flow and so on. The research also includes the talent flow's present situation, root causes, social effects, relevant policies, social all circles' concerns and other research. Early in the last century nineties, many domestic scholars has began to pay attention to talent flow causes and consequences, however most are comprehensive analysis, such as the analysis of talent flowing characteristics (brain drain), the rules(economic interest drive rules, freedom needs rules and advanced human's pursuit ideal rules), etc. Entering the twenty-first century, the study on talent mobility is more extensive, its research method, content and form have some fundamental changes, such as scholars can refer to foreign talent flow model through the going abroad to establish consistent with China's talent flow model, through the analysis of the model to achieve their life value and material ideal's demands, and at the same time to prevent an enterprise's talent loss for human resource management that improves the value of enterprises to realize the talent value. The multi-angle and multi-faceted researches in different field have made some achievements, which has played a positive role in societies economic, cultural, and political, and also has made a certain efforts for the social development and progress.

2. Optimize configuration of talent flow model

2.1 Flow talent effectiveness analysis

Talent effectiveness maximization need to be most likely to meet talent demand expectations, and the mobility of talents, the most intense expectation mainly includes three aspects that are respectively the material need expectation, belongingness need expectation and accomplishment expectation. Material need expectation is the most basic requirements of mobility talent, is but also the most basic requirements of human survival, when talents work, they also have own material needs, it once can not meet the material need expectations that will cause the liquidity increase, it can reduce the talents efficiency; belongingness need expectation is talent's life demand expectancy, also wants to establish friendly and intimate interpersonal expectations; in the work life, the talent all hopes from the accepted people to be happy, and to avoid being rejected and bring to their pain, once meeting the belonging demand of talent flow will give the talent to bring happy life environment, so that making the talents maximum efficiency. Conversely, talent effectiveness is reduced ceaselessly, and the sense of belonging is missing, the ultimate talent is lost; achievement expectation is the talent's demand expectations that have a high achievement needs talents with a strong desire to succeed and powerful driving force, the desire themselves are more perfect, more effective to engage in work. Meeting the talent achievement expectations will make the personnel in the work to take responsibility, challenge difficulty, pursue goals, thereby effectively improving the effectiveness of personnel, conversely the personnel efficiency can reduce, and the talent is eventually lost.

2.2 Talent flow model optimization

Based on the analysis of flow talent effectiveness the construction, to build the talent flow model that requires more optimize, only better optimization can be better contribute for the human resources management. After the talents of model optimization, it will have a strong work maturity, mental maturity. Working maturity need to talents with professional knowledge and work skills, a working maturity high person often has enough professional knowledge, rich work experience and a strong work ability, when finishing their work, not need others guidance but can guide others, to make the work efficiency is maximized; however the heart maturity high in work can have a strong desire and good motivation, psychological maturity high talent is not easily interfered by external factors, which can rely on own to optimized, and to clear the value of one's life, when realizing their life value, it can have very strong collective sense of honor and team cohesion. The talent optimization model is shown in Figure 1.
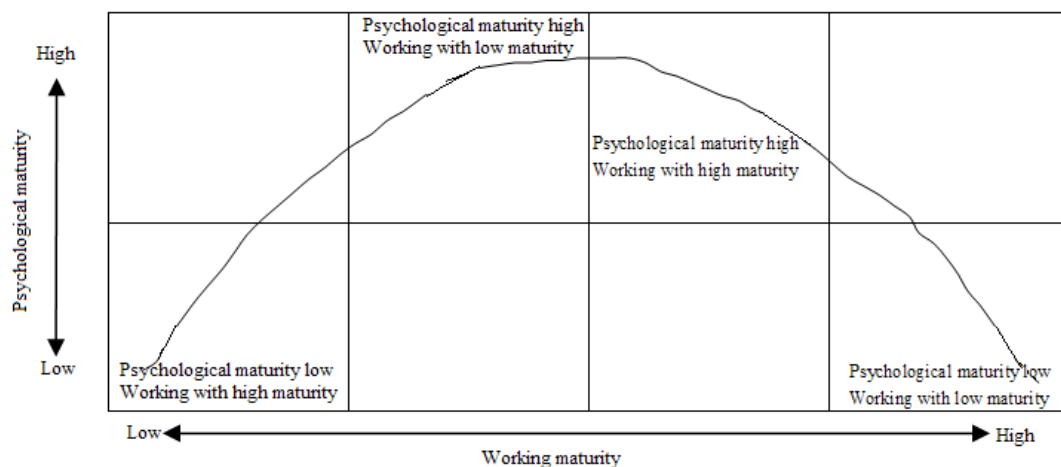

Fig.1 Talent flow model optimization

In Figure 1, it can be shown that the talent flow optimization model reflects efficiency optimization based on the talent flow expectations, through the model, to reflect the psychological maturity low, working maturity high's talent comprehensive performance optimization, and

psychological maturity with working maturity low's talent performance optimization are basically the same, which are all low; however, psychology high maturity, working maturity low's talent comprehensive performance optimization, and psychological maturity with talent performance optimization of high working maturity are the same, which are all high.

3. Flexible human resource management introductions

3.1 Flexible human resources management planning system

Flexible human resource effectively depends on scientific human resources planning, in order to effectively complete the organization needs, the managers can provide the needed post and talents to effectively complete the corresponding post duty, prior made planning work. The main content of flexible human resource planning includes the human resources equipment situation of parity existing and the needed human resources according to the organizational development strategy forecasting organization, to meet future human resource needs' action program, the specific flexible human resources system structure is shown in Figure 2.
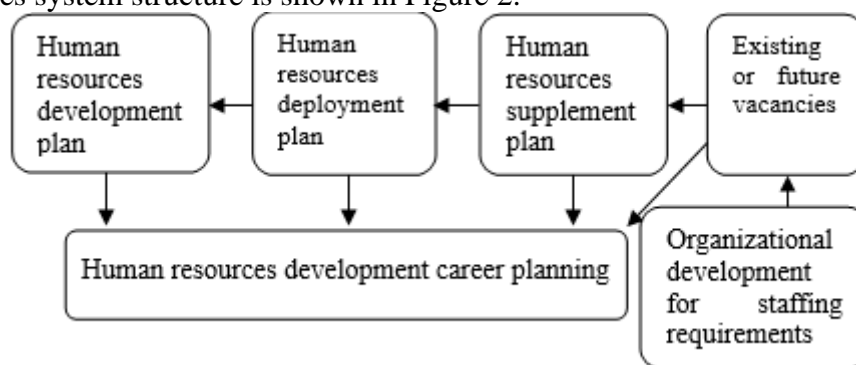

Fig.2 The flexible human resources planning management system

As shown in Figure 2, flexible human resource planning involves many aspects of human resources supply and demand configuration within the organization. Human resource management generally includes human resources supplement plan, human resource development plan, human resource deployment plan and so on. Human resources supplement plan is based on the human resources supply, to make advance arrangements for some time in the future, such as the need to complement human resource types, quantity, channels and so on; human resources allocation plan is in order to adapt to the development need, according to staff's quality evaluation, to adjust and transfer the existing human resource configuration changes; human resources development plan is according to the organization development need to make prior arrangements for training object, target, content, mode and time, expecting through the organization training to get needed employees; talent development occupation planning is the organization for the planning arrangements of occupation career, to making all staff can clearly obtain the occupation development space in the organization.

3.2 Flexible human resource management features

Compared with rigid management, flexible management has itself great advantage. Flexible human resources management characteristics are shown in Figure 3.

In Figure 3, the flexible human resources management is uncertain and complex environment, through the flexible management of human resource, making people are able to see various trends; flexible human resource management gives subordinate authorized to guide self management, through the flexible management of human resource, to emphasize talents on own discipline obedience; flexible human resource management implements a flat structure's management flexibility, making the staff dares to   challenge and innovation management; the management style of flexible human resources management has plasticity and degeneration (according to the market need flexible structure group, to advocate non-boundary management), through the flexible

management of human resource, more emphasis on cohesion, team consciousness, cooperation; flexible human resources management is timely adjustment organization, the ability of advocacy members can be multi-directional, through the flexible management of human resource, to make the organization formation to quickly reflect flexible.
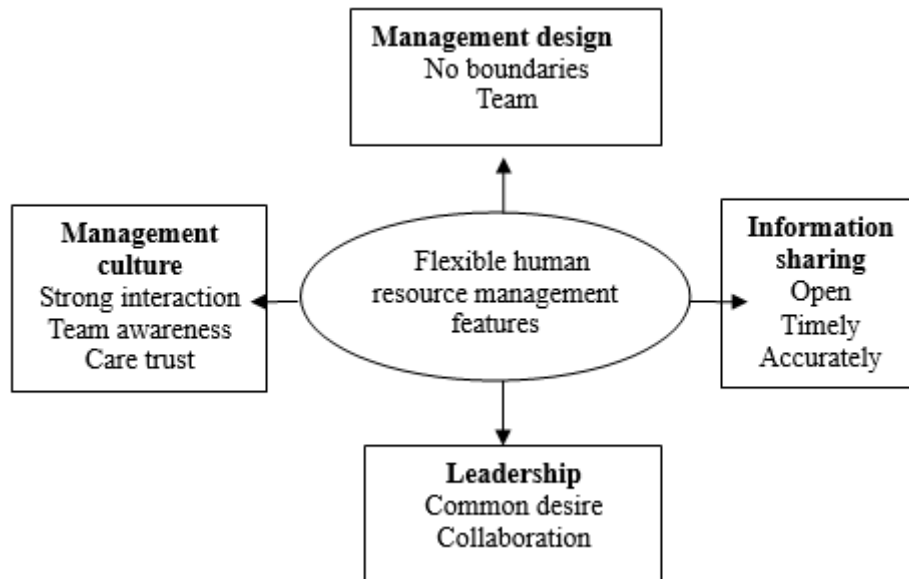

Fig.3 The flexible human resource management features

4. Optimize coupling analysis of flexible human resources management and personnel flow model

4.1 Impact of management span for the talent flow

In 1933, French management consultant Guerra Ciunas firstly published paper that has put forward the analysis of the management range mathematical model.

$$C = N\left(2^{N-1} + N - 1\right)$$

(1)

In type (2), C is the sum of all possible links that is also the relationship number; N represents a manager's the number of direct management that is also the management range.

When N=1, C=1; when N=2, C=6; when N=3, C=18; when N=5, C=180; when N=10, C=5210. The function curve is shown in Figure 4.

Through the Figure 4 as shown, with the increase of management range, the relationship coefficient between superior and subordinate is according to the geometric level in growth, which explains the complexity of the superior-subordinate relationship (the calculation formula of Guerra Ciunas's superior-subordinate relationship coefficient doesn't involve to the occurrence frequency and density of the relationship between superior and subordinate, which is restricted by its application), thus to determine the reasonable human resource management. The increase of management range makes talent's three expectations to occur the response changes, if a term don't meet the talent psychological expectations, it will lead to the loss of talent.
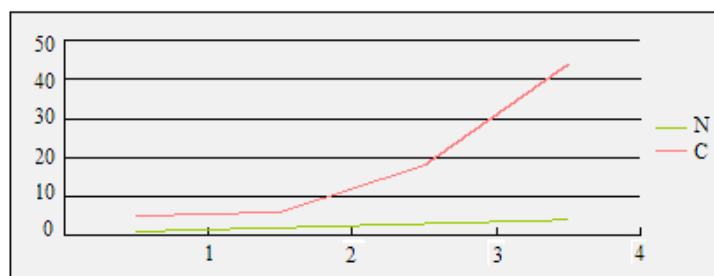

Fig 4 Flexible human resources management amplitude curve

4.2 Flow talent effectiveness optimization mathematical analysis

The optimization method solves the practical problems that generally need to the following steps:

(1) First of all, on the basis of optimization problems, after investigation and research, to obtain the relevant data through the science and statistics;

(2) According to the optimization problem, to determine objective function variables and related conditions;

(3) Establishing mathematical analysis model to determine the relevant parameters;

(4) The scientific analysis of established mathematical model to determine the optimal calculation method;

(5) Calculation results carry out analyze and verify.

Mathematical model of optimal problem is in general form:

$$\min f(x)$$
$$s.t. \ h(x) \leq 0$$
$$g(x) = 0 \tag{2}$$

Where, $F(x)$ is the target function, $h(x)$ is inequality constraints, $g(x)$ is equality constraints, $x = (x_1, x_2, \cdots, x_n)^T$ is the decision variable.

4.3 Optimal coupling

In the talent flow model, through the expected value prediction and optimization models, how to achieve the maximize talents efficiency in the human resources management that is the optimal coupling of flexible human resources management and talent flow model. Set up talent flow model parameter is $f(x)$, and in the range of the expectations EX, set EX range is from a to b, at the same time, the C also exists the range of EX, making the human resources maximum efficiency after optimization.

$$\max E \in [a,b], then f(c_1) \geq f(x), f(c_2) \geq f(x).$$

In the expectations of realization talent, due to the large number of talents, only through the investigation, eventually developing the average expected. In the actual analysis process, the different types' talent demand is showing different parameters randomly scattered distribution. Assume that the employees' material expected demand value is X, the change rate is P. The average expectation is calculated as shown in Table 1.

Table 1 Material expected random distribution statistics of the talent flowing

X	x_1	x_2	…	x_i	…	x_n
P	p_1	p_2	…	p_i	…	p_n

Then the material expectations of flow talent is:

$$EX = x_1 p_1 + x_2 p_2 + \cdots + x_i p_i + \cdots + x_n p_n \tag{3}$$

In this case, it can draw the optimize effectiveness of talent flow as shown in Table 2.

Table 2 Effect of talent flow model optimization

E1	E2	E3	E4
Excellent performance	Performance good	Performance medium	Performance low
Capable	Capable	Incapable	Incapable
Having a wish	No desire	Having a wish	No desire

In order to make the maximum efficiency, it can be seen from the Table 2, making the people not only has the ability, but also need to desire. The talent flow model has three kinds of expectations; in real life, people have varying degrees of existence, only the strength of the various needs differ from man to man, through the research found that entrepreneurs show a high achievement need expectations and higher material needs expectations, which belong to need to be lower; managers will also display a high achievement need expectations and high material needs expectations, which also belong to low expectations, however the extent is not entrepreneurs themselves. Many facts prove, high achievement need expectations all has certain achievements for family, enterprise, country.

5. Conclusion

With the rapid development of social economy background, the large scale talents flow in the international and domestic have become important social phenomenon. At home and abroad, the research on talents mobility and human resources management is more and more in-depth. Through the optimal analysis of talent flow model, the flexible management applications in the flexible human resources management, to scientific analyze the coupling relationship between them that will provide human resources management talent optimize configuration, it will make positive contributions to achieve maximize the benefits.

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