Research on Key Post Competency Model Based on AHP

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Abstract　McClelland believed that Competence Model can be divided into two parts: water ice and underwater part of the iceberg. Water ice, that is Threshold Competence, which is based on the quality requirements for competent persons, but it can not with the good performers who distinguish between mediocre. Underwater part of the iceberg of social roles, self-concept, character and motivation of competency, can collectively referred to as differentiating competence, is the distinction between good performers with an average performance are key factors. The model of the key post competency had been researched based on the AHP method in the paper. First, how to determine the key posts was discussed. After the initial establishment of the model, how to use AHP method on competency index weight design was focused on. At last the model application had been discussed in organization.
Key words　Iceberg model; Competency; Competency model; Key post competency

1 Introduction

The core problem of human resources management is to solve the match problem between people and post. The traditional researches, which based on the positions of human resources management including job analysis, recruitment and selection, performance appraisal, staff incentives, etc, more concerned about the work and position itself. With people increasingly become the core of enterprise management, the internal quality of the person, which including the knowledge, ability, personality and job performance and some other factors with the link between the studies have increasingly in-depth, competency-based model of human resource management attacks more attention by academics and entrepreneurs.

When people deal with multi-objectives and decision-making, the factors to consider are often more, maybe large or small, weight or light. But there is a common characteristic, that is the importance, influence or priority level of these factors are often difficult to quantify, when people company, judge, evaluate and decide. It makes the subjective choice will play a very important role at this point. So if you uses quantitative methods to deal with, it makes this type of issue of the decision has more difficulties. AHP method solves these problems. AHP is a combination of qualitative and quantitative analysis of systemic approach. It is that you can use to handle the complex social, political, economic, technical and other aspects of decision making analysis method, especially for multiple targets and programs in decision-making.

2 Identify Key Positions

The so-called key positions is its fulfillment of their duties, the final pair of the entire workflow output has a great impact on the entire process while the other units or even other related processes also have great influence in the post. Refer to the relevant principles of job evaluation, according to recognized standards for key positions, can affect the degree of job responsibility, freedom of action, interpersonal relationships, the time required for pre-job training, academic requirements and other factors on the job assessment, which identified key positions .The competence model describes the performance of employees which can be observed t and measured, so one of the preconditions of competence model is that the estimator should knew the people who were estimated for a long time. At least 3 months in the daily work of contact and observation of understanding, in order to pass on to these behavioral descriptions with discretion. Therefore, not all positions are suitable for use competency models for evaluation. Only the key position for the use of competency model for evaluation, and the general position that is neither economic nor significant.

3 The Implementation Phase of Model

3.1 Extract competency index

According to the list of the identified interview, using behavioral event interviews (Behavioral Event Interview, referred to as BEI), interviews with key staff positions. Based on the situation of the interviews, the information can be organized into text. For key positions and job responsibilities of each

request, analyze the data, and drawing on previous research results refine key indicators of competence.

In order to complete the status of the competence required by the questionnaire analysis has identified key positions to verify competency. Survey will focus on the Competency start. Statistics of competence questionnaire can be used five scoring. Scores of statistical standards is: "little" 1 point; "occasionally" 2 points; "more" 3 points; "frequently" was 4; "almost always" get 5 points. One common description of each subject three elements of the characteristics of a competent, three scores corresponding to the subject's score as the sum of factors determine the location of task performance scores based on behavioral characteristics.

3.2 To determine the structure of competence model framework

McClelland divides the competency into knowledge, ability, social roles, self-concept, traits and motives of the six levels. He believes that Competence Model can be divided into two parts: water ice some (knowledge and abilities), that is Threshold Competence, which is based on the quality requirements for competent persons, but it can not with the good performers who distinguish between mediocre; underwater part of the iceberg of social roles, self-concept, character and motivation of competency, can collectively referred to as Differentiating Competence, is the distinction between good performers with an average performance are key factors[1].

The model framework for the forms below:

Table 1   Form of the Competence Model

Category Index	Index dimension(first grade indexes)	Index name（Second grade indexes）	Third grade indexes
Critical of the competence	A Personality	Dedication	
		Responsibility	
		Affinity	
		Flexibility	
	B Knowledge	Theoretical knowledge (academic requirements)	
		Professional knowledge	Relevant professional knowledge
			Financial Literacy
			Management Communication
		Environmental knowledge / Relevant industry knowledge	Laws and regulations
			The situation with the industry
		Organizational knowledge	Systems and policies within the organization
			The main workflow of organization
			Institutional arrangements and responsibilities
	C Capacity	Communication and coordination	
		Emergency response capacity	
		Ability to guide the subordinates	
		Learning ability	
	D Professionalism	Professionalism	
		Company interests	
		Initiative	
		Pressure tolerance	
		Organization	

4 Model of the Perfect Stage

4.1 Demarcation critical level of competence quality

Evaluation criteria can be divided into five grades, namely, Level 1 (means "unknown"); 2 (that "inkling"); 3 ("understanding"); 4 (for "use"); 5 (means "master"). Level standards in the evaluation of a good future, require the use of appropriate standards for each grade describe the behavior of further explanation, so as to better guide the practice. Behavior described by a description in two ways: first, for example acts (mainly from the decomposition of the job responsibilities and employee performance in actual operation); second case (from information obtained in interviews).

4.2 To design the competency index weight by AHP method

(1) The principle of AHP

Suppose N objects, their weight are $M_1, M_2, \cdots, M_n$. N objects are compared to the weight each other. And the type of relationship between the relative weight is indicated to the matrix, namely:

$$A = \begin{pmatrix} M_1/M_1 & M_1/M_2 & \cdots & M_1/M_n \\ M_2/M_1 & M_2/M_2 & \cdots & M_2/M_n \\ \cdots & \cdots & \cdots & \cdots \\ M_n/M_1 & M_n/M_2 & \cdots & M_n/M_n \end{pmatrix}$$

A is the judgement matrix. If the weight vector $M = [M_1, M_2, \cdots, M_n]^T$, then $A \bullet M = n \bullet M$, that is M is the eigenvector of A and n is the only ,nonzero and the largest eigenvalue of A.

If we need to know what a group objects weight but we are not metrics tool, how do we do? We can construct the judgement matrix according to compare each other and judge every object-to-weight ratio. Then it is possible to draw this object relative to the weight of the group according to adopt for determining the maximum eigenvalues of the matrix and its corresponding characteristics of the vector. This idea is the principle of AHP.

(2) To design the weight of the index

Project team as job competency model index weights judging panel of key indicators of the competence score weights, using the arithmetic mean of the corresponding statistical analysis of data obtained the post 1, 2 or 3 the weight of competency indicators. Existing level of staff key positions and job levels and job competency models should target the right value is one to one.

Third grade indexes from a starting position with the post should be level with the right competence model index values should be multiplied together to Competency scores. Employees with job level and job competence model index weights are multiplied together to post the existing employee scores. Similarly, the third grade indexes obtained for all third grade indexes at the same level of competency scores and post jobs employees have the characteristics of scores, and then use the weighted summation of all statistical indicators obtained in the three positions corresponding to Second grade indexes Competency scores and job characteristics of employees with scores; so on, come all the secondary indicators Competency, and employees have the characteristics of the scores of posts, then all of a target drawn on the job competency, and staff have the characteristics of the scores of posts Finally, with the Competency scores of workers have less job characteristics scores obtained difference, and then use the difference to be compared to assess the degree of evaluation of staff competence.

Weighted sum in the formula calculated a statistical score indicators competency and job characteristics of employees with the score, when the difference between the final demand ratio. Construction of the difference than the flow chart shows in Figure 1.

Description: An: an index score of Competency; Cn: a target with characteristics of scores of staff positions; Bn: a target weight of Competency.

5 Application of the Model

From the perspective of enterprise organization, the ability model is an effectively thrusters which advance enterprise the key enterprise organization model building and carry on organizational change, set up high performance of culture ; The ability model helps enterprise organize carry on to make an inventory of human resources, and distinct the disparity between the present store of ability and the future requirements; The ability model established a set of benchmarking reference system, helping enterprise organization' better selecting, training, encouraging those employees who can make contributions for the building of the core competitive advantages; The ability model can make talents up more effectively, in order to make the enterprise organization realize its goal of operations and management ;The ability model facilitate organize centralized superior resources to be used in need badly or influencing great ability to train to management most; The ability model set up ability development ladder ; To facilitate business within the organization to the horizontal movement and configuration, can be more effective in promoting the development employee's career.
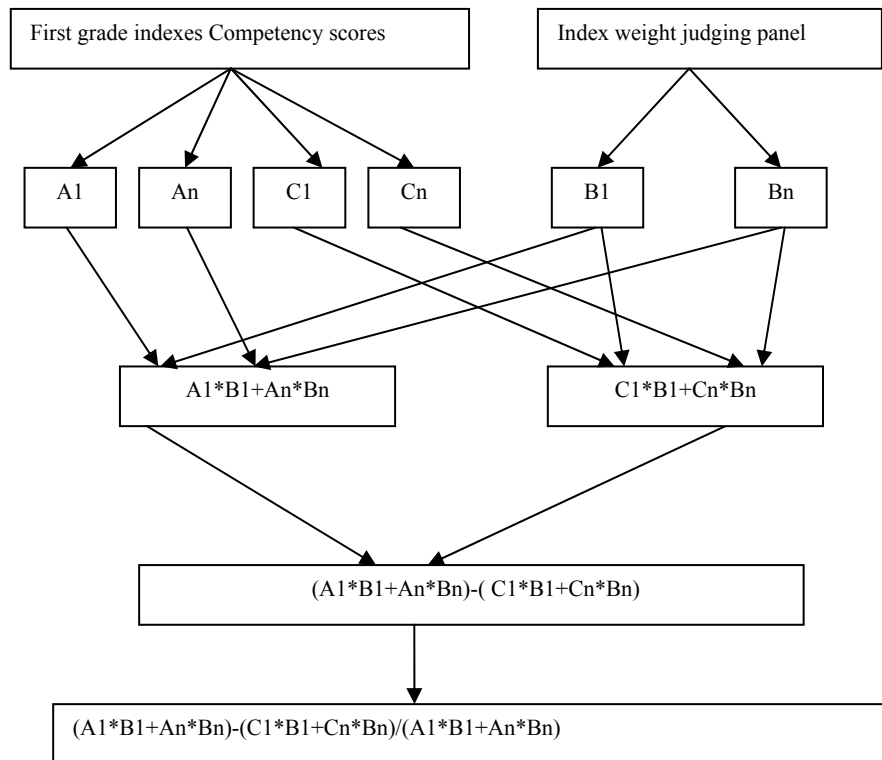
Figure 1   Construction of the Difference than the Flow Chart

From the perspective of market competition and social development, human resources are the primary resource, whit the added value of human resources, human resources has played a more and more important role. The ability model is an important means of effective development of human resources, human resources systems to ensure the promotion and support organizations to achieve strategic goals and enhance organizational survival and development.

The specific role of the ability model is reflected in the following areas:

(1) Providing basis for recruitment
(2) To provide the basis for training and development
(3) Providing the basis for staff performance evaluation
(4) Providing the basis for the Compensation Design
(5) To provide the basis for staff promotion
(6) To provide the basis for individual career
(7) To provide the basis for development of human resources strategy and planning

6 Conclusion

This paper focuses on the construction of competency model by AHP. Using behavioral event interviews and questionnaires critical of the competence construct the initial model type; though the panels to assess the identification of key indicators of evaluation of competence levels, and weight factor used to judge the competence of the table determined the weights, on the basis of theory and practice was constructed with the double meaning of competence model.

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