



An Empirical Study on Niche Structure of Senior Managers

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Abstract: Recent years see the more and more extensive application of ecology to social science. This paper aims to introduce niche theory to the study of senior managers, with a view to provide new ideas and methods to management theory and practice. The paper defines the connotation of the niche of senior managers based on literature review. An open-ended questionnaire survey helps to establish the 7-factor structure of the niche of senior managers. According to the structure, a preliminary questionnaire of the niche of senior managers is designed. 138 subjects have been surveyed, and the results of exploratory factor analysis show that the niche of senior managers is a multi-dimensional structure of six factors. In order to further verify the construction validity of the questionnaire, a more accurate study is made on the selected samples of 244 subjects. Confirmatory factor analysis shows that the niche of senior managers is a parallel structure of six factors, including *scholarly accomplishment, character accomplishment, competence, organizational advantages, organizational social responsibility, and organization-authorized resources*. The questionnaire is found to have acceptable reliability and validity.

Key words: senior managers, niche, SEM

1 Introduction

Niche theory, an important theory of ecology, studies the important theoretical issues such as the competition between organisms, the biological adaptation to the environment, the diversity and stability of ecosystem and so on^[1]. Since its creation in the last century, the concept of Niche has been widely applied in the research of the competition and cooperation among species relations, community structure, species diversity and population evolution. Human beings are evolved from and superior to animals, so there is much in common between the niche of animals and the survival competition of human beings, especially more similarities can be found in the competition and cooperation between organizational human resource management and the nature. Methodology in ecology and evolution theory has been applied into social science

and economic management, which has achieved good results, such as business ecosystem^[2-3], enterprises ecology^[4], organization niche^[5], human resources ecosystem^[6] and so on. Therefore, based on the principles of bionics, the introduction of niche theory to the study on the senior managers can provide important ideas and methods to academic research and practice, for instance, the evaluation and the scientific allocation of senior managers, and so on.

2. Background: niche of senior managers

Concept of niche in ecology refers to the location and status of species in their communities and ecosystem, which determines its morphology adaptation, physiological response and unique behavior^[7]. Species niche determines not only where they live, but also how they live and how they are bound by other organisms. Therefore, the environment is the "address" of a species, while the niche is its "occupation".

In the nature ecosystem, every species has its own specific environment for survival and competition, which is defined as the niche by ecologists. Similarly, in the *human resource ecosystem ecosystem (HRE)*, different types and levels of human resources constitute the "species" of the system, for instance, engineers can be seen as a kind of "species" in HRE. So are senior managers in *Enterprise human resource ecosystem ecosystem (EHRE)*, as they occupy some survival resources and own certain competitive competence. The question is that weather they have their own "niche"? Yan et al. (2004) initially put forward the concept of human resource niche and have carried out systematic study of on the basis of rich practical experience in human resource management^[8-11].

Similar to biological species, senior managers survive in an "ecological environment", which consists of nature, macro social environment, and micro enterprise environment, etc, but they have better competence in analyzing and selecting, compared with natural species. Combined with the concept of niche, the niche of senior managers' can be defined as a range of options over the environment variables which the senior managers own in a specific socio-economic ecosystem, that is, the maximum domain of the status and role which the individual can choose in the target population. The concept defines the specific survival location of senior

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managers in a specific period and in a specific environment.

The specific location contains two aspects: first, the characteristics of the senior managers determine the foundation for their specific location in a certain environment; second, the characteristics of the organization which the senior managers work for give support for their specific locations. Those two factors constitute the ecological factors of senior managers. The niche of senior managers can be expressed by the formula as:

$$N = f(x_i) \quad (1)$$

N : Domain value of the niche of senior managers

x_i : Niche, the factors which determine the location of senior managers in the environment

Although proposed on the basis of the biological niche, the niche of senior managers is quite different from biological niche, because human beings are powerful in changing and creating the environment, as shown in Tab.1.

Tab.1 Differences between niche of senior managers and biological niche

	Biological Niche	Niche of senior managers
object	species or population	senior managers
object's feature	weak in initiative	strong initiative, and can made notable choice according to the change of the environment
stability	relatively stable, long-lasting, complicated but easy to measure in level	relatively unstable, shorter in duration, complicated and difficult to measure in level.
volume of the niche	The environment is steady, the maximum niche is basically unchangeable	The environment is dramatically changing, the niche is enlargeable

The niche of senior managers also has significant level, that is, senior managers from different organizational context have different niche. In order to express the feature, the ecological factors of senior managers are put on the same plane, and the length of each axis in the plane refers to the domain value of the ecological factors, and the plane area represents the overall situation of the niche of senior managers, as shown in Fig.1. The niche of senior managers can be divided into n ecological factors. Any change in the external environment, organization and individual will lead to the displacement of the niche. The higher the niche, the greater niche scope that the senior managers need, the more privileged the location is, and the

corresponding subsystems of human resource management will change with the displacement of the niche of senior managers.

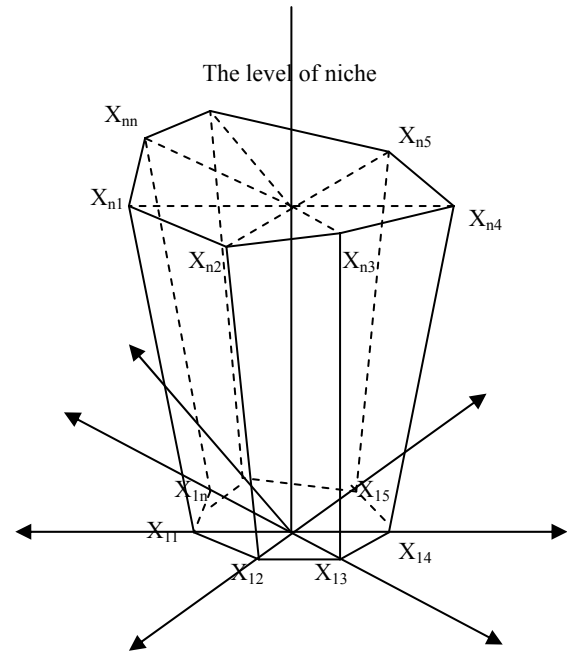


Fig.1 The level system of the niche of senior managers

The above analysis works out the conclusion that the niche of senior managers is the result of the interaction of all the ecological factors, and that the threshold value of each ecological factor, to some extent, determines the character of the senior managers in some aspects. Take the general manger of a famous enterprise and that of a small enterprise for example, they have difference niche because of differences in the size and the popularity of the enterprises. It can provide new ideas and methods for scientific evaluation and configuration of the senior managers if the niche structure of the senior managers is scientifically analyzed and the niche evaluation system for senior managers is constructed. Therefore, the paper will analyze the niche structure of senior managers through empirical study.

3 Study 1

3.1 Method

3.1.1 Initial establishment of the niche of senior managers

Firstly, through a small-scale experimental interview, an open-ended questionnaire comes out based on the careful study of the results of the interview. The formal questionnaire is constructed after the statements, semantic, and other aspects of the questionnaire have been discussed and modified by the management and psychology experts. The two questions are, "What characteristics do you think the senior managers should have?" and "What factors of the organization do you think will affect the social status of senior managers?"

Secondly, the samples are selected in the students majored in MBA and doctors in management science & engineering of Central South University, most of whom have practical management experience, and 100 samples come from internet survey, with a total of 138 sample, 36 MBA students, 72 doctors, and 30 from the network survey. The samples are required to give at least five answers to each question.

Thirdly, according to the three-step procedure of Eisenhard (1989) and the study steps of Xin and Tsui (2004) [12], and combined with the purpose of the study, the collected questionnaires are handled as the follows:

- ① 203 rather complete sentences are selected from the answers after careful reading the original material, eliminating the sentences with similar semantic.
- ② Extracting the category and summing up the theme of the original data coding. The method is as follows: based on the relevant literature and theory, two researchers extract the main categories against the 203 sentences of statements, incorporate the redundant categories or those with similar semantic meaning, and work out the final theme (category). The above work is carried out independently. The two researchers respectively extract seven and eight themes, and then make a discussion about the inconsistent dimensions, and seven main themes are summed up, namely: *knowledge*, *character*, *competence*, *organizational advantages*, *organizational social responsibility*, and *organization-authorized resources*. And then they independently classify the 203 statement sentences into seven themes, with a consistency rate of 84%. The inconsistent themes are discussed and deleted, altogether 34 sentences are deleted which could not reach an agreement.
- ③ Identifying and coding the sub-categories under each theme. Every coder independently codes the statement of every theme into different sub-category. In this round, the two coders list 24 and 26 sub-categories respectively, and then check discuss and modify the results. The statements which are classified in different sub-categories are extracted into the same sun-category in the final discussion. Those that couldn't go consistent are eventually deleted. Those with the same sub-category but with different theme are discussed and categorized into the consistent theme. The sub-categories that can not reach agreement after discussion are marked correspondingly and putt forward for expert discussion. The above procedures work out 24 sub-categories and delete 23 statements.
- ④ Merging the sub-categories. Four experts discuss the 24 sub-categories, merge the similar or overlapping ones, and redefine the sub-categories. Because of the overlapping content, *communication skill* and *interpersonal skill* are combined into *interpersonal communication competence*. The others are not found to be similar or overlapping. Finally, 7 ecological factors and 24 indicators of the niche of senior managers come out.

Through the open-ended questionnaire, coding the data and recognizing the theme, the paper obtains the

theoretical structure of the niche of senior managers, as in Fig. 2.

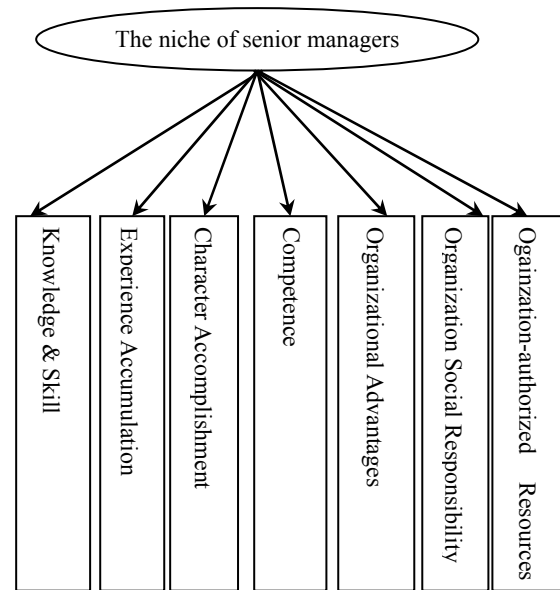


Fig.2 The niche structure of senior managers

3.1.2 Preliminary design and modification of the questionnaire

According to the results of the survey, the questionnaire scale is set up. In order to ensure the validity of the questionnaire scale, before final questionnaire comes out, five masters of business management are invited to evaluate the questionnaire to see whether the questionnaire is semantically clear and coherent, whether there are repetition and ambiguity among the items. A questionnaire testing the niche structure of senior managers comes out after deleting, merging and modifying some items on the basis of the results of the evaluation.

The questionnaire consists of three parts. The first part explains the concept of ecological factors and niche, and the relationship between them in ecological science, defines the concept of the niche of senior managers so as to make the subjects understand the relevant concepts and ensure the quality of the survey. The second part deals with the basic information, including the personal information of the subject, which is used for studying the representativeness of the questionnaire data. The third part, the main part of the questionnaire makes an importance judgment of optional ecological factors for senior managers. The questionnaire criteria adopt Likert-7 subscale system, and are basically designed according to the previous researches. 133 valid questionnaires are received by a pre-investigation, and the data are put in and analyzed by SPSS.

3.1.3 Samples

The preinvestigation lasts 20 days through online surveys, and 130 questionnaires are received. 101 valid questionnaires are obtained based on two standards: the answer time (>1 min) and the frequency of the same

choice (<50%), invalid questionnaire deleted. 40 questionnaires are given out in the human resources management training seminar for the middle and senior managers of Hunan SANY Heavy Industry Co. Ltd., receiving 32 valid questionnaires. In a total, 133 valid questionnaires are obtained. Among the 133 samples, in the perspective of position, 12 senior managers, 9%, 74 middle managers, 56%, 33 clerks, 25%, 14 others, 10%; In organization, 24 in state-owned companies, 18%, 19 in Joint Ventures, 14%, 64 in private companies, 64% and 26 in others, 20%.

3.1.4 Statistical method

The study adopts SPSS13.0 to carry out the exploratory factor analysis, correlation analysis, and part of the descriptive statistical analysis.

3.2 Analysis

3.2.1 The descriptive statistical analysis

The results of the descriptive statistical analysis show that the score for *strategic decision-making competence* is the highest ($M = 5.5564$), and the score for *organizational nature* is the lowest ($M = 4.0827$). Generally speaking, all the scores for the optional ecological factors are higher than the average of 3.50, which reveals that these ecological niche factors have certain degree of importance for the niche evaluation of senior managers. Thereinto, the items of relatively high scores include *morality*, *interpersonal communication ability*, *personality*, *strategic decision-making competence*, *learning ability*, *organizational trust*, the mean of which are all above 5.0. The items of lower scores include *education background*, *organizational nature*, *organizational environment*, the mean of which are about 4.0, which reveals that the importance of these conventional indicators is relatively weak for the niche evaluation of senior managers.

3.2.2 The exploratory factor analysis

Firstly, the study examines the feasibility of factor analysis. The statistic of KMO is 0.896 and the result of Bartlett's sphericity test shows $\chi^2 = 2150.3$, $P = 0.000 < 0.01$. The correlated degree among the variables has no great differences, and factor analysis can be performed.

Secondly, the study applies the methods of "Principal Component Analysis" and "Varimax Orthogonal Rotation" to operate factor analysis of the data. The items which fail in the classification in any principle component (factor loading value < 0.5 and a high level of cross-load > 0.4) are deleted. Finally, 5 items are excluded: *personal connection*, *coordination ability*, *growth opportunity*, *organizational vision and organizing ability*, with 19 dimensions left. At last, six factors are extracted, which explains 76.088% of the total variance (Tab.2).

According to the above results, the meaning of the factors becomes more unambiguous while its dimension becomes clearer after deleting some items. Based on the meaning of the items, the six factors are named as:

Tab.2 Result of the exploratory factor analysis(n=133)

	Component					
	1	2	3	4	5	6
Knowledge Structure	0.789	0.205	0.200	-0.035	0.072	0.251
Professional Skill	0.771	0.223	0.281	-0.030	0.175	0.191
Education Background	0.771	0.237	0.034	0.217	0.078	0.133
Management Experience	0.739	0.115	0.357	0.148	0.211	-0.037
Social Experience	0.549	0.433	0.170	0.287	0.237	-0.199
Personality	0.271	0.759	0.334	0.052	0.098	-0.085
Morality	0.235	0.794	0.137	-0.023	0.126	0.268
Interpersonal Communication Ability	0.281	0.450	0.564	0.152	-0.057	0.101
Strategic Decision-making Competence	0.156	0.364	0.738	0.089	0.166	0.146
Learning Ability	0.096	0.172	0.726	0.161	0.016	0.395
Innovation Ability	0.325	0.145	0.799	0.067	0.154	-0.003
Emotion Control	0.259	0.259	0.738	0.158	0.247	0.071
Organizational Resource	0.152	0.141	0.493	0.573	0.180	0.161
Organizational Nature	0.056	-0.009	0.094	0.912	0.045	0.148
Organizational Environment	0.134	0.127	0.220	0.750	0.323	0.055
Organizational Economic Benefit	0.217	0.041	0.286	0.356	0.718	0.145
Organizational Social Benefit	0.179	0.116	0.124	0.099	0.855	0.229
Organization-authorized Power	0.168	0.072	0.235	0.131	0.458	0.647
Organizational Trust	0.275	0.153	0.250	0.285	0.272	0.624
Variance explained 76.088%	17.361	12.141	18.108	11.037	10.279	7.162
Cronbach α	0.782	0.748	0.852	0.900	0.841	0.801

scholarly accomplishment, *character accomplishment*, *competence*, *organizational advantages*, *organizational social responsibility*, and *organization-authorized resources*. Two items, *knowledge & skill*, and *experience accumulation* are merged into *scholarly accomplishment*, which is inconsistent with the original plan. The homogeneity reliability of the whole questionnaire reaches 0.943, which indicates that the questionnaire has higher reliability.

3.2.3 The mean, standard deviation and the correlation coefficient of the dimensions of the niche structure

As shown in Tab. 3, there are secondary and higher significant correlation between the dimensions of the niche structure of senior managers, which means that the questionnaire used for exploratory study has higher validity.

Tab.3 Results of descriptive statistics of the dimensions of the niche structure of senior managers (n=133)

Factor	M	SD	Scholarly Accomplish- -ment	Character Accomplish- -ment	Competence	Organizational Advantages	Organizational Social Responsibility	Organization -authorized Resources
Scholarly Accomplishment	24.308	5.6985	1					
Character Accomplishment	10.692	2.3937	0.601(**)	1				
Competence	26.609	5.0675	0.625(**)	0.645(**)	1			
Organizational Advantages	13.165	3.5015	0.401(**)	0.285(**)	0.525(**)	1		
Organizational Social Responsibility	9.6316	2.2646	0.486(**)	0.339(**)	0.467(**)	0.539(**)	1	
Organization -authorized Resources	9.9173	2.2699	0.501(**)	0.347(**)	0.553(**)	0.506(**)	0.634(**)	1

** p<0.01

4 Study two

4.1 Method

4.1.1 The tool

Based on the results of Study 1, the formal questionnaire of 19 items is designed. The questionnaire adopts the Likert-7 subscale system, 1 stands for "unimportant" and 7 for "extremely important." Another survey is carried out using the formal questionnaire, and a total of 244 valid questionnaires are collected. On the basis of the data, SEM (Structural Equation Model) is made to judge the merits of the niche structure of senior managers.

4.1.2 Samples

The questionnaire is performed in six famous companies and on a conference of 40 human resource experts held by the Labor and Social Security Office of Hunan Province. 244 valid questionnaires are obtained. Thereinto, 73% samples were middle-senior managers and half of people worked in state-owned companies.

4.1.3 The statistical method

The study adopts LISREL8.70 to complete the confirmatory factor analysis to test the validity of the niche structure of senior managers.

4.2 Analysis

4.2.1 The confirmatory factor analysis

In the confirmatory factor analysis, a few of fitting indexes including χ^2 / df test, RMSEA, GFI, IFI, NNFI, CFI are usually used to estimate whether a model is acceptable^[13]. RMSEA is more sensitive to the wrong model, and can explain efficiently the quality of model, that is, RMSEA > 0.1 indicates that the fitting of the model is poor, RMSEA < 0.08 indicates that the fitting of the model is good, and RMSEA < 0.05 indicates a complete fitting. Several other indicators generally require no less than 0.90, while CFI requires more attention because it is independent of the size of samples.

First is the test of first-order factor. As shown in Table 3, the values of the main fitting indexes of the

model are not ideal, which indicates that the niche structure of senior managers is multidimensional.

Second is the test of the model built on the basis of the exploratory factor analysis. The result shows that several main fitting indexes are acceptable, but not very satisfactory. Therefore, following the principle of not changing the meaning of the items and small correcting range, and based on the modification information provided by LISREL8.70, one item is deleted in the confirmatory factor analysis. After that, the distribution of all the other items of every factor does not change. The values of the fitting indexes increase dramatically and close to the ideal (Tab.4).

Tab.4 Fitting indexes of the questionnaire structure (n=244)

	χ^2/df	RMSEA	NNFI	CFI	GFI	IFI
The first-order model	4.101	0.12	0.71	0.75	0.77	0.75
The second-order model before modification	2.204	0.071	0.89	0.90	0.88	0.91
The second-order model after modification	2.042	0.066	0.91	0.92	0.89	0.92

As shown in Table 4, the six indexes of the confirmatory factor analysis for 3 models including χ^2 / df , RMSEA, NNFI, CFI, IFI, GFI are gradually improving. In short, according to the fitting of the data, the second-order model amended, the relatively optimal model, has management implications. Clearly, the confirmatory factor analysis basically verifies the second-order model of 6 factors deduced from

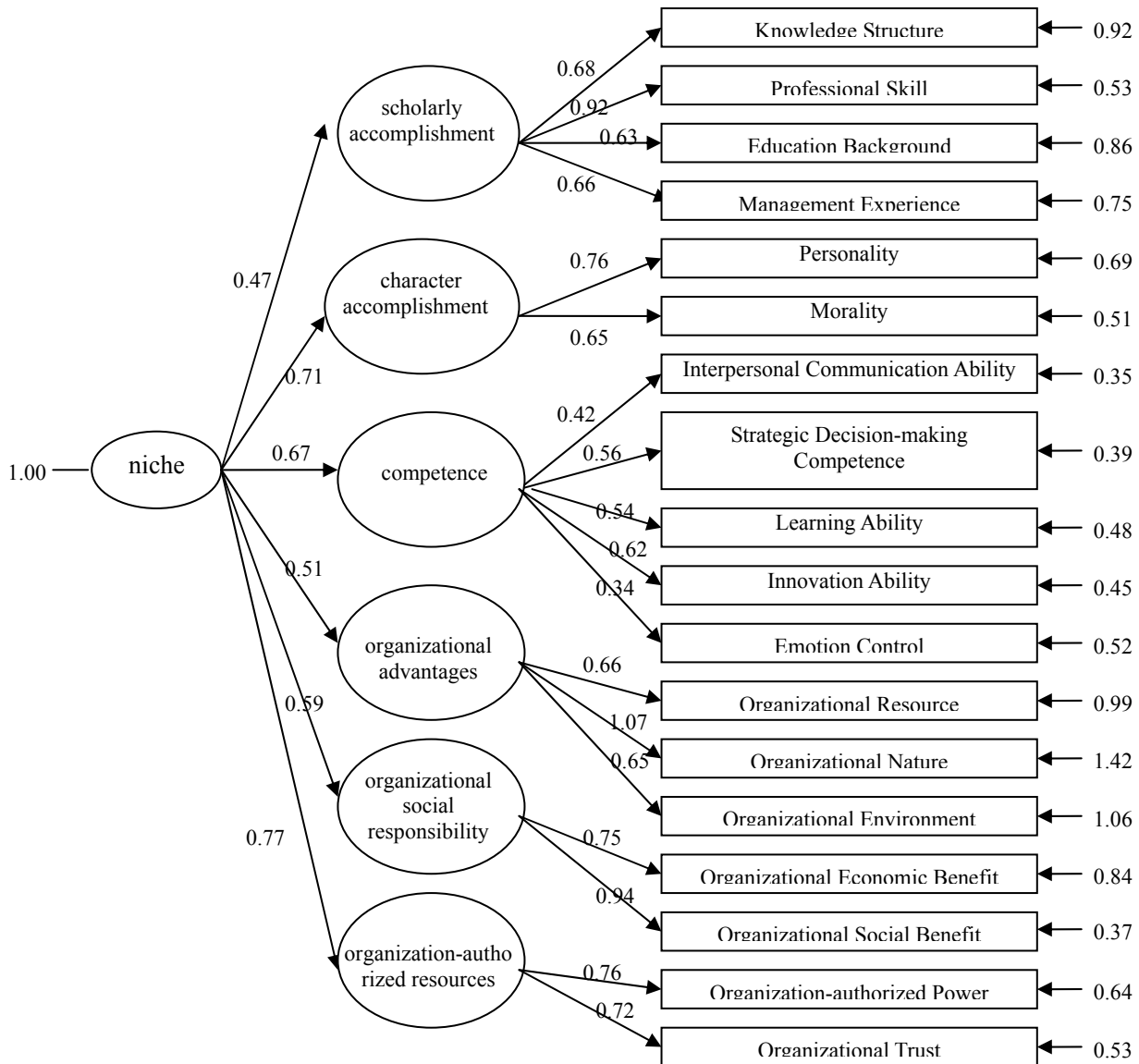


Fig.3 Niche structure of senior managers

exploratory factor analysis. Therefore, the second-order model of 6 factors is the ideal niche structure model for Chinese senior managers, and the specific model can be seen in Fig.3.

4.2.2 Reliability Analysis of the questionnaire

The previous research suggests that the Cronbach coefficient above 0.6 means an acceptable reliability; greater than 0.7, higher reliability; and greater than 0.8, good reliability. Applying the official survey data, the homogeneity reliability is calculated, as shown in Tab.5, which indicates that the formal questionnaire has a good reliability.

4.2.3 Validity Analysis of the questionnaire

Firstly, the questionnaire comes mainly from open-ended questionnaire coding and exploratory factor analysis, and the six experts are requested to evaluate the content validity of the questionnaire (whether the items reflect the situation and features of the senior managers,

whether the statement is appropriate, whether there is ambiguity), so as to ensure the validity of the questionnaire.

Secondly, according to the factor analysis theory, there should be a moderate degree of correlation between the factors. The high level of correlation indicates that there is some coincidence between the factors, and some factors may not be necessary. However, the low level of correlation probably means that what the factor actually measures is completely different from what is planned. In addition, the correlation between the factors and the total score should be higher than that between factors, so as to ensure that the factors are different from each other but can measure the same psychological characteristics. The data in Tab.6 reflect that each factor of the study is moderately correlated with the other factors and is highly related to the total scale, which indicates that each factor has some independence but also corresponding

Tab.5 Reliability analysis of total scale and subscales

	Total scale	Scholarly Accomplishment	Character Accomplishment	Competence	Organizational Advantages	Organizational Social Responsibility	Organization-authorized Resources
Cronbach a	0.802	0.707	0.620	0.728	0.601	0.693	0.652

Tab.6 Correlation among the factors and correlation between the factors and the total questionnaire

Dimension	Scholarly Accomplishment	Character Accomplishment	Competence	Organizational Advantages	Organizational Social Responsibility	Organization-authorized Resources	total scale
<i>Scholarly Accomplishment</i>	1						
<i>Character Accomplishment</i>	0.365(**)	1					
<i>Competence</i>	0.341(**)	0.424(**)	1				
<i>Organizational Advantages</i>	0.344(*)	0.356(*)	0.411(**)	1			
<i>Organizational Social Responsibility</i>	0.401(**)	0.403(**)	0.185(**)	0.310(**)	1		
<i>Organization-authorized Resources</i>	0.385(**)	0.399(**)	0.344(**)	0.320(**)	0.404(**)	1	
Total scale	0.683(**)	0.604(**)	0.682(**)	0.588(**)	0.556(**)	0.607(**)	1

** Correlation is significant at the level of 0.01 (2-tailed).

* Correlation is significant at the level of 0.05 (2-tailed).

attribution. The results of the confirmatory factor analysis show that every index of the formal structure model meets the statistical requirements and the fitting indexes are relatively ideal, which proves that the questionnaire has a good validity.

5 Discussion

5.1 The six-factor model

In this study, the 6- factor niche structure model of senior managers is construct from the perspective of individual characteristics and organizational environment, as the factors, *scholarly accomplishment*, *character accomplishment*, *competence*, have been widely recognized^[14-15]. The factors of the organizational level are initially introduced into personnel evaluation system, which is rare in the field. The research suggests that there is a strong correlation between senior managers' position in the social system and their micro-environment, which has been revealed in the study of social status and occupational prestige^[16-17].

Confirmatory factor analysis shows that each ecological factor is an indispensable part of the niche of senior managers because of its synergistic effect. The niche of senior managers is a parallel structure of the six factors, including *scholarly accomplishment*, *character accomplishment*, *competence*, *organizational advantages*, *organizational social responsibility*, and *organization-authorized Resources*.

Scholarly accomplishment, a fundamental factor, refers to the level of knowledge, expertise and relevant management experience. *Character accomplishment* is the moral quality and the personality charm. *Competence*

refers to the personal characters which can distinguish the performance in a specific organization. *Organizational advantages* is the comparative advantage of the physical resources, intangible resources and human resources owned by the organization. *Organizational Social Responsibility* is an obligation to set the organizational goal on social welfare, which is beyond the obligations required by the law and the economy, including the economic and social benefits which the organization brings to the society. *Organization-authorized Resources* refers to the rights, trust and other resources which are really authorized by the organizations to the senior managers, which is the basic premise for the senior managers to manage effectively.

The six- factor model has a more comprehensive description of the positional characteristics of senior managers, with a better practical framework for the management of senior managers and a theoretical framework to understand and study the mechanism of competition and cooperation among different kinds of the staff. Furthermore, the model enables us to understand that the senior managers should be evaluated on two aspects: ① the individual characteristics of senior managers including *scholarly accomplishment*, *character accomplishment*, and *competence*, which are not only inherent, but also important to improve their niche. At present, these factors have been commonly used for personnel evaluation by different types of enterprises. ② The factors of organizational level embody the degree of the support given by the organization. They are often ignored, however, in practice, the factors exist objectively, and cast important

influence on the behavior and performance of senior managers. Compared to the previous competence model, the niche evaluation model is more comprehensive, and breaks through the limitations of the environmental factors, indicating a stronger adaptive competence in employee evaluation.

5.2 Limitations and further research

Firstly, the study works out the niche structure model of senior managers, but the structure needs refinement in order to be practical. Secondly, senior managers have strong initiative, so their niche is dynamic, and changes with their behavior. Finally, the paper is limited to the niche status of senior managers at a specific point of time, future research is to explore the niche construction of senior managers, so as to offer theoretical ground for the dynamic person-organization fit(P-O Fit).

6 Conclusion

The results of the paper show that the niche structure of the senior managers is multidimensional, including six factors of *scholarly accomplishment, character accomplishment, competence, organizational advantages, organizational social responsibility, and organization-authorized resources*. Taking the environment into the evaluation system of the senior managers is the important innovation of the *study*, which makes the evaluation more universal. The niche structure model of senior managers will be an important tool in the management of high level human resources such as the evaluation of high-level managers and the building of the top management team. The model is an important attempt to break out the traditional approach of the human resources management, and the following research will provide more useful theoretical and practical guidance for the improvement of human resources management.

References

- [1]Cao Cougui. Introduction to ecology[M]. Beijing: High Education Press, 2002. (in Chinese)
- [2]James M F. Death of competition: leadership & strategy in the age of business ecosystem[M]. New York: Harper Collins Publishers, 1997.
- [3]M Iansiti, R Levien. Strategy as ecology[J]. Harvard Business Review, 2004,82(3): 68-78.
- [4]Yang Zhongzhi. An introduction to enterprise ecology[M]. Beijing: Science Publishing House,2003. (in Chinese)
- [5]Hannan M T, Carroll G R. The organizational niche[J]. Sociological Theory, 2003,21(4):309-340.
- [6]Yan Aimin. The theory and practice of the human resources management[M]. Changsha: Central South University Press, 2004. (in Chinese)
- [7]Li Dezhi. Development of the modern niche theory and its main representative genres[J]. Scientia Sinicae, 2006,42(8): 88-94. (in Chinese)
- [8]Yan Aimin. Concept, composition and self-adaptive regulation mechanism of human resource ecosystem[C]//The 2007th International Conference on Management Science & Engineering, 2007.
- [9]Yan Aimin. Research on core staff evaluation based on niche[C]//The Engineering Management, Services Management, and Knowledge Management, 2007.
- [10]Yan Aimin, Liu Yuan. Study on human resource niche concept and evaluation indexes[C]//The 2006th International Conference on Management Science & Engineering, 2006.
- [11]Yan Aimin. Thoughts on human resource ecosystem[J]. Journal of Central South University(Social Science), 2006,12(1): 67-71. (in Chinese)
- [12]Anne S.tsui. The management of enterprises in the P.R.C[M]. Beijing: Peking University Press, 2004. (in Chinese)
- [13]Wen Zhonglin, Hou Jietai, Herbert W. March. Structural equation model testing: Cutoff criteria for goodness of fit indices and chi-square test[J]. Acta Psychologica Sinica, 2004, 36(2):186-194. (in Chinese)
- [14]McClelland D C. Testing for competence rather than for "intelligence"[J]. American Psychologist, 1973(28): 1-14.
- [15]Russell C.J. A longitudinal study of top-level executive performance[J]. Journal of Applied Psychology, 2001,86(4):560-573.
- [16]Bian Yejie. Source and functions of urbanites' social capital: A network approach[J]. Social Sciences in China, 2004(3): 136-146. (in Chinese)
- [17]Wang Weidong. Chinese urbanites' social network capital and individual capital[J]. Sociological Studies, 2006,(3):151-166. (in Chinese)