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Factors Affecting the Flow of Knowledge-based Talents: an Empirical Analysis on Chinese Enterprises

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Abstract: Knowledge-based talents with advanced knowledge, experience and skills are major creators of enterprise value. A study on the various factors affecting the flow of knowledge-based talents is of great theoretical and practical significance. The article begins with a review of research literature and then analysis on behavioral characteristics and influencing factors of knowledge-based talents' flow; through empirical study found that organizational factors and environmental factors, including salary satisfaction, fairness in organizations, leadership support and harmony between colleagues, working conditions and employment opportunities are the critical factors of the flow in Chinese enterprise.

Key words: Chinese enterprise, knowledge-based talents, flow, empirical analysis

INTRODUCTION

In the era of knowledge economy, knowledge-based talents occupied a dominant position in value creation. The management of knowledge-based talents is the key to human resource management in 21st century. Drucker (2001) pointed out in his book *Management Challenges for the 21st Century*: A growing number of enterprise manager already are intellectuals, they are intellectual workers and they are no longer the boss's subordinates but partner. Due to the growing importance of knowledge, knowledge-based talents as the owner of knowledge, its importance is self-evident. A survey has shown, intellectual talent in the United States' share in the labor market had reached more than 60% (Liu and Peng, 2005). While in China, the number is gradually increasing. More precise data indicate that 80% enterprises consider the management elements of intellectual capital is essential for business survival and development (Zhang, 2006). At present, with the rapid development of China's economy, the flow of knowledge-based talents has become increasingly popular. Reasons for their flow are complex, both objective environmental impacts, there are changes of subjective thought, for example, industrial structure adjustment, economic globalizations, market economy matures, subversion of traditional values are likely to become the reasons of knowledge-based talents leaving the enterprises. At the same time, knowledge-based talents with a strong sense of autonomy, compared to

ordinary people, they aspire to enterprise environments with flexible and loose corporate culture. They do not wish to be subjected to any restrictions; this character also determines that they have relatively strong liquidity. Therefore, flows of knowledge-based talents in China enterprise are becoming more and more common; this article will research this phenomenon, hoping to provide theory and management practice reference.

CONNOTATION

Knowledge-based talents, also commonly referred to as knowledge workers. Drucker (1959) in his book *The Landmarks of Tomorrow* first introduced in "knowledge worker". He describes the knowledge worker as: access and make use of symbols and concepts, using of knowledge or information to work. Since then, scholars have further research on knowledge-based talents. Zhang (2005) believes that knowledge-based talents with high personal qualities, strong independent, innovative, high liquidity, high achievement motivation and work complexity, because of these complex properties, enterprises must pay more attention to the management of knowledge-based talent. Western economists earlier focus on knowledge-based talents' flow problems, major research includes the unemployment rate, wages and so on, psychologists and management after joining the ranks of research on knowledge-based talents, focusing on individual and organizational factors. Jean-Mari and Hiltrop (1999) pointed out that factors of affecting the

knowledge-based talents' flow including remuneration for work, challenges, training and promotion opportunities, socio-economic status, autonomy, job responsibilities, job security and career development opportunities. According to Kong's research (Kong and Zhang, 2013), intrinsic motivation, including work, personal growth, need for achievement, as well as extrinsic motivators, including salaries, highly independent, external recognition, are major factors causing the flow of knowledge-based talent. In summary, previous researches provide a solid foundation for this article but the conduct and character of knowledge-based talents with high complexity and uncertainty, they easily changes with time and generate new characteristics. Therefore, the study of knowledge-based talents also has certain timeliness, requires timely attention and study.

BEHAVIOR ANALYSIS

Capital investment: A human capital perspective, knowledge-based talents have three prominent features: (1) Knowledge-based talents had system of professional training and education and with specific professional skills and knowledge, so their higher levels of human capital; (2) Knowledge-based talents' knowledge and experience are unique, ordinary people difficult to imitate and replaced, so human capital of knowledge-based talents of great importance to the enterprise; (3) Knowledge-based talents strong desire for success, tend to choose the right time to leave the enterprise, to break through the bottleneck of the development and to achieve maximum personal value, therefore, the flow of knowledge-based talents is significant. Human capital characteristics of knowledge-based talents determine the knowledge-based talents' flow of investment. Theodore W. Schultz said that individual and family migration to adapt to changing employment opportunities is an important aspect of investment in human capital and knowledge-based talents with flowing from the original enterprise and entering new businesses, this behavior can be seen as a special talent with advanced knowledge and skills through rationally compare the costs and benefits of human capital transfer results. Flow costs include: Costs of migration, loss of existing social relations, etc. Flow of income include: monetary income and skills gains, etc. When income was greater than the cost of the investment in human resources, human capital of knowledge-based talents will be transferred from the original place to an environment that can produce the maximum benefit, resulting in "flow of knowledge-based talents". Therefore, the flow of knowledge-based talents has obvious capital investment.

Demands to Meet: Sigmund Freud believes that the instinctive need to dominate people's behavior. Abraham H. Maslow believes that unmet need to dominate people's behavior. Some scholars believe that dominant knowledge-based talents are "motive power of ego" and "motive power of superego". Gao (2001) pointed out that educational attainment and 'ego', 'superego' of strength is positively correlated, in other words, the higher the level of education, the strength of ego and superego are greater. Among them, "motive power of ego" comes from expectations of the need to meet. According to the behavioral science theories, there are two main kinds of knowledge-based talents to meet their needs: First, external meeting, mainly gained through external stimulation, such as wages, bonuses, benefits and promotions. External stimulation constitutes a strong incentive-remuneration incentive. Knowledge-based talents with professional and systems of education, they paid higher costs in the process of accumulation of knowledge, their payment requirements are higher than ordinary people. Therefore, maximum demand of knowledge-based talents' "external meeting" is higher remuneration incentive and they want the material is fair and reasonable. Secondly, internal meeting, mainly through its own efforts to complete the challenge, experience the sense of achievement and satisfaction of completing tasks. Knowledge talented person believes its capacities, they have a lot of dedication, a strong autonomy and they aspire to career success. Therefore, inherent meeting of knowledge-based talents contains higher achievement expectations. "Motive power of superego" is completely socialized power system; this power comes from knowledge-based talents to meet social or enterprise interests, it's accumulated during the growth. Higher the degree of education, more affected by the environment, greater the strength of "superego". Knowledge-based talents had higher education, with higher ideals and stronger sense of responsibility. Corporate culture and vision on knowledge-based talents is of great significance. Once the higher pursuits of knowledge-based talents or enterprises are unable to meet their needs, they will choose the other enterprises to meet its requirements. Therefore, flow of knowledge-based talents reflecting the demands to meet.

THEORETICAL ANALYSIS

Article summed up the factors affecting the flow of knowledge-based talents in following aspects: (1) Salary satisfaction. Salary satisfaction level is important indicator for talents to measure the satisfaction of a job. Its effects include attendance, the turnover rate of personnel,

etc., (2) Fairness in organizations. Knowledge-based talents are more sensitive to fairness than ordinary people, whether they are motivated not only depends on what they got and their income is fair than with others, (3) Working autonomy. Business managers must give more working autonomy to knowledge-based talents; otherwise, if in the context of non-voluntary work would not only delay progress, also has a negative impact on the morale of the team (Liu and Fan, 2005), (4) Working conditions. Managers should create a good working condition to protect knowledge talented person to work smoothly and efficiently, including a safe and comfortable working environment, adequate resources and a harmonious work atmosphere (Ouyang, 2007), (5) Working monotony. Knowledge-based talents like creative thinking to complete challenges, if knowledge-based talents engaged in monotonous work, not only undermine their value creativity, also inhibits their creative thinking and passion (Wang, 2007), (6) Harmony between colleagues. The trust of colleagues, the Support of colleagues, the understanding of colleagues and the praise of colleagues are important pillars of knowledge-based talents to success (Zhang, 2002), (7) Leadership support. Superiors' trust and support is the spiritual power of knowledge-based talents and equal communication can enhance the sense of belonging to the enterprise of knowledge-based talents (Guo, 2007), (8) Promotion opportunities. Enterprises must focus on knowledge talented person's career, helping them to design career planning according to their interests, achieving the close contact to personal and business development (Tu, 2010), (9) Employment opportunities. March and Simon found that when the labor supply market is tight, there is a high turnover of personnel and on the contrary, when labor demand slows, there is a low turnover of personnel (March and Simmon, 1958) and (10) Costs of flow. Flow of knowledge-based talents will produce both psychological and economic costs, including the loss of existing relationships, benefits, promotion prospects and paying the price for looking for a new job.

EMPIRICAL ANALYSIS

Empirical object selection: Empirical object of this study is the Chinese employees of SMEs, most of them are managers of enterprises and the business backbone; they have higher educational background and strong operational capacity. Questionnaire consists of several parts, among them, one for basic information, one for understanding knowledge-based talents' recognition of

Table 1: Reliability analysis of variables variable

Variable	Number of projects	Mean value	Standard deviation	Cronbach's α
Salary satisfaction	2	3.146	0.207	0.569
Fairness in organizations	2	3.262	0.110	0.589
Working autonomy	2	3.285	0.055	0.593
Working conditions	5	3.320	0.118	0.655
Working monotony	2	3.277	0.063	0.658
Harmony between colleagues	2	3.892	0.089	0.696
Leadership support	4	3.446	0.255	0.839
Promotion opportunities	4	3.523	0.187	0.780
Employment opportunities	3	3.523	0.190	0.707
Costs of flow	2	2.846	0.000	0.748
Tendency of flow	3	3.379	0.179	0.511

Table 2: KMO and bartlett's test of sphericity

kaiser-meyer-olkin Measure of Sampling Adequacy.		0.837
Bartlett's test of sphericity	Approx chi-square	1185.191
	df	45
	Sig.	0.000

enterprises, one for reflects the knowledge-based talents informed about the current job market. The questionnaire using the 5 point scale score and research to a total questionnaire of 400 people, recovered to 352. Removed did not meet the research requirements of the questionnaire, the actual effective questionnaires for 260, 65% valid questionnaires.

Reliability analysis: Reliability analysis using SPSS to measure the inherent reliability of each variable, to verify the internal consistency between issues. Most commonly used is the inherent reliability of Cronbach's α . Cronbach's alpha 0.5 is acceptable, 0.7 is better, if less than 0.35 is considered undesirable and should be rejected. The results of Reliability analysis are shown in Table 1. From Table 1 we can see that variable reliability Cronbach's α is greater than 0.5, it means that variables are selected in this study is credible.

Validity analysis: Validity refers to the correctness of measurement, is used to reflect the match between the content and result of measurement. This study using factor analysis for measuring validity. Results can be seen from Table 2, KMO 0.837, indicates that the analysis results can be accepted, Sig<0.01, shows that there is significant correlation between variables. Therefore, these variables can be used for principal components analysis.

Principal components analysis: Using principal component analysis method on salary satisfaction, fairness in organizations, working autonomy, working conditions, Working monotony, harmony between colleagues, leadership support, promotion opportunities, employment opportunities, costs of flow these ten variable dimensionality, using Variance maximum rotation method to calculate the common factor of the variable.

Table 3: Rotated component matrix

Variable	Component	
	1	2
Leadership support	0.876	0.001
Fairness in organizations	0.867	0.012
Working conditions	0.781	0.428
Harmony between colleagues	0.661	0.132
Salary satisfaction	0.576	0.378
Promotion opportunities	0.541	0.502
Costs of flow	0.438	0.261
Employment opportunities	-0.173	0.728
Working monotony	-0.395	-0.693
Working autonomy	0.528	0.549

Extraction Method: Principal component analysis.

Rotation Method: Varimax with Kaiser Normalization.

Table 4: Analysis of correlation between factors

		Organizational factors	Environmental factors
Tendency of flow	Pearson correlation coefficient	-0.522**	0.000
	Sig. (two-sided)	0.000	0.997**

**Statistical significance at the 0.01 level (two-sided test)

The results as shown in Table 3, 1st common factors obtained by principal component analysis, one common factor expressing leadership support, fairness in organizations, working conditions, harmony between colleagues and salary satisfaction, 2nd common factor expressing Employment opportunities. According to the characteristics of common factor, 1th Common factor called organizational factors , 2nd common factor called environmental factors. After dimensionality obtained two factors will be better able to explain the information of original ten variables and to facilitate the further correlation analysis.

Correlation analysis: Correlation analysis for the study of the relationship among the variables in close degree. Higher relevance, description more closely between the variables. As can be seen from Table 4, the correlation coefficient between the tendency of flow and organizational factors at the 0.01 significance level (two-sided tests) are significant and renders the negative correlation, this result can be explained for the improvement of organizational factors can dramatically reduce the flow of knowledge-based talents. At the same time, tendency of flow and environmental factors renders a significant positive correlation, this result could be interpreted as external conditions are more loose, more employment opportunities, the flow of knowledge-based talents tendency more strongly.

CONCLUSION

Organizational factors have a negative impact on the flow of knowledge-based talents: This study argues that leadership support, fairness in organizations, working

conditions, harmony between colleagues and salary satisfaction is the key element of knowledge-based talents flow. Among them, knowledge-based talents have equal and harmonious relationship with the boss, the boss can fully understand and support the work of the knowledge-based talents, or both to work together to complete the challenge which is the embodiment of higher leadership support, in these cases, the flow of knowledge-based talents will be lower. Knowledge-based talents concerned factors of fairness in organizations, fair salary and fair competitive environment are all their demand, enterprise system and the atmosphere is fairer, the flow of knowledge-based talents is lower. In the aspect of working conditions, comfortable working environment, adequate resources to support, as well as the organizational culture of respect, are all effective means to reduce the flow of knowledge-based talents. When knowledge-based talents in trouble, colleagues will lend a helping hand in time, when knowledge-based talents decision-making, colleagues will give understanding and support, harmony between knowledge-based talents and colleagues can help them to work efficiency, also enables them to have a stronger sense of belonging and to reduce the tendency of flow. Salary satisfaction has a significant negative effect on the flow of knowledge-based talents, if knowledge-based talents more satisfied with the remuneration of the enterprise; their tendency to flow is lower.

Environmental factors have a positive impact on the flow of knowledge-based talents: Institute refers to environmental factors, mainly refers to employment information and job opportunities in the social environment. When surrounded by a wealth of job opportunities, the flow of knowledge-based talents will be more strongly, conversely, when fewer jobs, their flow will weaken. This conclusion is fully consistent with the characteristic of knowledge-based talents and their practical demands, while reflecting the knowledge-based talents worry about the volatile international economic situation. The current world economy has still not fully recovered from the shadow of financial crisis, at the same time, signal of European debt crisis and nuclear war crisis is looming. In this context, china's economy also faces a serious challenge, current employment situation is hardly optimistic. In the case of very limited employment opportunities, knowledge-based talents maintaining a wait-and-see attitude for the job market, once the warmer economic and employment situation, they might consider quit their current job, looking for a more satisfying job. Therefore, the study suggests that environmental factors have a significant impact on the flow of knowledge-based talents.

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