



Research Article

ISSN : 0975-7384
CODEN(USA) : JCPRC5

Research on growth mechanism of enterprise knowledge talents based on ecosystem management theory

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ABSTRACT

In the knowledge-based economy, knowledge talent is critical to build the core competitiveness, knowledge talents growth affects the development of enterprises. First, from the connotation of a knowledge talents, the paper analyzes knowledge talents capacity structure which different from general human resources, puts forward definition of ideal ability and defines knowledge talents growth base on the ideal ability. Knowledge talents mainly mean workers who rely on mental job, its growth comes from the process that existing ability expends to the ideal ability. Second, the paper analyzes relevant content of enterprise ecosystem management theory and puts forward the ecological model of knowledge talents growth. The model is a dynamic growth mechanism which based on enterprise ecosystem as foundation with business culture and enterprise system, the method is training, employee self-study and practical work to promote knowledge talents' ability. Finally, the paper puts forward recommendations to tap knowledge talents value by using the model of ecological model of knowledge talents growth.

Key words: Ecological management theory, Knowledge talents, Growth model

INTRODUCTION

In the 21st century, knowledge economy will gradually occupy a leading place in the international economic, compared with agricultural economy and industrial economy based on common labor power and material, knowledge economy is grounded on production, distribution, using information and knowledge, the importance of talents is further enhanced, knowledge economy is a kind of talents economy[1]. As the main body of knowledge creation and carrying, knowledge workers play an important role in knowledge economy. Peter Drucker(1999) proposed the idea that productivity of knowledge worker was the biggest challenge for management. In the 21st century, in developed countries, it is the need of living. Otherwise, they can't keep their leadership position and the standard of living[2]. As the main body of economic development, core competitiveness for enterprises construction must rely on the management of knowledge worker. Peter Drucker(1999) proposed that productivity of knowledge worker was the core of enterprise management in the 21st century[3]. In the future, the success of enterprises depends on whether the knowledge workers can be effectively managed or not. The validity of managing the knowledge workers mainly shows whether it can excavate creativeness and productiveness of knowledge worker and make them and organization grow together or not. Studying enterprises knowledge talents growth from the angle of ecology and researching how to create a good ecological environment for knowledge workers has become a burning question in the development of our enterprises.

OVERVIEW OF ENTERPRISES KNOWLEDGE TALENTS

A. Connotation of enterprises knowledge talents

There is no general definition about enterprises knowledge talents in recent academic world, different scholars have different views on it, such as knowledge wright[4], knowledge worker[5], knowledge staff, knowledge talent and so on. On the definition of the knowledge talent, Peter Drucker, a famous management master, pointed out: on the one hand, making full use of modern science and technology to raise working efficiency; on the other hand, knowledge

talents have strong ability of learning and creating[6]. Famous Canadian scholar Frances Horib pointed that: In short, knowledge worker means that using brains more than hands when they create wealth[7]. Professor Xiang Qian Zhang thinks that knowledge worker means the worker whose contributions of mental labor is greater than manual labor[8]. The author considers that knowledge wright, knowledge worker, knowledge staff, knowledge talent are collectively called the knowledge talent, they are the workers who engage in mental work. Enterprise knowledge talent means the workers who engage in mental work in enterprises.

B. Ideal ability of enterprises knowledge talents

On the study of ability, there is no general definition. The definitions of ability in a dictionary is that a subjective condition when completing something smoothly, it is naturally associated with people doing something. MBA think-tank thinks that ability is psychology feature when completing something smoothly. Professor De Zhang thinks that there exist differences in ability development of level and time among different people[9]. Professor Quan Wen Liao thinks that can be divided into five steps: different steps means different ability, with the increasing of step, people's ability has also increased. The first step includes ability of technology, execution, solving spot; the second step includes ability of perception, organization and expression; The third step includes ability of judgment, analysis and communication; The fourth step includes ability of innovation, decision and understanding; The fifth step includes ability of guts; aspiration and choosing the right person[10]. Professor Lei Zhang, Qing Rui Xu[11]thinks that ability can be divided into emotion, emotion orientation, knowledge intelligence, element and values. In addition, there are different words for it[12]. From the scholars, people has some ability, it can make people complete specific kind of task. but there is a slight difference among them.

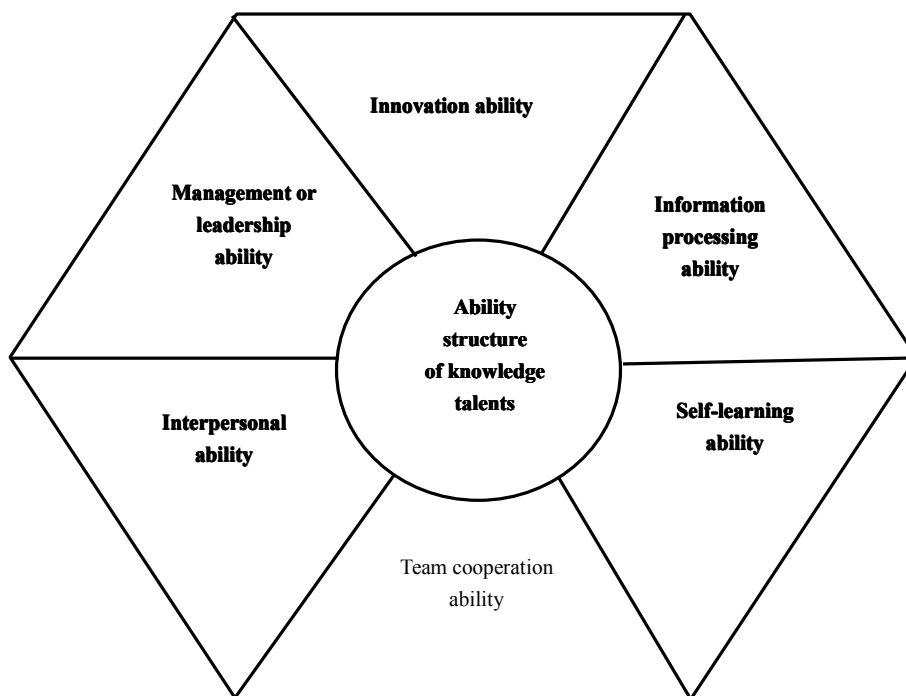


Figure 1: Ability part of knowledge talents which is different from manual workers

As the special talents in human resources, the study on ability of knowledge talents has become a focus of all society. Professor Xiang Qian Zhang thinks that knowledge talents not only have the common ability, but also have something special, it's the main factor that knowledge worker means the worker whose contributions of mental labor is greater than manual labor, the difference mainly manifests in the following ways: innovation ability, management or leadership, information processing ability, self-learning ability, team cooperation ability and interpersonal skills[13]. So, this paper considers knowledge talents have the ability structure as figure 1:

When the workers are finishing the work, they don't need all to play and usually use a part of ability that can ensure the completion of the work. In order to study well, the author puts forward the concept of "ideal ability". It means the part of ability that workers possess and can touch post requirements when they are working, obviously, ideal ability is unnecessary and sufficient condition for workers are being competent at a job, the intension of ideal abilities are as shown in the shadow part in figure 2:

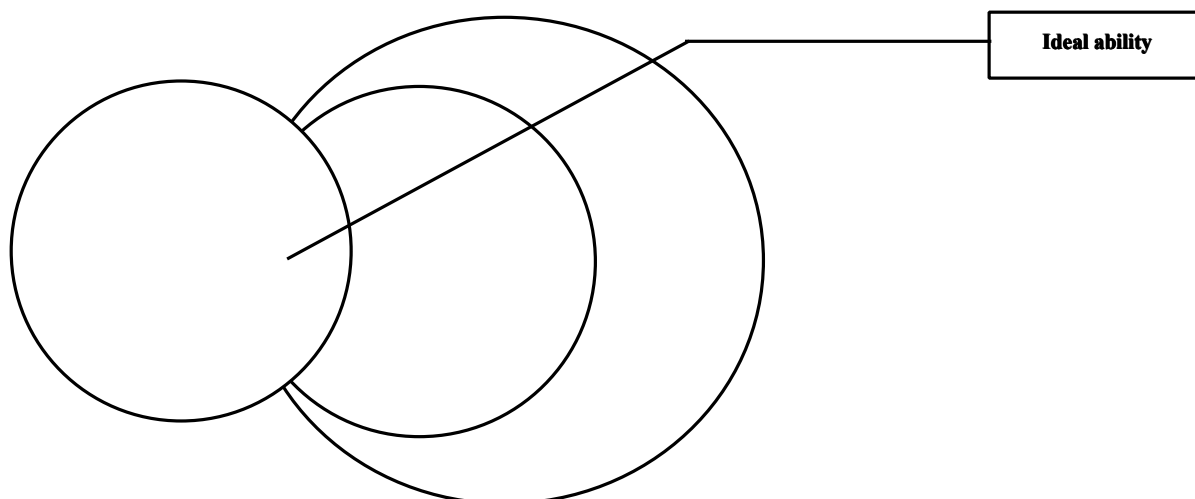


Figure 2: The concept of “ideal ability”

C: The growth of enterprises knowledge talents

Now, theory research of talents growth is abundant, much of the interest was centered on the factor, environment, management of talents growth and so on[14-16]. Those don't give definitions to circumscription of talents growth[17]. Each person has their own view for talents growth. There is no standard and definition, so it's hard to estimate the degree of talents growth.

The author thinks that knowledge talents growth means the ability growth, a process that available capacity goes to the “ideal ability”. From the external form, knowledge talents growth is mainly embodied with two processes. The first is building post competency from scratch, the second is the process that post competency beginning to create value. Building post competency from scratch means knowledge workers begins to fit for the job easily. This process always need outside growth mechanism, such as the job training and guiding from leaders. Post competency beginning to create value means the process that exploiting potentialities of knowledge talents. Some talents has already owned the ability to competently accomplish the job, but they are unwilling to work out potentialities because of some subjective reasons, it will lead to a bad performance in job. Some measures, such as leading and encouraging must be used to stimulate their enthusiasm, that will create value for the company.

The growth of knowledge talents can be measured by the ability and willingness. Building post competency from scratch is the promotion of workers' ability, post competency beginning to create value is the promotion of workers' willingness. Only tapping the potential of knowledge talents from two the dimensions can we let workers create greater value for enterprises.

ENTERPRISE ECOSYSTEM AND ECOLOGICAL MANAGEMENT THEORY

A. Enterprise ecosystem and talent ecological niche

Ecology derives from the greek “Oekologie”, “Oekologie” is made up of root “oikos” and suffix “logos”, oikos means habitat, logos means branch of learning, the original intention expresses the research on biological habitat environment[18]. The idea of ecology has a long history, it can be traced back to the age of ancient Greece, the earliest medical experts Hippocrates(460-377B.C) wrote a book entitled *air, water and grass*, he pointed that the relationship between plant and changes of the seasons must be studied[19]. In 1935, the British ecologist A. G. Tansley firstly proposed the conception of “Ecosystem”, he regarded living things and their natural environment as a whole[20]. In nineteen fifties, The United States ecologist E. P. Odum has published “

The ecological basis”, developed the concept of ecosystem, enriched the content of ecosystem theoretically and experimentally and constructed knowledge framework of basic ecology[20]. E. P. Odum made an important contribution to ecosystem. Ecological niche is an important concept of ecosystem, in the natural ecology, ecological niche means a role that a population in a community, it's a “living method” of a population[21].

Since then, domestic and foreign scholars introduce ecology theory to the industrial organization and business organization, that formed organizational ecology and corporate ecology. If the society has been a ecosystem, organization will be an elementary entity in this ecosystem; If the industry has been a ecosystem, enterprise will be an elementary entity in this ecosystem. Wen Chun Jiang(1999) thinks that the following three aspects can be done to

understand enterprise management by ecological theory: relationship between business and the environment, enterprises and personnel and some relationship in management system[22], can be used for reference to know the relationship between enterprises and employees from the angle of ecology.

Compared with the natural ecosystem, the enterprise is a typical artificial ecological system, employees are the living beings in the enterprise ecosystem, there are many similarities between enterprise ecosystem and natural ecosystem, we can construct enterprise ecosystem by using the theory and method of researching the natural ecosystem. Analogy of natural ecosystem and enterprise ecosystem are as shown in table 1:

Table 1: Analogy of natural ecosystem and enterprise ecosystem

	Inscape	Active agent
Natural ecosystem	Natural environment: Soil, sunshine, moisture and so on	Living beings
Enterprise ecosystem	Corporate environment: Culture, system and so on	Enterprise staff

B. Ecological management and ecological management of enterprises

The enterprise ecosystem management should be included in the ecological system management that the enterprises live in. Enterprise ecological system focuses on gaining a competitive advantage in industry value chain, realizing the value chain resources integration and achieving harmonious development of enterprises. Enterprise ecological system understands the corporate mission deeply, enterprise should be harmony with the social environment, that can keep green, realizes the sustainable development and establish the basis of thousands of years of enterprise management.

As the main body of the enterprise ecosystem, the knowledge talents are the “eco-man” in enterprises. Eco-man corresponds with “economic man”, compared with the “economic man”, it’s the theory hypothesis that conforming to the human nature deeply. “Eco-man” can be defined as narrowed meaning and widened meaning. “Eco-man” in the broader sense not only pursues sustainable development between man and nature, but also pursues perfection with others, it is in effect the ideal person and has always been synonymous with “rational and harmonious people”. “Eco-man” in the narrow sense means mere environmentalists, in the current stage of social development, we should neither favor perfect nor favor mere environmentalists, the great emphasis of “eco-man” should be put on the “yearning of balance between man and nature”, after all, ecological crisis is the most basic in the social crisis, at the same time, we should regard social harmony and make themselves better as a pursuit of the goal, because “the liberation of nature and people are not divorced”. From this, we can defines “ecological man” as a person or group who possess ecological consciousness, respect the natural ecological law, constrain individual or collective behavior and achieve sustainable development of social and economy. “Ecological man” can either be country, or government, enterprises and individuals. “Ecological man” does not expound dependence of the person on nature from the angle of unadulterated utility, it further emphasizes annotating from the essence of man. In the ideology of “ecological man”, solving ecological problems is not an improvised makeshift to approach special survival situation, it’s an essential survival principle. So, “ecological man” not only have the ecological consciousness of natural maintenance, ecological equilibrium and others, but also have the following values: (1) Wholism weltanschauung or ecological conception of world. (2) Establishing the conception of ecological security. “Economic man” focuses only on economic benefits and plunders the resources shamelessly, by contraries, “ecological man” puts ecological safety in the first place.

Ecological niche means the position and functional relationship with related species in a ecosystem. The essence of knowledge talents is the capacity expansion, the concrete feature is the moving of “ecological niche”, it is essentially a process that a lower post marches to a higher post.

Scholars have different viewpoints about the ecological management. U.S. bureau of land management defines it as the managing the ecosystem and physical system that can defend ecological sustainability, the diversity of nature and landscape productivity by interaction of ecology, economics and sociology. The United States forest service defines the ecological management from the angle of forest husbandry. Natural resource management is a kind of integral method, it transcends intersected method and compromises anthropology, ecology and physical dimension natural resource management, the purpose is obtaining all the sustainability of resources. Robert C. Szaro thinks that ecosystem management is a method that try to make all stakeholders formulate sustainable solutions for people and their living environment, the purpose is repairing and maintaining health, productivity, biodiversity and full of life. Peter F. Brussard defines ecological management as a way to manage different scale of area, the target is keeping measurable human using and living when protecting service of ecosystem and ecological resources. Environment Protection Agency thinks that ecological management is repairing and maintaining the health of ecosystem, sustainability and ecological diversity, it also can support continual development of economy and society. Over bay

thinks that ecological management can use ecology, economics, sociology and management into the ecosystem management, the aim is producing, repairing or maintaining integrality, application, product, value and service of ecosystem.

In summary, the definition of ecological management can be reduced as follows: it use ecology, economics, sociology, other branch of learning, modern science and technology to manage effect of human action on ecological environment, the goal is trying to balance development and ecological environment protection, that can achieve the sustainable development with economy, society, and environment all in harmony.

Enterprise ecology management means using the thought of ecological management instructs the all aspects of enterprise manage. Such as manufacturing management, human resource management, marketing management and so on from the angle of ecology. The content includes ecological management subject, management benefit, design of products, production, marketing and so on.

THE MODEL OF KNOWLEDGE TALENTS GROWTH BASED ON ECOLOGICAL MANAGEMENT THEORY

A. The relationship between enterprise and knowledge talents

The core knowledge talents have four essential features: First, they should have key skills of constituting core-competitiveness source. The key skills mean that they have special skills, such as creating high commercial value. Secondly, knowledge talents are always in higher positions. For example, research staff grasps confidential Science and technology resources, marketing manager has commercial information and a lot of customer information, top executives have the skills of resources distribution, these resources are the task which important posts have entrusted to them, but it must be combined with their human capital, that are key skills, only in this way can enterprises have good operation function. Thirdly, knowledge talents make outstanding contributions to the enterprises. According to the eighty-twenty rule, the core knowledge talents account for 20% of the employees, but they create more than 80% wealth and profit, they help enterprise form core-competitiveness. At last, fungibility of knowledge talents is poor. If they leave office, it will bring adverse effect to the enterprises, vacant post is very difficult to replace, even so, recruitment and training cost are expensive.

Knowledge talents are the special part in human resources, they may become driving force for the enterprises, but they may also an obstruction, when surroundings offered by enterprises matches with the surroundings knowledge talents need, they can exert corresponding creativity, it will bring incalculable value to the enterprises. If they don't match, knowledge talents may bring resistance to the enterprises growth, once this resistance exceeds a certain degree, enterprises may be destroyed. For example, losses of core technical staffs bring diffusion of business secret, it will put enterprises at a competitive disadvantage and even lose core-competitiveness.

B. The enterprise ecosystem and knowledge talents growth

If enterprises are regarded as an organic ecosystem, staff are the organism in this system, the premise which knowledge talents create value and play efficiency is they can live in this ecosystem. In order to tap the value of knowledge talents, business managers should take the responsibility of building good enterprise ecosystem and provide feasible soil and climate for the knowledge talents.

Relative to enterprise ecosystem, soil and climate are the corporate culture and institution. Superiority or inferiority of enterprise ecosystem may influence knowledge talents growth. Good ecosystem could retain knowledge talents, grow together and create value; bad ecosystem may swallow knowledge talents, fetter creativity, strangle innovation and ultimately lead them to assimilation and quitting. Knowledge talents have strong initiative and the degree of self-actualization, so, if they could not develop value, great majority of talents would leave the company.

In order to let enterprise and knowledge talents grow together, a good atmosphere must be provided. Meanwhile, as the main part of human resources, knowledge talents could improve ecological environment. Only enterprise and knowledge talents working together can purify enterprise ecosystem and realize their own mission. Positive interaction of knowledge talents and enterprise ecosystem could realize by the ecological model of knowledge talents growth.

C. Ecological model of knowledge talents growth

In the enterprise, staffs experiences a long process from entering into the enterprise to being a care talent, any recruitment could not get proper talent in one, especially the core knowledge talents. Generally, staff's starting ability is different from ideal competence, talents cultivation is such a process of promoting competence over and over again, in this process, on the one hand, new employees must learn by themselves,

Enterprises provide corresponding training, develop Knowledge input and improve match degree between knowledge talents and post. On the other hand, enterprises must provide all kinds of effective support, such as providing suitable jobs to right person, they should promote ability over and over again for promising staff, turn staff to advantage and cultivate the most suitable person for enterprises. Ecological model of knowledge talents growth is the growth mechanism of knowledge talents ability promotion over and over again, as shown in figure 3:

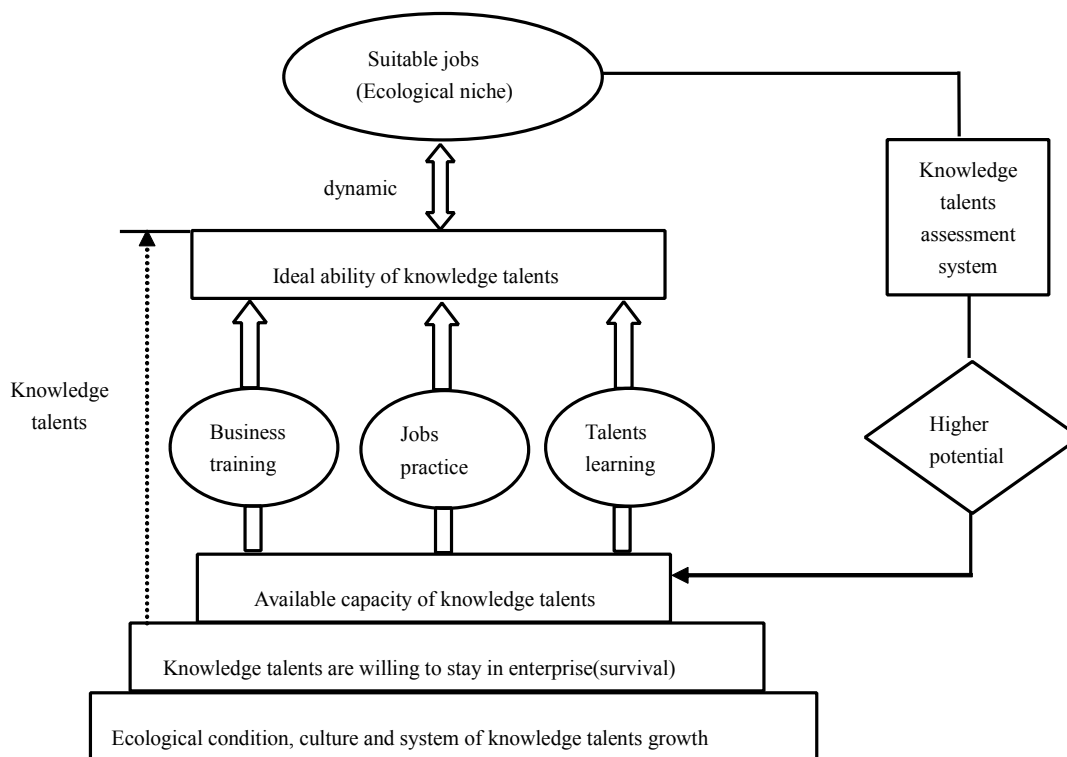


Figure 3: Ecological model of knowledge talents growth

From the angle of talent cultivation, establishing ecological model of knowledge talents growth is good for promoting employee competence. A perfect ecological model of knowledge talents growth must have five system supports: First, system support of knowledge input, it can directly replenish knowledge dimension for the employees; second, system support of skills training, it can directly replenish skills dimension for the employees; thirdly, system support of practice accumulation, a practical environment should be established to make staffs apply the knowledge and skills they studied; fourth, compatible post support, when employees are configured in the suited post, competency can translate into performance to the most degree; fifth, perfect talent cultivation system and good talents recruiting system.

IMPLICATIONS OF ECOLOGICAL MODEL OF KNOWLEDGE TALENTS GROWTH FOR ENTERPRISES

A. Establishing scientific knowledge talents training institutions

Talents training in enterprises is different from short-term staff training, the accent is the long-range and best human resources supply. So, enterprises must establish a talent cultivation institution, it includes rich instructor resources, funding resources and curriculum resources. Currently, Motorola university, Croton business school of GE and Hai Xin training college play an important role in human resources management system, it's a vital part of the core knowledge talents cultivation and it provides formidable power guarantee. The establish of these institutions have some advantages: first, they can satisfied different kinds of core knowledge talents need and implement strategic intent to the highest degree, second, training institutions create good learning enterprises atmosphere, thirdly, they have typical economy of scale. It could save the long-term cost of talents training to the most degree, in the interior of the training institutions, enterprises could confirm main talents and core knowledge talents according to the development strategy, economic pattern and business process.

B. Talents training office should be confirmed by different type of talents, excellent staff can undertake administration and teaching. So, good environment of establishing scientific knowledge talents training institutions is important for continual talents cultivation and other steps.

B. Providing appropriate practice and working environment

Core knowledge talents are always open-minded, flexible, skilled, self-confident and liquid. Enterprises should establish loose administrative system and organization structure, staffs can communicate freely with each other and work in a suitable circumstances. In this atmosphere, knowledge talents are becoming highly receptive to sharing knowledge and skills. Establishing suitable circumstances is an important step in the practice and accumulation of ecological model of knowledge talents growth, good and independent internal environment plays an indispensable role in practical experience accumulation for core knowledge talents.

C. Using flexible stimulation mechanism

Barnard thinks that objective stimulation could let staffs have desire of cooperation, this can be material, immaterial or social. According to Maslow hierarchical theory of needs, excitation should consider people's need. So, the need of knowledge talents should be considered when choosing incentive methods, that can motivate working enthusiasm. First, core knowledge talents want to receive recognition from enterprises and society. So, enterprises do not merely provide proportionable reward, it also include individual growth, working autonomously, business success and reward. Individual growth comes first. So, enterprises should know their willing and provide compatible ascension pathway. Second, forms of excitation are not limited to salary increase, commending and other traditional form, flexible methods could be used, such as awarding tourism, holding shares, naming new product with innovators and others. To take tourism for an example, it's also a reward for the enterprises, large-scale tourism is always a propagandist means.

D. Establishing evaluation mechanism of knowledge talents

At present, enterprises pay attention to the talents cultivation. General budget of big international companies accounts for 1%--3% of the total returns, the maximum is as high as 7%, establishing and perfecting mechanism of knowledge talents is indispensable to talents cultivation, it's important for talents circular cultivation, promotion and tapping potential. For the talents cultivation, assessment system plays a role in perfecting system, finding shortcoming and providing direct bases for the talents cultivation, enterprises must establish talents cultivation assessment system according to the need of core knowledge talents growth.

CONCLUSION

In the knowledge-based economy, knowledge talents is the most valuable resources for the enterprises. Enterprises should provide a good ecological condition, talents could continual growth according to their growth mechanism in this ecosystem. In good condition, knowledge talents gain growth power by self-study, training and practice. Ability ranges from existing ability to the ideal ability; post ranges from existing to the post which matches with the ideal ability. In this process, value and potential of knowledge talents can be tapped ceaselessly, it provides continuously intellectual support for the enterprises. The paper analyzes the knowledge talents growth mechanism from the angle of ecological management, defines the knowledge talents growth and puts forward Ecological model of knowledge talents growth, enterprises ecological environment construction and knowledge talents growth effect evaluation has not been deeply explored. These are the main inadequacy of the paper. So, constructing ecosystem and knowledge talents growth effect evaluation system should be considered in the further study.

Acknowledgments

This paper is one of Huaqiao University's Academic Project Supported by the Fundamental Research Funds for the Central Universities which addressed by Zhang Xianqiang(12SKGC-QT02), China Humanities and Social Science Fund which addressed by Zhang Xianqiang(11BJY003) and The program for Fujian New Century Excellent(11FJRC04), Express thanks to the Fund support and all the participators.

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