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A classification model of knowledge talented persons based on characteristics of knowledge

Wu Shuwei¹, Zhang Xiangqian^{2,*}

Business Administration College HuaQiao University, No. 269, Chenghua North Road, Quanzhou 362021, (P.R.CHINA)

E-mail : xqzhang1998@163.com

ABSTRACT

Existing researches on knowledge talented persons are mainly from human characteristics perspective, which result in difficulties and disagreements due to variability and complexity embedded in human nature. This paper holds the view that more effective and fundamental way to study knowledge talented persons may be through characteristics of knowledge itself. A classification model of knowledge talented persons is proposed which divides knowledge talented persons into four different types by discussing the specificity and exclusiveness of their knowledge. Further application and extension of this model is also discussed.

KEYWORDS

Knowledge talented person; Characteristics of knowledge; Classification model; Specificity; Exclusiveness.



INTRODUCTION

A remarkable feature of knowledge economy era is the possibility of utilizing knowledge as major capital, which changes the situation that economy development relies mainly on natural and financial resources. Knowledge talented persons, also mentioned as knowledge workers, knowledge staff, etc., are undoubtedly crucial to the era as owners of knowledge, and organizational competitiveness thus lies in the possession of such persons and their low-mobility and high-performance. Yet the definition of knowledge talented person hasn't reach a consensus practically and theoretically. Drucker described knowledge worker as a man or woman who applied to productive work ideas, concepts, and information^[1]. Woodruffe thought of knowledge workers as those who were knowledgeable and applied their knowledge to innovation^[2]. Huang, weiguo believed that knowledge staff were persons engaged in acquirement, innovation, sharing and application of corporation's knowledge value chain and made analysis independently^[3]. Peng, jinsong considered that knowledge workers were brain workers in important or critical positions who mastered special knowledge and skills valuable to organization^[4]. Zhang, xiangqian supposed that the term "knowledge talented person" met with more approvals among managers through empirical studies and defined knowledge talented person as a worker who made contribution to organization more mentally than physically^[5].

Knowledge talented persons are usually of stronger personality, more particular individual natures, mental needs, values and ways to do their work, which manifest itself in higher individual quality and complexity of work, more independence and innovation, stronger career ambition and higher mobility^[6]. Organization thus has difficulty in monitoring their work and evaluating their outcomes^[7], let alone knowing them well, which leads to inappropriate incentives resulting in their high-mobility and (or) low-performance. So it's crucial for organization to understand different types of knowledge talented persons.

Existing researches on knowledge talented persons are mainly from human characteristics perspective. Researchers have put a lot of efforts in variables such as mobility, incentive and performance of knowledge talented persons based on human personality and environmental influences^[8-14]. Despite the achievements and progresses, researches on knowledge talented person diverged from the very beginning since human, owner of knowledge, is more changeable and complicated than knowledge itself. We admit that knowledge talented persons are relatively special in personality, but we insist that their common characteristics and behavior are formed through the games which they had played with organization for their best interest depending on their knowledge. Therefore, it will be probably more effective and fundamental if we study and classify knowledge talented persons by characteristics of their knowledge including its relationship with organization.

Review of classification of knowledge talented persons

There are different perspectives and dimensions on classification of knowledge talented persons due to different understandings of them.

Drucker considered that knowledge workers were mostly managers or someone who managed. Cooper Doug^[15] supposed that knowledge workers included software developers, doctors, lawyers, inventors, teachers, financial analysts and architects. Frances Horibe^[16] thought that knowledge talented persons included managers, technicians and salesmen. Started from three dimensions of management, technology and specialization, Pekaia divided knowledge talented persons into four types as those who managed technicians, those who managed ordinary talented persons, those who were devoted to R&D and those who were engaged in application of technology^[6]. Bill Gates expanded the scope of knowledge talented person by including those who worked in different positions of every department from headquarters to subsidiaries companies besides those who sat behind office TABLES^[17]. Zhang, xiangqian believed that knowledge talented persons can be in any positions as long as they had made contribution to organization more mentally than physically^[5]. This paper holds the view that classification of knowledge talented persons should be based on knowledge itself. The word "knowledge" referred to hereinafter means all the talents and resources that knowledge talented persons have instead of some particular technique or store of information. Combined with concepts of modern enterprise theory, we put forward a classification model of knowledge talented persons based on characteristics of knowledge and then give an thorough analysis of their common characteristics and behavior of all types.

Characteristics of knowledge and its relationship with organization

Specificity of knowledge

"Specificity" is a term from transaction cost theory, a branch of modern enterprise theory. Specific investment is long-term investment made to support a particular team production which would suffer serious depreciation if it is redeployed for any other purposes. Williamson argued that it was non-redeployable physical and human investments that were specialized and unique to a task^[18]. Most economists hold the view that capitalists own company and capital hires labor are reasonable since non-human capital is more specific than human capital in general and shareholders take the risks of company operation. There are three main reasons taken into account. The first point is owners of scarce factors of organization should share more residual rights. The scarcer the factors are, the more shares the owners should have. Non-human capital is scarcer than human capital. The second point is about risks. The facts that human capital is more mobile, more difficult to evaluate and of different value to different organizations reduce the owners' capabilities to take risk of company operation^[19]. The third point is mortgage. Human capital cannot be separated from its owner. If company fails, owner of human capital cannot use such capital as mortgage for company's debts^[20].

Some researchers have different opinions. Firstly, non-human capital is becoming more and more rich in knowledge economy era, whereas human capital turns out to be the only scarce resource which dominates the existence and development of organization. Secondly, persons such as managers and technicians who have made specific human investments in the organization also take risk of company operation. Organization should share residual rights among those who have a stake in it^[21]. Finally, the owners of human capital become hostages to organization in a sense that they would suffer a lot more than money and reputation once organization is exposed to risks since human capital is inseparable from its owners^[20]. Therefore, knowledge talented persons should have the rights to share residual rights because of their specific knowledge investment to organization, which is now actually happening and developing.

The above analysis suggests that the extent of knowledge talented persons' knowledge specificity determines the extent of hold-up of them to organization and organization should give them proportional amount of residual rights, or high-mobility and (or) low-performance will be inevitable since opportunism behavior resulting from information asymmetric and high transaction costs resulting from the fact that knowledge talented persons are difficult to monitor and evaluate would make it impossible for a fixed salary to give them enough incentive.

Exclusiveness of knowledge

The term "exclusiveness" mentioned in this paper is different from what is used in the area of intellectual property rights. It is a concept which is proposed by Yang, ruilong^[21]. Exclusive resources of an organization are such resources as the organization's productivity and profitability will decrease sharply or the organization will even break apart if they quit. Exclusive resources are an organization's foundation to begin with, exist and develop whose participation have a major influence on organization profits and other team members' values. From above definition we can find out that exclusiveness is quite different from, or even opposite to specificity. Specificity means that some non-redeployable resources invested by team members will be in a passive position when organization is exposed to risks since their values face threats from other members' opportunism behavior due to incomplete contract. Exclusiveness is quite the opposite which means that the owners of some resources will have initiative when organization is exposed to risks since they are indispensable to other team members. There are no necessary connections between specificity and exclusiveness.

We introduce the concept of "exclusiveness" to measure the difficulty of acquisition of the knowledge on which organization relies, and it represents the importance and irreplaceability of the owners of the knowledge to organization. The more exclusive the knowledge is, the more important and irreplaceable its owners will be.

A classification model of knowledge talented persons based on characteristics of knowledge

We now establish a classification model of knowledge talented persons by dimensions of exclusiveness and specificity of knowledge to a particular organization based on above analysis.

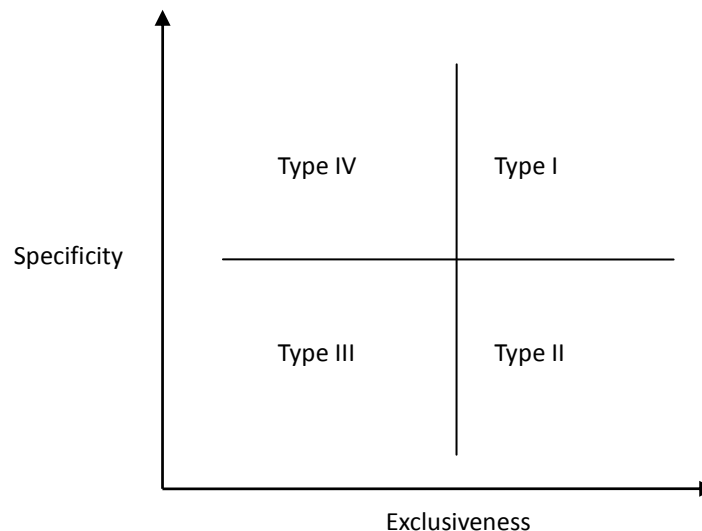


Figure 1 : A classification model of knowledge talented persons based on characteristics of knowledge

As shown in Figure 1, we can divide knowledge talented persons into four types by the extent of exclusiveness and specificity of knowledge.

Type I, "Specific-Exclusive" knowledge talented person

Knowledge of type I person is both of specificity and exclusiveness, which means, (1) Knowledge of type I person can be used only for a particular organization, and it is nearly useless for another organization. (2) Knowledge of this type is difficult to be mastered or should be acquired through unique experience or with unique talent. It is hard for organization to

find a competent successor for type I person. Type I persons include those such as start-up team members of company, design and field engineers of special production lines, senior officials of government, staff of operating department of government. Type I persons are “locked up” badly in organization because of their knowledge specificity. It’s not likely for type I persons to resign, or their investments in the organization will suffer a great loss. But it’s also difficult for organization to fire them because of the exclusiveness of their knowledge which means they are important and irreplaceable. Therefore, there is often a game relationship between type I persons and organization who are both trying to reach an equilibrium that can be accepted for both sides. For example, when type I persons’ performances are low due to insufficient incentives from organization, it will not pay more immediately to type I persons since they are not likely to resign. It always wants to make sure that the real reason for the low performance is actually low wages instead of their deliberate attempt to get more. The same thing happens to type I persons. This type of game is always harmful to both sides, and a proper incentive will prevent it from happening. Since type I persons’ works are complicated, it is difficult for organization to monitor them and evaluate their outcomes which means fixed salary can not give them enough incentive since transaction costs of performance evaluation are high. To give them some of the residual rights of organization besides fixed salary is a feasible way. Organization should encourage and help them to develop their specific knowledge to more common area in order to change them to Type II persons.

Type II, “Nonspecific-Exclusive” knowledge talented person

Knowledge of type II person is exclusive but not specific, which means, (1) Knowledge of type I person is useful to many organizations; (2) Knowledge of this type is difficult to be mastered or should be acquired through unique experience or with unique talent. It is hard for organization to find a competent successor for type II person. Type II persons include those such as top executives of company, famous professors, doctors and lawyers, innovative talents. Type II persons can select organizations by preference and they are mostly more loyal to career than organization since they are not “locked-up” in organization because of their nonspecific knowledge. The power of their knowledge makes them on an more equal footing with organization. Since their knowledge is exclusive, which means they are important and irreplaceable, they are usually valued and highly paid. Type II persons’ demand level are relatively high and they tend to switch jobs when they are not satisfied. The key to hold on to type II persons for organization is effective incentive and individual demand satisfaction. Type II persons’ works are very complicated and can hardly be monitored, and their outcomes are very difficult to measure and evaluate. They can be monitored only by themselves, which means organizations should give them more of the residual rights besides fixed salary than type I persons. Organization should try its best to offer type II persons anything satisfies their reasonable demands, build their sentimental attachments to organization and give them more chances to develop their capabilities since development of such persons always means development of organization.

Type III, “Nonspecific-Nonexclusive” knowledge talented person

Knowledge of type III person is either of specificity or exclusiveness, which means, (1) Knowledge of type III person can be used for many organizations (2) Knowledge of this type is not so difficult to be mastered. It is easy for organization to find a competent successor for type III person. Type III persons include those such as middle-level managers, field engineers of common production lines, normal teachers, doctors and lawyers. The amount of type III persons is the most among the four types. Type III persons can select organizations by preference since they are not “locked-up” in organization because of their nonspecific knowledge. Changing jobs would be easy choices when organization is not so attractive to them. Organization usually does not pay much attentions to them since it is easy to find someone to replace them. Therefore, their performances are usually low and their mobility are high, and adverse selections often happen among them. The key to hold on to type III persons for organization is effective performance appraisal and targeted training which will build their sentimental attachments to organization. Firstly, effective performance appraisal and proper incentive are necessary to keep them in high spirits. Secondly, organization should try to discover the best ones of them through performance appraisal, help them to change themselves into type II persons by making career planning for them and developing their capabilities. Type II persons grown up in organization are the most valuable resources of organization because they have many advantages over ordinary type II persons such as loyalty and low mobility. Finally, organization should keep on building their connections with organization to further reduce the risk of brain-drain by considering more of their demands such as medical care, accommodation and children education.

Type IV, “Specific-Nonexclusive” knowledge talented person

Knowledge of type IV person is specific but not exclusive, which means, (1) Knowledge of type I person can be used only for a particular organization, and it is nearly useless for another organization. (2) Knowledge of this type is not so difficult to be mastered. It is easy for organization to find a competent successor for type IV person. Type IV persons include those such as relatives of start-up team members of company who deal with routine work of organization, operating workers of special production lines, staff of auxiliary department of government. Type IV persons are “locked-up” badly in organization because of their knowledge specificity. It’s not likely for type IV persons to resign, or their investments in the organization will suffer a great loss. Organization usually pays little attentions to them and even is harsh with them since they are not playing an important role and can be replaced easily, which makes them upset for they are afraid of losing jobs while feel neglected. Type IV persons are not likely to resign unless being fired and they often have a negative view of organization, which would do harm to the atmosphere, operation and development of organization. The key to inspire type IV persons is performance appraisal, encouragement and training. Firstly, their jobs and outcomes are relatively easy to quantify.

Thus proper performance appraisal and incentive are important to keep them in high spirits. Secondly, organization should pay more attention to them, inspire them to study more of specific knowledge of organization in order to help them to change themselves into type I persons. Organization should give them more chances to study more nonspecific knowledge such as nonspecific skill training and chances to study for a part-time degree, which would help organization to create a reserve pool of type III persons.

From above analysis we can find out that type II persons are essential to organization and take a fairly small proportion of staff, while their creative and intellectual works relying on their knowledge are hard to evaluate and replace. Thus, in a narrow sense, type II persons can be defined as knowledge talented persons. Type III persons take a large proportion of staff and their knowledge is indispensable to organization. Their works ensure that organization policies are implemented and targets are achieved. Thus, in a broader sense, type III persons can be included as knowledge talented persons. Type I persons are between type II persons and type III persons, and they can be included in either side. Type IV persons are also important to organization but generally cannot be thought of as knowledge talented persons. It's worth noting that the four types of persons can be converted to each other. Organization can facilitate and take advantage of the conversions to optimize talent configuration and better achieve organization targets.

Application and extension of the classification model

The classification model roughly divides knowledge talented persons into four types according to whether or not the knowledge is specific or exclusive. Practically, degrees of knowledge's specificity and exclusiveness are different. Therefore, organization can divide knowledge talented persons into more types by quantify the degrees of specificity and exclusiveness of knowledge and then take a similar method to build a more accurate model. For example, degree of specificity can be divided into five levels such as knowledge which can be applied to (1)various industries, (2)some industries, (3)all companies in one industry, (4)some companies in one industries, (5)one company. Degree of exclusiveness can be divided into four levels such as (1)organization cannot find a competent successor, (2)organization can find a competent successor at a high price, (3)organization can find a competent successor at a moderate price, (4) organization can find a competent successor easily and cheaply. And then we can build a model which divides knowledge talented persons into 20 types.

Then here comes the problem of how to appraise and quantify the knowledge's specificity and exclusiveness. It is difficult to operate and is not persuasive enough to appraise and quantify knowledge directly. One solution is that we can achieve our goal by appraise and quantify task performance or in-role performance of the owners of knowledge, i.e., knowledge talented persons. Of course, specificity and exclusiveness of knowledge would change over time, and it is apparently not comprehensive enough to measure them only once at a particular time. In order to reflect the whole picture and developing trajectory of degrees of specificity and exclusiveness of knowledge and help organization to better understand knowledge talented persons, we need not only to record current appraisal and quantified results but all of the historical data.

By such methods, organization can achieve the following goals.

(1)organization can appraise and classify its knowledge talented persons by characteristics of their knowledge, and then provide targeted incentives to them so as to lower mobility and promote performance.

(2)organization can trace the changes of knowledge characteristics of its knowledge talented persons and build a dynamic database to help organization understanding the whole picture of them.

(3)Organization can deliberately train them into particular types or facilitate type conversions based on the developing trajectory of their knowledge.

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