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Niche Analysis on Creative Talent of Enterprise

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Abstract: Creative talent is considered the most valuable resource in the Era of Creative Economy. It is an important issue on the field of management of creativity about how to improve creative enterprise performance continually through revealing underlying characteristic of creative talent. This paper analyzes the position and functional role of creative talent in the organization from systematic and deep perspective of ecology which may enrich research contents of creative class theory and provide reliable method for the design of management mechanism about creative talent. First, it probes into the interaction between creative talent and creative enterprise as well as organization environment based on ecological systems thinking. Enterprise creative talent ecosystem is embedded in creative network matrix and composed of creative talent, creative organization and creative atmosphere that influence and penetrate each other. Second, it analyzes the evolution mechanism of creative talent in creative ecosystem of enterprise from perspectives of niche breadth, overlap and dimension. This study indicates that the best way to ensure optimal niche of creative talent based on the cultivation of creative talent, the construction of creative mechanism and the creating of creative atmosphere.

Key words: Creative enterprise, creative talent, ecosystem, niche

INTRODUCTION

Odum (1997) pointed out in his specialized publication *Ecology: A Bridge between Science and Society* that ecology is not only a natural science that describes the morphology and survival modes of ecological species, but also serves as a thinking paradigm through which human beings seek continuous self-understanding and self-development. Creative economy as based on knowledge, technology and culture attaches greater importance to the simulation and application of creative thinking deep in human thought, thereby enabling the creative talent to turn gradually into the driving force and source for value realization of emerging economy. On the basis of such concepts as "symbol expert" "knowledge worker" and BoBos, Florida (2002) proposed the concept of "creative class" from the professional point of view. According to him, the creative class should be composed of "super-creative core" (including scientists and artists etc.) and "creative professionals" engaged in such knowledge-related work as business management and legal services. Florida and Tinagli (2004) held that the creative talent is highly dependent on environment and that healthy creative ecosystem can provide appropriate niche for the development of the creative talent and would help to accelerate the value conversion of creative resources. Howkins (2010) proposed the theory of "creative ecology" using the ideas and methodology of ecology

so as to interpret creative economic activities and attempted to establish a system and mechanism in order to find out the position and functionality of the creative talent in organization ecosystem. Bilton (2010) analyzed the internal structure of creative system from the perspective of enterprise and pointed out that structured creative system should be a key supporting element for sharing enterprise value. Chen and Wang (2011) analyzed the competitiveness of the creative talent based on Niche Theory. Yan (2006) proposed the HR ecosystem theory that constitutes a theoretical basis for construction of the creative talent ecosystem. According to existing research, ecosystem principles are consistent with the growth and success process of the creative talent; thus, the research of interaction between the creative talent and creative organization as well as environment from the perspective of niche is reasonable to a certain extent.

COMPOSITION OF ENTERPRISE CREATIVE TALENT ECOSYSTEM

Enterprise creative talent ecosystem is a dynamically stable network system featuring interaction and interdependence established by creative enterprise based on continuous material circulation, energy flow and information transfer between the creative talent and organization as well as environment based on creative resources on the basis of ecological principles and

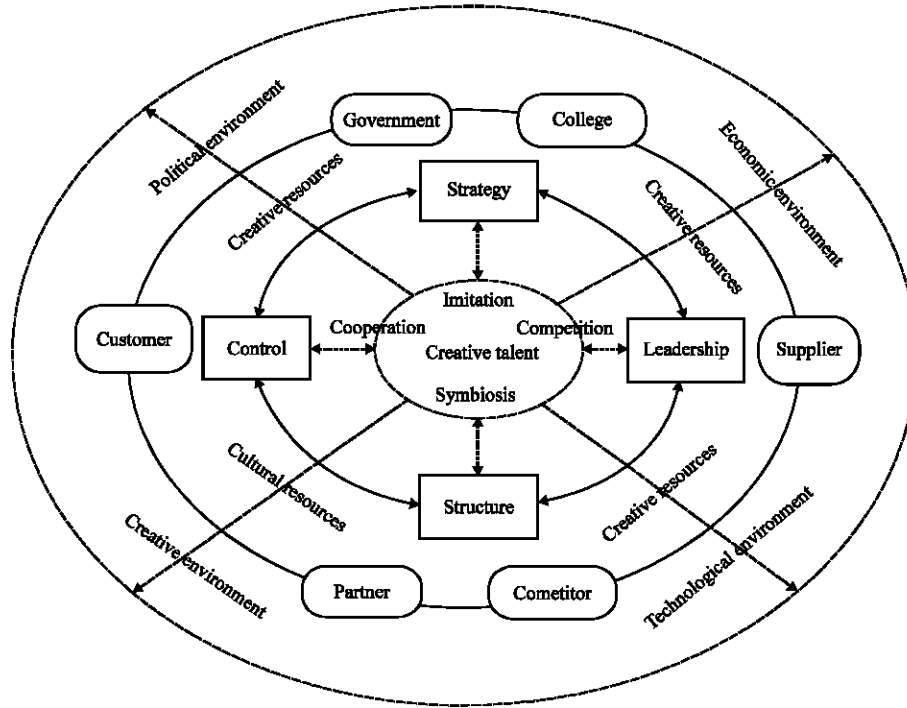


Fig. 1: Composition of enterprise creative talent ecosystem

methods so as to maintain enterprise survival and healthy development in a complex dynamic environment. As shown in Fig. 1, this system is a "trinity ecological model" with the creative talent as subject, creative organization as structure and interaction between stakeholder groups as environment.

As the most essential component throughout the system, the creative talent refers to a range of personnel with creative competency within creative enterprise. The symbiotic collaboration there-between brings about a tightly linked complex web of life for enterprise and determines the stability of creative team, creative organization and entire system. Creative organization, as a space for survival and development of the creative talent, implements effective management of the creative talent through systematic strategic planning, participatory leadership model, flexible organizational design and self-motivation control etc., in addition, the direct or indirect interaction between creative management mechanism and the creative talent may mold a new environment mix. Creative environment means the sum of external agencies and social and material conditions that may exert impact on the performance of creative enterprise. In this regard, creative environment refers to such stakeholders as government, college, supplier, partners and competitor that have impact on management

decision and behavior of creative enterprise and are closely related with organizational performance, as well as the general environment, for example, political environment, economic environment, socio-cultural and technological environment that have widespread impact on creative enterprise.

Furthermore, enterprise creative talent ecosystem is embedded in the entire creative network matrix that is an open combination space without boundary. As shown in Fig. 1, the portion as defined by horizontal and vertical broken lines represents the creative value network matrix space. Diversified creative talent individuals, populations and communities participate in creative production, transformation and consumption through imitation, symbiosis, competition and cooperation that is akin to biological evolution under the effect of organization management mechanism and external environment and thereby pushing forward the constant circulation, flow, transfer and upgrading of creative material, energy and information in creative system.

NICHE OF CREATIVE TALENT OF ENTERPRISE

Niche is a concept designed to describe competing and cooperating relationship between species, community

structure and species diversity and population evolution process. According to theoretical research findings of modern ecology, this concept is principally interpreted in respects of space, functionality and dimension. The school of "space" argues that niche should be the most essential element of utilization of environment or resource by species, i.e., the "habitat minimization"; the school of "functionality" believes niche should be the role of organism in its position; meanwhile, the school of "dimension" takes into account the factors of space and resource and summarize the connotation of niche from a systematic point of view, holding that niche should be an ultra-volume complex of multi-dimensional (e.g., time, space, resource, temperature and humidity) space. Creative talent niche is the position of the creative talent in a certain environment and their function. This concept comprises four levels of signification: First, from the environmental point of view, it includes a multiple factors like internal environment of enterprise, industry environment and social environment. Second, from the perspective of position, this concept involves the status of the creative talent in HR population of entire enterprise and covers their post competence. Third, from the perspective of functionality, this concept emphasizes the ability of the creative talent to create, mine and use creative resources, while highlighting the dynamic role of business management behavior in mining the potential of the creative talent. Fourth, this concept is a multi-dimensional complex from the perspective of integration.

Creative talent niche breadth: Niche breadth refers to the sum of natural resources available for species. In the event that the actual amount of resources to be taken advantage of by a certain species in environment accounts for a small portion of total resource spectrum, such species would be deemed to have a narrow niche and may thus tend to be a specialized species; if the said actual amount of resources account for a large portion, it means such species has a wide niche and may thus tend to be a generalized species. In this regard, creative talent niche breadth refers to the ability of the creative talent to make effective use of resources (for example, culture, knowledge, technology and market) and the volume of resources they occupy within a certain period of time. Based on Shannon-Wiener's quantitative research findings in respect of biodiversity, this paper brings up an equation for measurement of the creative talent niche breadth, i.e.:

$$B_i = \frac{\lg \sum N_j - (1 / \sum N_j) (\sum N_j \lg \sum N_j)}{\lg r} \quad (1)$$

where, $0 \leq B_i \leq 1$; B_i means the niche breadth of individual creative talent i ; N_j represents the quantity of resource j as used by individual creative talent i ; r stands for niche resource level; $0 < r < 1$: The closer r gets to 0, the more it will mean that the resource is not effectively utilized; the closer r gets to 1, the more it will mean that the resources at all levels are made full use of. It is also observed from Eq. 1 that, when B_i is extremely close to 1, creative talent niche enjoys the largest breadth and the degree of utilization of resources thereby within system would reach an extreme; these creative talents are considered generalized species that have broader knowledge, skills and experience. when compared with other creative talents, for example, inter-disciplinary creative talents who are familiar with technologies and have knowledge about operation and management; if B_i is extremely close to 0, this means the creative talents, for example, professional R and D or design personnel, have relatively weak ability to use resources and would thus have a relatively narrow range of knowledge structure and basic skills.

As for business management practice, the efficiency of resource utilization by the creative talent with relatively broad niche is not much higher when compared with the creative talent with narrower niche. Since specialized creative talent may have outstanding expertise in some certain area, they are able to make the best use of resources in their hands to realize the maximum resource efficiency; on the other hand, though endowed with more resources, generalized creative talent cannot achieve resource efficiency as high as that realized by specialized talent. From this point of view, the appropriate talent niche breadth for enterprise development should be so determined that it could help to realize the moderate maximization featuring relatively high resource efficiency. In point of fact, creative talent niche breadth reflects the overall individuals' quality of a certain working group and their ability to make use of resources. Therefore, in order to improve the efficiency of creative resources, creative enterprises shall expand the niche breadth of creative talent to an appropriate extent and pay close attention to the training of creative talents' competency, the establishment of creative mechanism and the creation of creative atmosphere, laying stress on the deployment of highly specialized creative talents who have certain expertise, while attaching adequate importance to the development of inter-disciplinary creative talents with diverse professional competence.

Creative talent niche overlap: Niche overlap refers to the situation that two or more species with similar niche share or compete for resources within a space in the ecosystem. On the one hand, niche overlap aggravates

the competition between species inside the system and thus resulting in "survival of the fittest"; on the other hand, niche overlap helps to accelerate the overall circulation process of system, thereby providing conditions for the upgrading and optimization of system. Additionally, niche overlap may also occur between individual creative talents and between creative talents and other HR populations within enterprise creative talent ecosystem. The higher the degree of overlapping is, the more intense the competition will be. As the final result, creative talents with strong competitive edge may fight off their competitors and take complete possession of the overlapped niche, or such creative talents and their competitors would co-exist and evolve in conjunction with each other in competition. As shown in the Fig. 2 analysis is conducted by taking two cases of creative talent niche overlap for example.

Included creative talent niche overlap: Figure 3 shows the model of included creative talent niche overlap, where horizontal ordinate X represents reactive resource gradient; vertical coordinate Y indicates the ecological fitness of creative talent; A means the niche curve of individual creative talent A and X_{a_1}, X_{a_2} is niche breadth; B stands for the niche curve of creative talent B, where the niche width is X_{b_1}, X_{b_2} . As shown in Fig. 3, the niche of creative individual B is completely enveloped by creative individual A. This may connote two possibilities. In the first case, there is a conflict between A and B and the resources X_{b_1}, X_{b_2} of creative individual B would be occupied by creative individual A in competition; for example, creative talent with better competency may take up the niche of creative talent with less strong competency so that the latter may leave the enterprise or get sidelined. In the other case, A and B have developed a symbiotic relationship, where the resources X_{b_1}, X_{b_2} of creative individual B is an integral part of creative individual A's resources while B can make use of X_{b_1}, X_{b_2} in an efficient manner; on the one hand, creative individual A transfers part of his/her resources to B and thereby improving his/her own ability to use resources and promoting the expansion of niche breadth; on the other hand, creative individual B can also improve his/her niche breadth with the help of A. In this way, a resource sharing based mutually beneficial relationship may come into being between creative individuals A and B.

Intersected creative talent niche overlap: Figure 3 shows the model of intersected creative talent niche overlap, where horizontal ordinate X represents reactive resource gradient; vertical coordinate Y indicates the ecological fitness of creative talent; A means the niche curve of

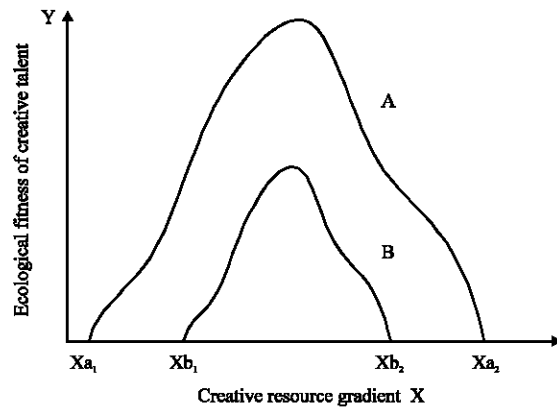


Fig. 2: Included niche overlap

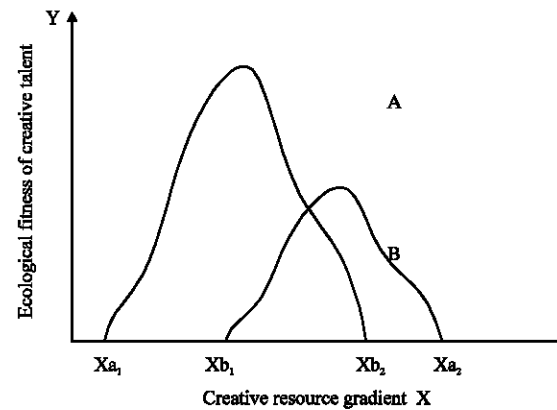


Fig. 3: Intersected niche overlap

individual creative talent A and X_{a_1}, X_{a_2} is niche breadth; B stands for the niche curve of creative talent B, where the niche width is X_{b_1}, X_{b_2} . As shown in Fig. 3, individuals A and B independently hold some non-competitive resources, i.e. X_{a_1}, X_{b_1} and X_{a_2}, X_{b_2} , besides the intersection, i.e., X_{b_1}, X_{a_2} between their niches. Similarly to included creative talent niche overlap, this may also connote two cases. In the first case, there is a conflict between A and B and both talents would compete for the shared X_{b_1}, X_{a_2} ; finally, creative individual (either A or B) with competitive advantage would take up this part of resources; unlike included creative talent niche overlap, the individuals whose resources are taken away by others still have access to some resources, so the intensity of competition in this case is far lower than in the case of included creative talent niche overlap and individuals A and B may even be more inclined to cooperate with each other. In the other case, A and B have developed a symbiotic relationship, where creative individuals A and B would cooperate with each other in respect of resource

X_b, X_{a_2} and contribute $X_a X_b$ and $X_a X_{b_2}$ as their exclusive resources for the purpose of resource complementarity and sharing; on the one hand, this helps to improve the utilization efficiency of shared resources; on the other hand, it provides a broader space for the expansion of separate niche breadth.

Creative talent niche overlap is unavoidable by reason of the fact that individual differences and resource limitation are unchangeable. From this point of view, creative enterprises could on the one hand promote the proper performance and orderly development of creative talents through job analysis, occupational management and other means and thus realizing the isolation between niches and avoiding the generation of organizational friction; on the other hand, creative enterprises could establish project team and optimize performance evaluation model or take other measures to guide creative talents with overlapping niche towards resource sharing, advantage complementation and common development so as to keep the system in a healthy and stable ordered state.

Creative talent niche dimension: Niche dimension refers to the number of ecological factors that have effect on the status and function of organisms in environment. As for modern ecology, niche dimension is usually represented by multi-dimensional hypervolume model that incorporates a variety of ecological factors like time, space, temperature, humidity and light. By the same token, there are also N niche dimensions for creative talent, including individuals' knowledge structure, workmanship, personality, management mode, corporate culture and social environment etc. According to the present study, personal dimension, time dimension, space dimension and resource dimension should be the most important ecological factors that may affect the position and function of creative talent. This paper proposed a 4D model of creative talent niche on such an assumption (Fig. 4).

As shown in Fig. 4, niche dimension of creative talent is composed of time axis W , personal axis X , resource axis Y and space axis Z that are further used to construct a four-dimensional space, where "L" means some certain type of creative talents account for a smaller proportion in gradients of the four dimensions and exhibit a relatively low ecological fitness, while "H" represents creative talent with relatively high ecological fitness.

Personal dimension of creative talent niche: Creative talent constitutes the core and subject of enterprise creative ecosystem and its niche size is first dependent on individual ecological factor, i.e., personal dimension. This

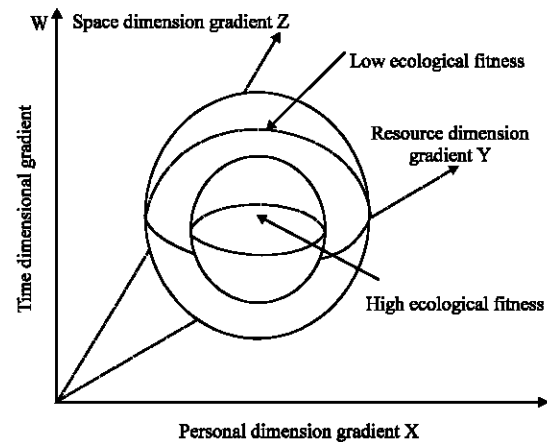


Fig. 4: A4D model of creative talent niche

dimension principally reflects the ability of individual creative talent to survive in and adapt to organization and environment and constitutes the comprehensive reflection of job competence by reason that it covers such dominant parameters as knowledge structure, professional level and creativity while involving invisible parameters like creative spirit, work attitude and value orientation. The level of creative talent competency considered as an important criterion for measurement of niche size determines the rate at which creative talents mine and make use of creative resources of organization and has effect on realization performance of enterprise's creative value.

Resource dimension of creative talent niche: Resource is the foundation and precondition for growth and development of creative enterprise. It is generally agreed that business resources include intangible resources like trademark, patent and culture in addition to such tangible resources as plant building, equipment and raw material and should be closely linked to HR quality and organization capacity. Resource dimension of creative enterprise as highly innovative intelligent enterprise that came into being on the basis of traditional enterprise is more focused on culture, knowledge, information, technology and creative HR and attaches greater importance to the important role of invisible and intellectual resources in the resource architecture of enterprise. To this end, the resource breadth of creative talent niche is not only dependent on the adequacy of creative resource, but is also closely related with the resource optimization deployment of organization.

Time dimension of creative talent niche: Time dimension of creative talent niche mainly consists of the life cycle of

creative enterprise and the career of creative talent. As the living organism for realization of creative value, the growth process of creative enterprise is composed of stages of development with different characteristics. Creative enterprise is a new concept in China. Since a great many Chinese enterprises are at the stage of startup or transformation, they exhibit relatively weak market competitiveness. Accordingly, the requirements on quantity and quality of creative talents may vary depending on development process. Furthermore, the growth of creative talent is also staged. Creative talent niche changes with the development of career. In general, creative talent niche would present a trend of amplification at exploration, growth and establishment stages of career and, after reaching a predetermined threshold, would then gradually shrink and ultimately disappear at career exit stage.

Space dimension of creative talent niche: Space dimension of creative talent niche is an embodiment of system environment and includes three levels. Macro level means the factors like social and cultural background, policies and regulations and economic and technological development level of the location of creative talent; meso level refers to such factors as preferential policies, supporting facilities and management services in creative industry parks gathering creative talents; micro level covers the factors such as cultural atmosphere, HR management mechanism and work environment of the enterprise where creative talent works. Through the interaction and cross-correlation effect, such

three levels jointly constitutes the spatial factor that can influence creative talent niche. For the moment, most large cities in China are striving for the development of creative industry and bringing a great many creative enterprises into industrial agglomeration areas so as to take advantage of the agglomeration effect of creative resources. To this end, the study on space dimension of creative talent niche shall give higher priority to ecological environment of creative industry park.

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