ISSN : 0974 - 7435

Volume 10 Issue 11



An Indian Journal

FULL PAPER BTAIJ, 10(11), 2014 [5729-5738]

Resource field theory and its application in enterprise knowledge movement mechanism

Jun Mi, Chengyi Li Shanxi University of Finance and Economics, Business Management School, Taiyuan 030031, (CHINA) E-mail : 441686378 @qq.com

ABSTRACT

This paper analyzes the characteristic of the resource field of E-commerce website based on resource field theory and resource-based theory; put forward the resources of enterprise knowledge movement field model to analyze the movement of enterprise knowledge resources to field characteristics and knowledge stocks, knowledge flows and knowledge, a comparative analysis of movement and put forward potential enterprise knowledge and business kinetic energy model, the final campaign for the enterprise knowledge made appropriate recommendations.

KEYWORDS

Resource field; Resource potential; Resources force; Enterprise knowledge movement.

© Trade Science Inc.

INTRODUCTION

Era of knowledge economy has coming, enterprises with advanced knowledge and integrating it into the enterprise's core competitiveness has become the consensus of many outstanding enterprises. Resource-based theory tell people, only an enterprise with other firms that do not imitate, do not copy the core resources to gain lasting competitive advantage^[1]. The volatility in the environment of the modern business world, but keep learning and mastering new knowledge, according to the development of information knowledge judgment to make decisions, to detect the changes in the environment inside and outside, and adjust themselves to adapt to the environment for the survival and development. Throughout the McKinsey, Bearing point, such as world famous knowledge-based enterprises, they can quickly adapt to the changing market environment and meet the demand of the rapid development of the commercial, due to its long-term core competitiveness formed in the process of knowledge movement. In this paper, through the analysis of resources field and its theory, understand the nature of the resource field, and use it to guide the process of enterprise knowledge movement. By understanding the factors which influence the enterprise knowledge, so that make the enterprise knowledge movement trends and business strategy in the same direction eventually make the product of the enterprise knowledge movement into enterprise sustainable competitive advantage.

THE CONNOTATIONS AND ELEMENTS OF RESOURCES FIELD

The nature of the resource field

In physics, the statement of field is: if every point in whole space or part of the space corresponds to a certain quantity of a certain value, said in this space to determine the quantity of field^[2]. If the quantity is the number, just call the field number field, such as temperature field; if it is a vector, this field is called vector field, such as the gravitational field. Can, therefore, to introduce the concept of resource field, based on the theory that resources characteristics in spatial distribution of^[3]. From the Angle of space, resources can be a country, a region or an industry, it reflects the resource field with spatial gradation; Look from the Angle of time, resources may change as time changes, shows that resources field has the constant change as time goes by, Due to all social activities is inseparable from the other people's participation, therefore resource field also has the initiative. Resource potential, resource force resources is the most important two elements.

The resources potential

Due to the special space hierarchy of resource field, can use it to measure the advantages and disadvantages of regional resources and the relative distribution between resource and economy. Resource potential is a relative concept; it is because of the resources in places where the difference between the levels of high and low can have. At different levels have different potential energy resources field, which is located at the higher level of resources, the resource potential of high resource, called high quality resources, whereas for the low quality resources. And different levels of resources and reflect the different levels of competitiveness^[4]. Resource potential can have three kinds^[5]: one is relative potential resources. The comparison of same resource in different regions; secondly is the resource potential. Characterization of potential production capacity or situation of the resources, in general, the resource assignment. That the use of resources within the same area and the comparison between resource conditions.

Resources

Resources in the action of forces^[6], it is the result of the resource potential difference exists, is also the essence of free flow of resources. Resources field force can be divided into the thrust and

Zhang Zenglian

attractive. Thrust performance for promoting resources from outside force; Appeal to attract and demand for resources. Resources field besides resource field force and there are many external forces, the force is directly or indirectly ACTS on the resources of movement, which affects the flow of resources. Impact forces and resources flow of different sizes, different direction, and constantly changing, therefore, resource flows also presents the characteristics of complex and diverse.

Resources field and physical field, is the space of interaction, but resources field have many characteristics that physical places does not have. As a result of the existence of potential difference, the flow of resources becomes inevitable. High to low quality resources flow, diffusion and radiation effect, low quality of high quality resources, form aggregation and attract effect. Resource field for resources attract, aggregation and diffusion effect to promote the free flow of resources within the scope of social economy. Between resources can flow to achieve the optimal allocation of resources, balance regional development, so as to promote the development of the national and the world economy rapid coordination^[7].

Enterprise resource field characteristics of the knowledge movement

Enterprise as a resource, not only has some characteristics of physical field, and some has its own characteristics. In the enterprise knowledge resource information, service, marketing, technology, etc., each enterprise has all or part of these resources, and these resources will changes with the change of time and place. Between companies of different resources, resource potential energy is not the same. Some enterprises than other, more abundant information and more considerate service, it is better than the other companies have a higher potential information and service. Formed between the enterprises resources, realize resources complementary advantages. In addition, in the enterprise resource flow will be affected by such as external forces such as government policy, make resources toward a better direction, thus the configuration of resources more effectively. Each enterprise is a resource field, are separated from each other competitive enterprises of various resources, and mutual coexistence, such as information, the service is inseparable from the technology. Because of their different levels of different enterprises of the enterprises is different levels of different enterprise resources, the competitiveness of the enterprises is different also.

ENTERPRISE KNOWLEDGE MOVEMENT MECHANISM ANALYSIS BASED ON THE THEORY OF THE RESOURCE FIELD

Distributions of enterprise knowledge resources and knowledge movement

Knowledge for the enterprise, it is the necessary resources to keep enterprise sustainable competitive advantage. In is characterized by uncertainty and rapid change of the era of knowledge economy, successful companies are often the innovation main body can continue to create new knowledge and through organization transmission, transfer knowledge, will eventually reflect new knowledge in products and services. A company or organization has a wealth of knowledge, the greater the potential of the core competence of the body. Due to different enterprise or organization to form the stock of knowledge of differences between the knowledge gap between them, the knowledge gap caused between the enterprise and the organization of the trend of "knowledge is poor", poor knowledge potential determines the objectivity of knowledge flow, and the flow of knowledge is the enterprise or the organization's knowledge stock and flow. Therefore, explore the power of drive knowledge flows; knowledge of the potential energy into kinetic energy, the enterprise's sustainable development is the key to analyzing the motion law of enterprise knowledge.

Unbalance of enterprise knowledge resource and knowledge difference

Knowledge resources between different enterprises or organizations of the distribution are not balanced. Mainly manifested in the following three aspects: (1) Due to the enterprise's knowledge

structure led to the producers of specialization and producers in the process of engaging in production gradually accumulated professional knowledge.

Each individual is unique because of his work experience and get the experience and knowledge of others do not have. Since human society implements the division of knowledge, the knowledge individuals have differences on the amount and content has increasingly increase, more and more fine division of labor makes each individual in knowledge acquisition and accumulation of more and more narrow scope, the individual in the relevant fields than individuals learn more professional knowledge from other disciplines, leading to the professional knowledge of the relative comparative advantages and disadvantages, most individuals will along the direction of the comparative advantages of accumulation of knowledge, most companies or organizations will be to strengthen the core competitive ability and innovation ability as the center to accumulate knowledge, make the distribution of knowledge presents obvious asymmetry and imbalance; (2) Due to the different between individual human upbringing, education background, degree of efforts, the day after tomorrow learning comprehension ability factors such as the imbalance of knowledge stock and differences between individuals; (3) Different regional enterprises or organizations because of the economic, political, cultural, uneven development, caused the enterprise or organization in the lands or stock of interdisciplinary knowledge gap. The above factors, therefore, is largely determines the knowledge structure of the differences between different subject knowledge of objectivity, caused the differences between professional individuals or organizations and the same professional knowledge gap between organizations in different areas. Knowledge of different subjects with knowledge resources occupy the gap causing its on the size of the stock of knowledge, the structure is different, form different trend of "knowledge difference" between the main body of knowledge, the knowledge difference potential contributed to the flow of knowledge. Poor knowledge is the result of a potential distribution density large organization of knowledge resources, its stock of knowledge accumulation also big, lead to its core competence and knowledge innovation ability is strong, and the competitiveness and innovation ability will lead to higher economic efficiency, higher economic benefits to organization increases the demand for knowledge resources, paying more attention to the investment in education and research and development; Knowledge resources and the distribution density of smaller organizations, its stock of knowledge accumulation also small, lead to core competence and knowledge innovation ability is weak, weak of competitiveness and innovation ability lead to lower economic efficiency, the economic benefits of lower lead people to lack of investment in education and research and development ability. This is the "Matthew effect" on the knowledge resources distribution. Knowledge resources high-density area will produce "demand potential energy", absorb the knowledge resources of low density area, lead to more obvious unbalance of knowledge resources distribution, increase the knowledge gap between the enterprises or organizations. Business or organizational knowledge stock level determines its location in the knowledge flow from the point of an organization or enterprise, the greater the stock of knowledge in the knowledge flow of the higher location, the flow speed is fast; From the point of multiple enterprises or organizations, different location determines which knowledge difference, the difference of knowledge will lead to the flow of knowledge. Knowledge is always from the location of high location lower diffusion and flow direction.

Knowledge stock, knowledge flow and movement

Knowledge stock refers to a certain point, the knowledge of a company or organization combined is attached to the enterprise or the organization personnel, equipment, and the sum of all knowledge of the organization structure, especially in pay on core backbone, is people in production and life practice of knowledge accumulation and precipitation, is the result of continuous learning innovation. It is to reflect the status of enterprise or organization of knowledge production and innovation is an important indicator of potential, is the basis of measuring knowledge output, performance for the core competence of enterprises or organizations.

Zhang Zenglian

Knowledge flow refers to a certain point and inflows and outflows in a phase of enterprise or the organization's knowledge resources combined, it is a term used to describe the configuration and the diffusion of knowledge of the basic situation and test the knowledge intensity of enterprise or organization and application of knowledge, innovation ability and potential, and its implementation process is essentially a knowledge interaction of supply and demand. Knowledge flow vector characteristics, there is a flow is a direction, always flow from high knowledge level of the organization to low knowledge suppliers in supply itself is not had, unless it is implemented in full market actions. In this case, the suppliers to get the corresponding returns, but the kernel of knowledge are solidified in the minds of the suppliers. So, in most cases, the flow of knowledge is a win-win and mutual benefit, this also is one of the most important reason of knowledge to share. Even the stock of knowledge, of course, a lot of companies or organizations, as the result of division of knowledge, in a local area, are likely to remain low level of knowledge fragment, this is business endless sense.

Intellectual movement is closely related to the stock of knowledge and knowledge flow. The static characteristics of the stock of knowledge is the knowledge, is at a particular moment in the knowledge reserve status; Flow is the dynamic characteristics of knowledge, knowledge is at a specific time period in the total flow of knowledge, reflect the speed and level of knowledge diffusion. In the knowledge, the stock of knowledge and knowledge flow and interactions with those two elements, contact, be short of one cannot. If there is no the static knowledge accumulation, driving force for the development of the organization of knowledge innovation is lost; If there is no dynamic activation of knowledge, knowledge is not exist and application value. The movement of knowledge must be on the premise condition of certain knowledge base, knowledge demand subject accumulated wealth of knowledge more rich, its absorption ability is stronger, knowledge flow cost will be low, the scale use of knowledge also, the greater the knowledge flow reflected; If the demand of knowledge stock level is too low, and expectations into the knowledge gap is too large, so even if a big expectations for a new knowledge, the effective transfer of knowledge is not likely to happen, also cannot reflect knowledge flow. Thus, the realization of the knowledge flow is the premise of knowledge flows, although the stock of knowledge is not decided to enterprise or the fundamental elements of organization innovation, but how much of the stock of knowledge for knowledge innovation, diffusion and transfer of hierarchy and level has a significant influence.

THE ENTERPRISE KNOWLEDGE MOVEMENT MODEL, PROCESS AND METHODS BASED ON RESOURCE FIELD THEORY

Due to knowledge resources distribution imbalance between enterprises and organizations, and between individual and individual, organization and the knowledge gap exists between the organizations, with the rapid development of knowledge economy, the knowledge difference is set to mounting. The effective flow of how to use knowledge potential energy into kinetic energy of knowledge innovation, reduce and eventually eliminate the gap, improve individual and organizational core competence and competitive advantage, accelerate the knowledge innovation, promote the increment of knowledge, to realize the common development of the whole society, is an important topic of the current research of knowledge management, this article is based on the above consideration, the resource field theory is applied in the process of enterprise knowledge movement, proposed the enterprise knowledge sports resource field model (figure 1).

The mathematical model of enterprise knowledge movement

Whether Michael porter's competitive strategy or Collins's built to last, both particular emphases on the enterprise to sustainable existence, we must construct support for the sustainable development of enterprise competition ability. In this paper, starting from the classical wisdom results of learn Chinese,

(1)

(4)

and outstanding achievements in the western enterprise theory, inspired by resources field theory and the laws of physics, think the enterprise to keep sustainable development of competitive advantage, must be in the process of enterprise knowledge movement form their own intellectual superiority, in a certain area must occupy the advantageous location, can form their own competition. And think that competition is the key to enterprise knowledge movement in the process of enterprise knowledge potential energy to kinetic energy into enterprise's sustainable development. Enterprise knowledge potential energy is mainly composed of enterprise's knowledge level and knowledge stock, and inspired by physics equation of potential energy and the equation of Einstein mass-energy, proposed the enterprise knowledge potential energy equation and momentum equation.

Inspired by the potential energy equation in physics, this paper proposed the enterprise knowledge potential energy equation, namely:

$$\mathbf{E}_{\mathbf{h}} = \mathbf{G}_{\mathbf{e}} \cdot \mathbf{h}_{\mathbf{e}}$$

Among them, E_h , G_e , h_e respectively enterprise knowledge potential energy, the wealth of knowledge and enterprise knowledge level.

In this paper, inspired by love for period of the equation, puts forward the enterprise kinetic energy equation, namely,

$$E_v = M_e \cdot v_i^n (i=1,2,...n)$$
 (2)

Among them, E_v , M_e , v_i^n respectively, the kinetic energy of the enterprise, needs the main body of the comprehensive quality of (enterprise organization or individual to accept knowledge of the basic level) and knowledge flow of the enterprise.

Enterprise competition equation for:

$$\mathbf{E} = \mathbf{E}_{\mathbf{h}} + \mathbf{E}_{\mathbf{v}} \tag{3}$$

Namely $\mathbf{E} = \mathbf{G}_{e} \cdot \mathbf{h}_{e} + \mathbf{M}_{e} \cdot \mathbf{v}_{i}^{n}$

By formula 1-4, the enterprises can compete with the enterprise's knowledge of memory and the demand of comprehensive quality and the flow of the enterprise, the enterprise knowledge potential difference were positively correlated. This relationship is shown in figure 1 available image to show it.

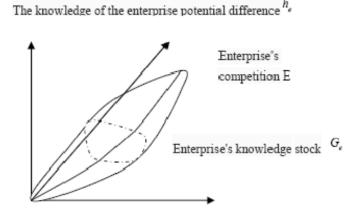


Figure 1 : Enterprise's competition figure

Process of knowledge movement

Knowledge flows control and maintain the level of the stock of knowledge, knowledge flow of existing knowledge from an organization or individual transfer, transfer to another organization or individual, and after the organization or individual absorption, application, integration and sharing, innovation, spillover, applied to different environment, the dynamic process to achieve the increase of knowledge. The dynamic capabilities of implicit knowledge in the knowledge of the enterprise, organization or individual sports and transfer process, the connotation of the dynamic capabilities is by looking for a process, the accumulation of knowledge are the key to consider, and dynamic capabilities in consideration are potential, process, and the path three aspects. Three elements of knowledge flow and dynamic capability of three levels corresponding to each other, interaction, directly influence the innovation performance of enterprise or organization. The process and flow can be divided into two aspects: internal and external processes, the same company or organization of knowledge movement is divided into internal knowledge and external knowledge processes.

The internal processes of enterprise knowledge movement

Internal process is mainly knowledge creating, sharing and configuration, protection and innovation, etc. Knowledge creation is mainly refers to the process of knowledge production enterprise or organization, enterprise or organization through invention and innovation of the research and development, the main scope includes from scientific discovery to be scientific invention implanted in, again through the innovation commercialization and diffusion of innovation. Knowledge sharing is enterprise or organization in different business units and departments, such as different individuals sharing the knowledge required. Knowledge configuration is to emphasize knowledge flow of the initiative, at the right time to get the right knowledge content delivery, transfer to the right people need knowledge. Intellectual protection to intellectual property protection organization, to limit the imitation and others has the same technology to obtain a temporary competitive advantage. And the knowledge innovation is based on the existing stock of knowledge to realize the increment of knowledge, such as new product development and product innovation, quality improvement of process innovation, sales, service, etc. Companies within the organization knowledge creation, sharing, preparation, protection and innovation is the core content of fostering their dynamic continuous competitive advantage, is also the basis of acquiring, absorb external innovation knowledge.

The external process of enterprise or organization of intellectual movement

External process is the main knowledge acquisition, transfer, integration, restructuring and spillover. Knowledge acquisition is mainly refers to enterprise or organization through external knowledge organization and knowledge alliance, high knowledge level of the enterprise to obtain the knowledge needed to individuals or organizations, emphasize the initiative of knowledge requirements. Knowledge transfer is to emphasize the interactive relation between supply and demand of knowledge, knowledge transfer between the two sides will and interaction, to promote the smooth transfer of knowledge acquisition and transfer does not implement the increment of knowledge, and knowledge integration further than knowledge acquisition and knowledge integration of knowledge. Reorganization of knowledge refers to the acquired knowledge and the old and new resources and knowledge to combination of inside and outside the organization and configuration, in response to external opportunities, such as scanning environment, assess the ability of market and competitors, quick and implementation before their competitors, reorganization and transformation of internal and external resources and knowledge. Knowledge spillover is refers to the knowledge of unconsciously to others or acquired enterprise, such as personnel

flow, etc. Enterprises or organizations through the internal stock of knowledge movement process optimization, to maximize the value of knowledge. With external knowledge movement processes, acquisition and integration of external to the enterprise organization useful knowledge to the richness and diversity of knowledge stock. Internal and external enterprise through knowledge movement process to improve the transparency and the effectiveness of knowledge enhances the ability of enterprise knowledge innovation and sustained competitive advantage.

The way of knowledge movement

The increase of the knowledge stock of enterprises or organizations mainly through research and development of internal and external access, intellectual movement process is divided into internal and external processes, enterprise or organization and knowledge movement way can be divided into the enterprise organization and organization inside and outside two aspects. In the movement of the two levels of knowledge, organization coordination and external communication is very important.

The way of enterprise internal knowledge movement

Enterprise or the organization of the approaches of knowledge flow between individuals, between individuals and organizations, between three types of organization structure, the knowledge is the individual and the organization have been bigger and internalization and translated into individual and organizational knowledge stock of part of a dynamic process. Among individuals within organizations of knowledge transfer and transfer are mainly composed of tacit knowledge. Tacit knowledge is highly individualized, difficulty in coding and formalized knowledge, personal experience and the ability of integrated embodiment, mainly through the face-to-face communication way of knowledge transfer and absorption. To achieve individual experience and ability to transfer between, the key is an organization to have effective communication between individuals, based on both sides of the trust relationship; make the individual is willing to share their own knowledge with other employees. Between the individual and the organization structure of knowledge flow, the first is the condensation in the individual ability and knowledge, especially tacit knowledge conversion to be shared across the organization knowledge base. The key is to put the individual activities focus on the tools, templates, process and system, make the individual ability and the knowledge sharing easier and more effective; Secondly, the individual ability and knowledge once captured by organization, it is accepted by other individuals. The key is to improve the organization of the man-machine interface, based on the activity of the learning process, imitation and interactive e-learning environment. Knowledge flow between the organization structure is mainly refers to the transfer of knowledge between different units in the organization. If the knowledge of organization into other technology, products, and so knowledge will get fast and completely transfer. The key is the connecting database; establish integrated information system, etc.

Knowledge movement way of enterprise or organization between internal and external environment

Approaches of knowledge flow between organizations and the external environment has organization and between organizations, organizations and scientific research institutions and personnel movement between the three types. In the increasingly dynamic change under the environment of knowledge economy, through external access to knowledge has become the prevailing mode, enterprise or organization research organization and knowledge acquisition and transmission between the organization and implementation knowledge innovation and application is the current important task faced by organizations. Organization and the organization knowledge flows between its implementation is cooperation between the organization and its informal interactions, this is important knowledge flow in national innovation system. In the knowledge society increasingly fine division of labor to make each and every organization within the scope of more and more narrow access to knowledge, and the cooperation between organizations can share knowledge resources, economy of scale, and produce synergies from the complementary knowledge resources. Organization about the knowledge flow between informal contact and contact between the user and the producer, between the supplier and

Zhang Zenglian

5737

source of innovation and the dynamic role is very important. The key is to improve the organization image and improve the quality of products and services, the introduction of products workshop, etc. Knowledge flows between organizations and research institutions. Research institutions as the main executor of general research activities, not only are the main part of the basic knowledge of enterprise production, and are the source of production of new methods, means and valuable skills. These institutions and enterprise specializing in contract, to the enterprise financing study w, can also be published by the patent data, the latest scientific findings and information, about the knowledge of the new method, a new instrument of science network utilization and through technology incubator of the new enterprises to implement knowledge flow, personnel flow. By artificial carrier of knowledge flow is the main way of knowledge flow in national innovation system. Coding of knowledge is the tip of the iceberg of human knowledge, more human knowledge is hidden knowledge, the knowledge is difficult to imitate, often accompanied by personnel flow and flow. If receiver can training organization to knowledge employee, let them watch knowledge organization experts, or the introduction of knowledge organization staff guidance, accepts the complex of tacit knowledge can be obtained through recruitment of key personnel, or for knowledge and receiver, offer the opportunity to exchange is effective knowledge flow channels. The importance of this flow of people is not in the transfer of specialized knowledge, but in the acquisition, transfer of knowledge application and innovation ability. A high level of turnover helps to enhance the overall knowledge of the organization staff, thus to enhance economic performance improvement and the enhancement of knowledge innovation ability, realize knowledge inventory optimization and maximize the value of application.

SUMMARIZE AND SUGGESTIONS

Enterprise knowledge exercise if you want to succeed, there must be the core of knowledge resources, i.e. knowledge resources with high quality. Through the above analysis, put forward the following Suggestions: the enterprise knowledge movement.

(1) Increasing the relative potential of the knowledge resources. Enterprise knowledge movement to succeed, we must strengthen knowledge in the aspect of information, services, marketing, technology, knowledge to enhance their own potential, to attract more traffic, keep the sustainability of knowledge flow. Especially in the dominated by information flow of knowledge, to show a lot of effective use of information of quality, and provide high quality service, let the knowledge receiver feel flow will bring high value for its interests.

(2) To identify the potential of knowledge resources potential, strengthen the knowledge resource assignments. Must be good at multi-dimensional manner to learn new knowledge, identify enterprise organization or individual key knowledge resources and advantages, identify their own lack of knowledge, and to find its own development advantages, give oneself knowledge motion position.

(3) According to the theory of enterprise knowledge movement now knowledge resources waste phenomenon, the author thinks that should continue to knowledge alliance strategy, achieve the knowledge resources sharing, knowledge resources complementary advantages.

In the information society, the competition is fierce, the enterprise knowledge movement is especially important for the enterprise. Starting from the concept, elements, characteristics and field resources theory, this paper analyzes the process and enterprise knowledge movement way, put forward the enterprise knowledge movement key to strengthen the resource potential intellectual resources, and establish the enterprise knowledge motion model based on the theory of the resource field, and proposed the enterprise knowledge potential energy and kinetic energy equations. Other resources potential difference between the knowledge between the free flow of resources, in order to realize the integration of knowledge resources and complementary advantages, this makes a lot of spontaneously formed a knowledge alliance between enterprises. This is the application of knowledge resources force, as well as development, and this strategy will also get more extensive application.

REFERENCES

- [1] Yu Dong, Gaodi Xie; Resources field theory and its application in resource flows. Journal of geographical science, **21**, 407-411 (**2001**).
- [2] Yinghong Wang; The spatial distribution of the potential of coal resources and its application in our country. Journal of natural resources, **21**, 225-230 (**2006**).
- [3] Qingwen Min; Resources field theory and its application. See: cong Shangri ends etc. Social economic natural compound ecosystem sustainable development research. Beijing: China environmental science press, 76-82 (1999).
- [4] Xile Chen; Try to talk about sports knowledge innovation information. Journal of natural dialectics research, 1, 37-42 (2001).
- [5] Yubing He; Science in the view of sociology of science communication and knowledge innovation. Journal of dialectics of nature research, **7**, 61-79 (**2003**).
- [6] Shuncai Li; The mechanism of knowledge flow three-dimensional analysis model. Journal of management research and development, **2**, 39-43 (**2003**).
- [7] Jun Mi, Ling Ni, Yanxia Shi; Resources field theory and its application in e-commerce sites the B2B website, for example. Books intelligence work, **10**, 136-139 (**2009**).