Research on Dominant Process of Intellectual Resources in Knowledge Service Project

Chen Chi and Chen Li

School of Traffic and Transportation, Beijing Jiaotong University, Beijing, 100044, China

Keywords: Knowledge Service, Intellectual Resources, Dominant Change.

Abstract: The work built a model of dominant process of knowledge service in intellectual resources using systematic engineering method, modern knowledge management theory and method for the dominant change of recessive resource. Furthermore, the structure, principle and elements of the model were descripted. Besides, the dominant process of intellectual resource was divided into requirement elicitation, intelligence processing and knowledge diffusion. Its links are further subdivided and studied.

1 INTRODUCTION

Knowledge service, especially consulting item, always has strong casualness for its non-predictable service process. Therefore, the dominant expression of knowledge service becomes the core issue in the development and application of intellectual resources. The GPD (Gain-Process-Diffuse) model constructed in this work aims to improve dominant level in the process, thus studying knowledge service process.

2 GPD MODEL OF THE DOMINANT PROCESS OF RECESSIVE INTELLECTUAL RESOURCE

In GPD model of the dominant process of recessive intellectual resource, knowledge service project is abstracted and the service process of intellectual resource is divided into three dominant change stages (Qin Tiehui, Cheng Ni, 2006). Through association, elements are integrated to a logical description with comprehensive system, which is complete and independent. Then, a simple means to seek dominant change method for recessive resource can be found. Fig.2-1 shows the GPD model.

Compared with traditional intellectual resource study, the difference of GPD model is that the dominant change method of recessive resource is divided into requirement elicitation, intelligence processing and knowledge diffusion. Moreover, the operation mechanism of each node and stage as well as the junction between them are studied.

3 REQUIREMENT ELICITATION

The first stage of knowledge service is requirement elicitation, which can also be subdivided into the communication, observation and internalization of knowledge.

3.1 Communication

Consulting service is the convective reconstruction process between explicit and implicit knowledge. The dynamic transformation and updating of recessive intellectual resources can only be achieved through communication (Zhang Keying, Zhu Aihui, Huang ruihua, 2007). The exchange in the beginning of service process is a broad concept, including not only the direct conversation and material transfer between customer and facilitator, but also the formal exchange about responsibility and obligation between customers and facilitator experts. In addition, this process also includes the informal exchange, like private intercourse between knowledge subjects, or even the participation and communication among the cooperative alliance of third-party and fourth-party. In terms of mode, service process includes face-to-face communication, such as conference interviews and data transfer. Sometimes advanced information

network tools and facilities will be used to organize virtual dialogues across geographical boundaries. In terms of content, during face-to-face communication and virtual exchange dialogue, the most transmitted in exchange is the explicit knowledge that is visual, audible and perceptible.

3.2 Observation

From the perspective of system engineering theory, the information of exchange links mostly belongs to Wuli and Shili, while the primary task of observation is Renli. Explicit knowledge is well known and it is relatively easy to use it. However, the acquisitions of recessive knowledge rely more on subtle observation and perception. Experts, professors and consultants tend to have a more acute sense and richer means for recessive knowledge acquisition than others. That is one of the elements in recessive intellectual resources.

3.3 Knowledge Internalization

During knowledge internalization, attention should be paid to two aspects to gradually clarify the effectiveness. The first is customers' requirements expressed by words, and second is deep analysis of the problems that need solving. Besides the differences in their explicit-implicit degree, two aspects are also interrelated. From the logical relationship, the gap between subjective demand and objective reality is the most urgent problem. But the needs cannot be regarded as an equivalent to problems, sometimes the real needs of customers are gradually developed until emerge. Then what is the exact and specific definition of effectiveness? A simple question can be used to identify that. That is the reflection of whether given effectiveness has solved specific problems. Meantime, several questions should be asked, such as what is the exact problem that needs solving, what is the difference compared to current situation and whether the solving problem is the one stakeholders hoped.

4 INTELLECTUAL PROCESSING

After completing requirement elicitation, providers of knowledge service will start internal operation, namely performing intelligence processing to the information and knowledge from collection and internalization.

4.1 Idea

Idea is the view or opinion for specific problem. It can be simple desires to reach certain goals, or coming up with some means to solve problems. The products of knowledge service often generate from some immature thoughts, opinions and conceptions. However, the confusion is that there are many initial ideas while few are of innovation, significance and value. Good ideas, after presented, are often able to reach the presupposed effectiveness through practice. Therefore, processing intellectual products should not inhibit the generation of various ideas, but should encourage the collision of thinking sparks, free association of knowledge and passionate confrontation of opinions. Even the consultants, professors and scholars, it is impossible for them to propose completely correct solutions at the beginning of projects. That is because the final solution is born during the process not at the beginning.

4.2 Sketch

Idea is the first step of intelligence processing, because the idea existing in brain is in a state of imagination, which is vague, transitory and fragmented. When consulting experts have captured the ephemeral thoughts in brain, they should immediately transform it into a visual preliminary result, the sketch.

Sketch is a general description of things, ideas and issues, or a visualization of them. In terms of its content and form, sketch includes: thinking sketch, conceptual sketch, report sketches, technical sketch and emotional sketch.

4.3 Logic Model

Model method is one of the core methods of modern science. Through preliminary discussion, the initial idea can be stereotyped as sketch, which can be used to build logic model. Although sketch is the dominant result through thinking to some extent, but the overall framework, structure and design of elements are very rough. So sketch still needs further refinement, namely to build logic model. Logic refers to introducing the law of reasonable conclusions from certain known conditions. Therefore, logic model mainly focus on the analysis of the relationship between various elements, and describing the purpose and procedures of sketch using reasonable forward-backward correlations. In the construction of logic model, thinking forms of

summarizing, reasoning and judging, as well as methods of analyzing, comparing, generalizing, abstracting and integrating are needed.

4.4 Physical Model

Physical model describes the practice process of how to achieve. If logical model was considered as the engineering design plan of building, then physical model should be the girders and architectures. This is the key point of transforming ideas into practice. The main work is as following:

(1) Stock assessment

The existing resource should be estimated based on the business requirements of logic model design as well as past experience. That includes the personnel, information, technology, relationship and capital, as well as all the recessive and explicit resources.

(2) Service design

This step is the integration of problems and solutions in logical model. That is, designers should make full use of resources and plan the business to refine measures and countermeasures of logic model. Such design business should seriously consider the effectiveness and executive personnel. Besides, it should consider the requirements of implementation as well as various existing resources.

4.5 Practical Plan

Even the best model and design, it can only exert its effect in practice. The bridge between model and practice is scheme, the design and implementation of which is the last step of visualizing the products of intellectual processing. Scheme is the specific plan of actual operations. In a broad sense, the arrangement and layout of specific can also be called scheme. Scheme establishing is to further manifest recessive knowledge in physical model. Therefore, the schemes in this work should be executable and practicable. What's more, they should also embody the relations of Wuli, Shili and Renli.

5 KNOWLEDGE DIFFUSION

Knowledge service providers offer the processed new knowledge to customers as consulting product. This is the diffusion of knowledge. But it should be noted that knowledge diffusion is not simply "you release, I receive", but the dense interaction of new knowledge between providers and customers, which

needs the socialization of expression, evaluation and knowledge.

5.1 Expression

Expression is to present knowledge service products to customers. In this process, recessive knowledge will be transformed into explicit knowledge that customers can perceive. The mission of consultants is to clearly express the processed recessive knowledge in intellectual product, thus making it be easily understood by customers. Then, the service objects can be achieved, and the value of intellectual resource be realized.

For consulting project, the expression form of knowledge product is more important. Sometimes different expression forms could seriously affect the degree to receive knowledge by customers, or even lead to the contrary results. In the rapid rhythm modern society, the extensively spread information people faced requires the results expression of consulting projects should be concise, have strong wallop and can quickly move customers. Therefore, the thinking of One Page Project Manager (OPPM) can be used to design the expression forms of knowledge products, namely drafting the elements within the range of one paper. To make full use of the structures, sharps and colors to show unitedly the products, then customers can quickly and correctly understand the products, thus acquiring knowledge and making decisions accurately and efficiently.

5.2 Evaluation

The knowledge product supplied by knowledge service providers is different from general commodities, because it's not a disposable deal. Besides, unlike other services that provide standardized services, it has strong interaction. In commercial consulting industry, consulting experts should repeatedly adjust solutions based on the evaluation of customers, so as to truly meet customers' requirements. This is a custom-oriented service process. Therefore, during the consulting process, knowledge transfer between service providers and customers is bidirectional with continuous feedback. That is, both sides of knowledge service are the providers and recipients of knowledge, and the evaluators of knowledge value. Consulting service is the circulation flow of knowledge. Throughout the service process, both two sides are continuously exchanging to transfer knowledge until the end of consulting service.
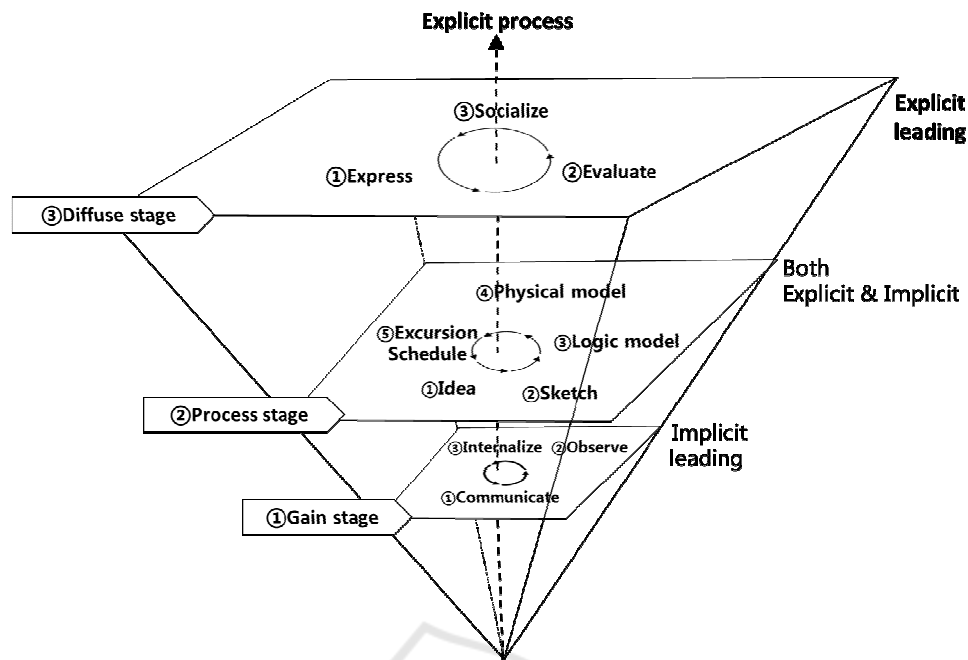
Figure 1: Model of the intellectual resource explicit process of the knowledge service project (GPD Model).

5.3 Knowledge Socialization

When knowledge service projects finished, part of the explicit knowledge in knowledge product has been transferred to customers by expression and evaluation. Furthermore, there is also the transmission between recessive knowledge and recessive knowledge, called the knowledge socialization. Knowledge socialization is the process of transforming experiences into a new kind of recessive knowledge, namely the transformation of one kind of recessive knowledge to another. Because the recessive knowledge should be adapted to certain situation, so it is difficult to express it using formula yet it can be obtained through personal experience. Such knowledge conversion process is automatically formed among subjects in their social behaviors. For example, during the communication and sharing, customers will be influenced by consultants' working environment, or comprehend some methods applied by consultants. These are all the content of knowledge socialization.

6 CONCLUSIONS

Standing on the point of dominant development of recessive knowledge, this work studied the model of transformation and dominant process of recessive knowledge in knowledge service projects. Based on previous studies, the dominant process of intellectual resource is divided into requirement elicitation, intelligence processing and knowledge diffusion, the links of which are further subdivided and studied. In this way, the invisible and unspeakable process can be visually presented to the mass.

REFERENCES

Qin Tiehui, Cheng Ni, Intelligence Communication in the Knowledge Transformation Model SECI, Library and Information Service, 2006 (7) .82-84.

Zhang Keying, Zhu Aihui, Huang ruihua, Research of SECI Subdivision Mode Based on Main Body of Knowledge Sharing, Journal of Intelligence, 2007 (7) .5-7.