

A Research on Motivation Conduction Model of Knowledge Conversion Based on SECI *

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Abstract This paper began with the importance of the knowledge to the organization and the country under the knowledge-based economy. Firstly, the paper indicated essential effects of the motivation to the knowledge conversion. Secondly, the paper illustrated the basic concepts, the factors and the processes. Thirdly, the paper reviewed the relevant researches of the motivation on knowledge workers and the effect factors on the knowledge conversion. Fourthly, the paper put forth structural model of the motivation conduction of the knowledge conversion and the relevant hypothesizes. Fifthly, the paper designed the appraisal indicators and the statistic model of the knowledge conversion. Finally, the paper made the relevant conclusions and recommendations.

Key words Knowledge conversion; Knowledge transfer; Knowledge worker; Motivation conduction

1 Introduction

It is well known that the knowledge had become the key decisive resource and factor of the economic development in the knowledge-based economy. The implicit knowledge is the object of the knowledge conversion. If the knowledge workers as the carrier of the knowledge drain, they will result in serious consequence. As we all know that the knowledge conversion depend the ability and willingness of the sender and the receiver. So if you want to realize the successful knowledge conversion, you have to make out the effective motivation mechanisms. However, the precondition is to identify the key factors of the knowledge conversion and be familiar with the conduction relationships among them. Based on this, the paper aim to indentify the factors and explore the conduction mechanisms among them. Therefore, Part 1 introduced the importance of the research on the knowledge conversion. Part 2 illustrated the basic concepts, the factors and the processes of the knowledge conversion. Part 3 reviewed the relevant researches of the motivation on knowledge workers and the effect factors on the Knowledge Conversion. Part 4 put forth the structural model and the relevant hypothesizes of the motivation conduction of the knowledge conversion. Part 5 designed the appraisal indicators and the statistic model of the knowledge conversion. Part 6 made the relevant conclusions.

2 Factors and Processes of Knowledge Conversion Based on SECI

2.1 The relevant definitions of the knowledge conversion

The knowledge subject includes the individual and the organization in the ontology aspect, and the knowledge can be divided into the implicit and the explicit knowledge in the epistemology. So the knowledge can be combined into the individual implicit knowledge, the individual explicit knowledge, the organizational implicit knowledge and the organizational explicit knowledge. The individual explicit knowledge can be expressed by the word such as the skills, the techniques and the methods of life. However, the individual implicit knowledge only can be understood by the insight such as the skills, the faith and the philosophy of life. The organizational explicit knowledge includes the systems and rules, operational processes and techniques and so on. However, the organizational implicit knowledge includes the cooperation ability, the mentoring, the values, the common vision, the experience and so on. The knowledge management activity mainly includes the knowledge transfer and the knowledge conversion. There are not only some differences but also the close relationships between the knowledge transfer and the knowledge conversion. The knowledge transfer means the knowledge transfer among the knowledge object subjects, which include the sender, the receiver and the content. So the effective knowledge transfer depends on the mutual action between the sender and the receiver. However, the knowledge conversion means the changes of the knowledge form and the knowledge self-refreshment. In the knowledge conversion process, the amount of organizational knowledge capital is be boosted, its quality be enhanced and the core competence be formed. That is to say, the process of the knowledge

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conversion is the unity between the quantity and the quality of the knowledge.

2.2 The seci process of the knowledge conversion

As we all know that the individual implicit knowledge is not only the starting point but also the end point of the knowledge conversion. The knowledge conversion has its period which includes two stages, one is the knowledge conversion from the individual to the organization in order to share the knowledge, and the other is the knowledge conversion from the organization to the individual in order to apply and create the knowledge. So the first is the precondition of the second, but only the first makes no sense.

Firstly, the knowledge conversion to share the knowledge is the knowledge from the individual to the organization, which includes the individual socialization, externalization, combination and internalization processes. Therefore, it is easy as an organizational learning process. The individual socialization is to share his knowledge with the organizational members who can obtain it only through continuous observation, imitation and experience. The individual externalization is to share and externalize his knowledge through the comparison, metaphor, model, deduction and conclusion. For the member experience and knowledge take part in the process, it will result in the knowledge innovation. The individual combination is to integrate his scattered explicit into the systematic explicit knowledge. The individual internalization is that his explicit knowledge is absorbed by the organizational members and sublimated it into their implicit knowledge. Secondly, the knowledge conversion to apply the knowledge is the knowledge from the organization to the individual, which similarly includes the organizational socialization, externalization, combination and internalization processes. Therefore, it is difficult as an individual learning process. The organizational socialization is the conversion from the organizational implicit knowledge to the individual implicit knowledge. The conversion of them depends on the team cooperation ability, the mentoring, the values, the common vision, the skills, the know-how, the experience and so on. So the individual consciousness, ability and the methods etc. are very important in the organizational socialization. The organizational externalization is the conversion from the organizational implicit knowledge to the individual explicit knowledge. The individual needs not only master the organizational implicit knowledge but also be able to express the organizational implicit knowledge. The organizational combination is that the individual translate the organizational scattered explicit knowledge into the systematic explicit knowledge. IT can be helpful to the process. The organizational internalization is the conversion from the organizational explicit knowledge to the individual implicit knowledge, the electric community and E-learning can accelerate the realization.

3 Reviews of Relevant Researches on Knowledge Conversion Based on SECI

3.1 The relevant researches on the motivation of the knowledge conversion

There are many references on the knowledge activity but few on the knowledge conversion motivation in abroad. In 2000, Margit put forth that the internal motivation is the key to the implicit knowledge transfer, and the external motivation is the essential to the explicit knowledge transfer. In 2007, Hsiu Fen Lin testified that the external and internal motivation is helpful to the knowledge conversion. In 2009, Robin put forth that they can make effects to the individual knowledge performance such as the internal motivation, the organizational support, the object orientation and the function departments. In 2010, Ana Maria advanced that the effective factors of the knowledge conversion include the organizational culture, the individual growth, the object consistency and the time cost and so on.

In China, Gao Xiangyu thought that the different trust will affect the knowledge transfer in 2005. In 2006, Ma Qingguo put forward that the factors to affect the individual knowledge transfer include the knowledge quality, the motivation, the coding ability, the decoding ability, the absorption ability and so on. In 2007, Zhou Mi advanced that the individual correlation performance has a strong relationship to the effect of the knowledge. In 2009, Liu Hongli put forth that they have a strong effects to the implicit knowledge such as the express ability, the transfer ability and willingness; the absorption ability and learning willingness, the competition and distance, the contact frequency and so on. Pu Jianyong advanced that the reciprocal culture can effectively enhance the knowledge transfer.

In summary, the relevant researches on the motivation from the aspect of the knowledge conversion are very few, but they provided the strong support for the motivation of the knowledge conversion.

3.2 The relevant researches on the motivation of the knowledge workers

The relevant researches on the motivation of the knowledge workers result from the development of the knowledge-based economy. In 1966, MaHon Tampoe put forth the motivation factors include

personal growth, job autonomy, business success, and money wealth. In 1999, Francis Horibe indicated seven the characteristics of the knowledge workers such as independence, creativeness of work, difficult supervisory control, no measurable fruits of labor, stronger achievement motivation, Contempt for authority and strong flow will. In 2001, Peng Jianfeng and Zhang Wangjun analyzed the motivation factors of the knowledge workers include salary and reward, individual growth and the development, the challenging task, the company future, and the security and stable work. Zheng Chao and Huang Youli put forth that the order of the motivation are the money wealth, the individual growth, achievement and work autonomous according to the importance. In 2002, Peter Drucker pointed out that the knowledge workers should be treated as the employees rather than as the volunteers. Ma Lirong and Xiao Hongjun put forth that the main motivation factors of the knowledge workers include organizational environment, individual growth, spiritual and material motivation. In 2005, Cheng Hui and Zhang Daliang found that the motivation factors of the knowledge workers include the work motivation, the external motivations and the periphery motivation. In 2006, Liu Dawei established the spiritual motivation model of the knowledge workers according to the career development stage. Based on above, the academic and the practice paid more attention to the knowledge workers motivation. Although the specific strategies were different, all stressed their special features.

4 Motivation Conduction Model and Hypotheses of Knowledge Conversion

4.1 The motivation conduction structural model of the knowledge conversion

Based on above, the knowledge conversion motivation conduction structural model can be expressed by Figure 1. Firstly, the organizational dynamic completion advantages originate from the knowledge conversion process which is a spiral ascending SECI process. Secondly, the knowledge conversion performance P can be measured by the different stage performance. That is, $P=f_1(P_S, P_E, P_C, P_I)$. Thirdly, the knowledge conversion performance P is affected by the sender T, the receiver R, the knowledge quality K and the situation factors. That is $P=f_2(T, R, K, E)$. Fourthly, the knowledge conversion effects of the subjects are affected by the knowledge quality K and the motivation factors M. That is, $T=f_3(K, M)$, $R=f_4(K, M)$. fifthly, the internal motivation factors M_I affects the implicit knowledge conversion, and the external motivation factors M_E affects the explicit knowledge conversion. That is, $P=f_5(M_I, M_E)$. Finally, the internal motivation factors include the individual growth G, the work autonomous T and the work achievement A. That is, $M_I=f_6(G, T, A)$. The external motivation factors include the money reward W and the environmental support E. The environmental support includes the organizational system S, the organizational culture C, the interpersonal relationship I, the competition pressure P_c and the social capital S_c . That is, $M_E=f_7(W, E)$, $E=f_8(S, C, I, P_c, S_c \dots)$. Thus we can establish the relationships between the knowledge conversion performance indicators such as P_S, P_E, P_C , and P_I and the motivation factors such as G, T, A, W, E.

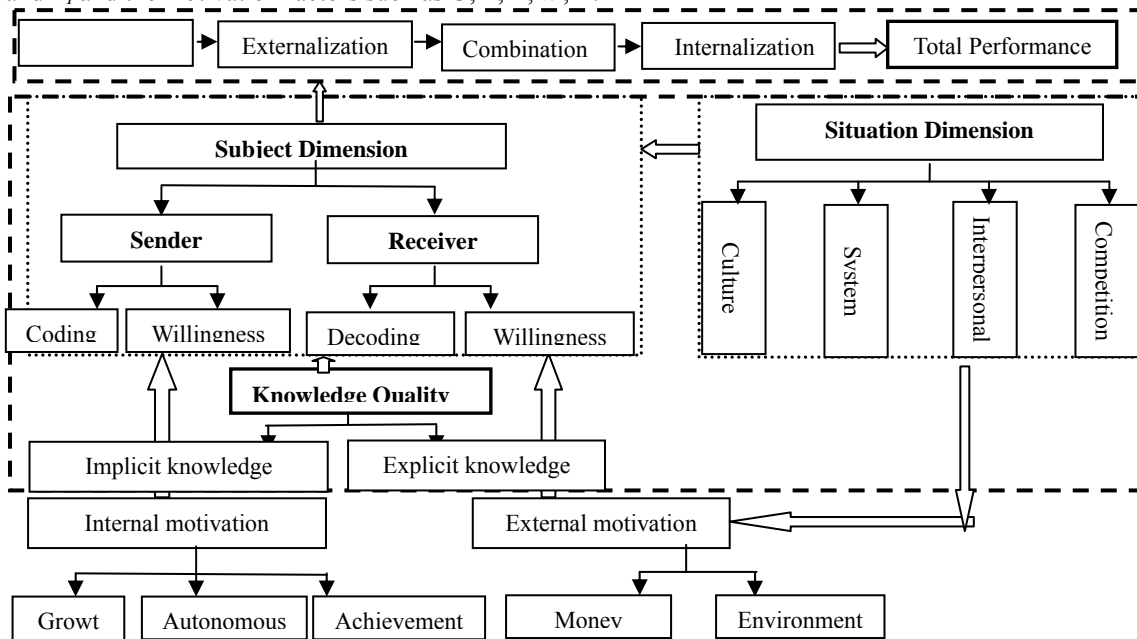


Figure 1 The Motivation Conduction Structural Model of The Knowledge Conversion

4.2 The motivation conduction hypothesizes of the knowledge conversion

The knowledge conversion motive means the expectancy satisfaction extent of the knowledge workers between the behavior and the performance of the knowledge conversion. Generally speaking, the stronger the organizational motivation is, the further the extent of the knowledge conversion is.

According to the relevant research, we can make the follow hypothesizes. H1: the money reward has the positive relation with the knowledge transfer. H2: the environmental support has the positive relation with the knowledge transfer. H3: the individual growth has the positive relation with the knowledge transfer. H4: the sense of the achievements has the positive relation with the knowledge transfer. H5: the work autonomous has the positive relation with the knowledge transfer. H6: the money reward has the positive relation with the knowledge absorption. H7: the environmental support has the positive relation with the knowledge absorption. H8: the individual growth has the positive relation with the knowledge absorption. H9: the sense of the achievements has the positive relation with the knowledge absorption. H10: the work autonomous has the positive relation with the knowledge absorption.

In the organizational knowledge activities, the realization the knowledge conversion often exists in the knowledge transfer. When the knowledge is transferred from the sender to the receiver, the knowledge conversion will happen to them. The stronger the knowledge transfer motive of the sender is, the more knowledge the sender transfer to the receiver. Meanwhile, the stronger the knowledge absorption motive of the receiver is, the less misunderstanding of the knowledge in the knowledge transfer. In reality, the knowledge conversion will be involved in two parts or more. Therefore, the motivation of the knowledge conversion is realized through motivating the knowledge transfer.

Based on above, we can make the follow hypothesizes. H11: the knowledge transfer has the positive relation with the knowledge socialization. H12: the knowledge transfer has the positive relation with the knowledge externalization. H13: the knowledge transfer has the positive relation with the knowledge combination. H14: the knowledge transfer has the positive relation with the knowledge internalization. H15: the knowledge absorption has the positive relation with the knowledge socialization. H16: the knowledge absorption has the positive relation with the knowledge externalization. H17: the knowledge absorption has the positive relation with the knowledge combination. H18: the knowledge absorption has the positive relation with the knowledge internalization.

5 Motivation Conduction Appraisal Indicators and Statistic Model

5.1 The motivation conduction appraisal indicators of the knowledge conversion

The first is the motivation appraisal indicators design. According to the relevant theories, the motivation factors can be divided into eight appraisal indicators. That is, scientific and reasonable compensation system X_1 , the better competition pressure and harmonious interpersonal relationship X_2 , the organizational innovative and learning culture X_3 , the scientific and reasonable individual career plan X_4 , the flexible work place and time X_5 , the reasonable recognition mechanism of the work achievement X_6 , the perfect and effective organizational system X_7 and the supportive attitude of the decision maker X_8 .

The second is the design of the appraisal indicators of the knowledge transfer. According to the relevant researches, the knowledge transfer factors can be divided into four appraisal indicators. That is, the willingness of the sender to transfer the knowledge to the others Y_1 , the effectiveness of the sender to transfer the knowledge to the receiver Y_2 , and the value of the knowledge being transferred to the receiver Y_3 , the trust of the sender to the receiver Y_4 . According to the relevant researches, the knowledge absorption factors can be divided into four appraisal indicators. That is, the willingness to absorb the knowledge of the sender Y_5 , the effectiveness of the receiver to absorb the knowledge of the sender Y_6 , the feedback of the receiver to the sender Y_7 , the trust of the receiver to the sender Y_8 .

The final is the appraisal indicators design of the knowledge conversion. According to the relevant researches, the knowledge conversion factors can be divided into four dimensions and sixteen indicators. The knowledge socialization factor η_1 can be divided into four indicators. That is, the harmonious work and study atmosphere Z_1 , the support extent of the decision maker to the knowledge communication Z_2 , the willingness to give the experience and skills to others Z_3 , the extent of the organization to pay more attention to absorb the experience of the opponent Z_4 . The knowledge externalization factor η_2 can be divided into four indicators. That is, the motivation extent of the knowledge worker to conclude the skills and experience Z_5 , the soundness of the mechanism to apply the experience in the organization Z_6 ,

the willingness to format the individual skill and the experience Z_7 , the extent of the organization to pay more attention to motivate the excellent knowledge worker Z_8 . The knowledge combination factor η_3 can be divided into four indicators. That is, the application efficiency of the intranet information system Z_9 , the performance of the sharing database Z_{10} , the motivation extent to integrate and correct the department experience, rules and the processes and so on Z_{11} , the extent of the department to pay more attention to collect the relevant business information Z_{12} . The knowledge internalization factor η_4 can be divided into four indicators. That is, the extent of the organization to pay more attention to the training and development of the knowledge workers Z_{13} , the extent of the organization to pay more attention to the construction of the innovative and harmonious organization culture Z_{14} , the motivation extent of the organization to pay attention to the team BPR Z_{15} , and the motivation extent of the organization to pay attention to the construction of the learning organization Z_{16} .

5.2 The motivation conduction statistic model of the knowledge conversion

According to above, we can get the motivation conduction statistic model of the knowledge conversion as Figure 2. Here Φ_1 is the external motivation, Φ_2 is the internal motivation, η_1 is the knowledge transfer, η_2 is the knowledge absorption, the knowledge socialization is ζ_1 , the knowledge externalization is ζ_2 , the knowledge combination is ζ_3 , and the knowledge internalization is ζ_4 .

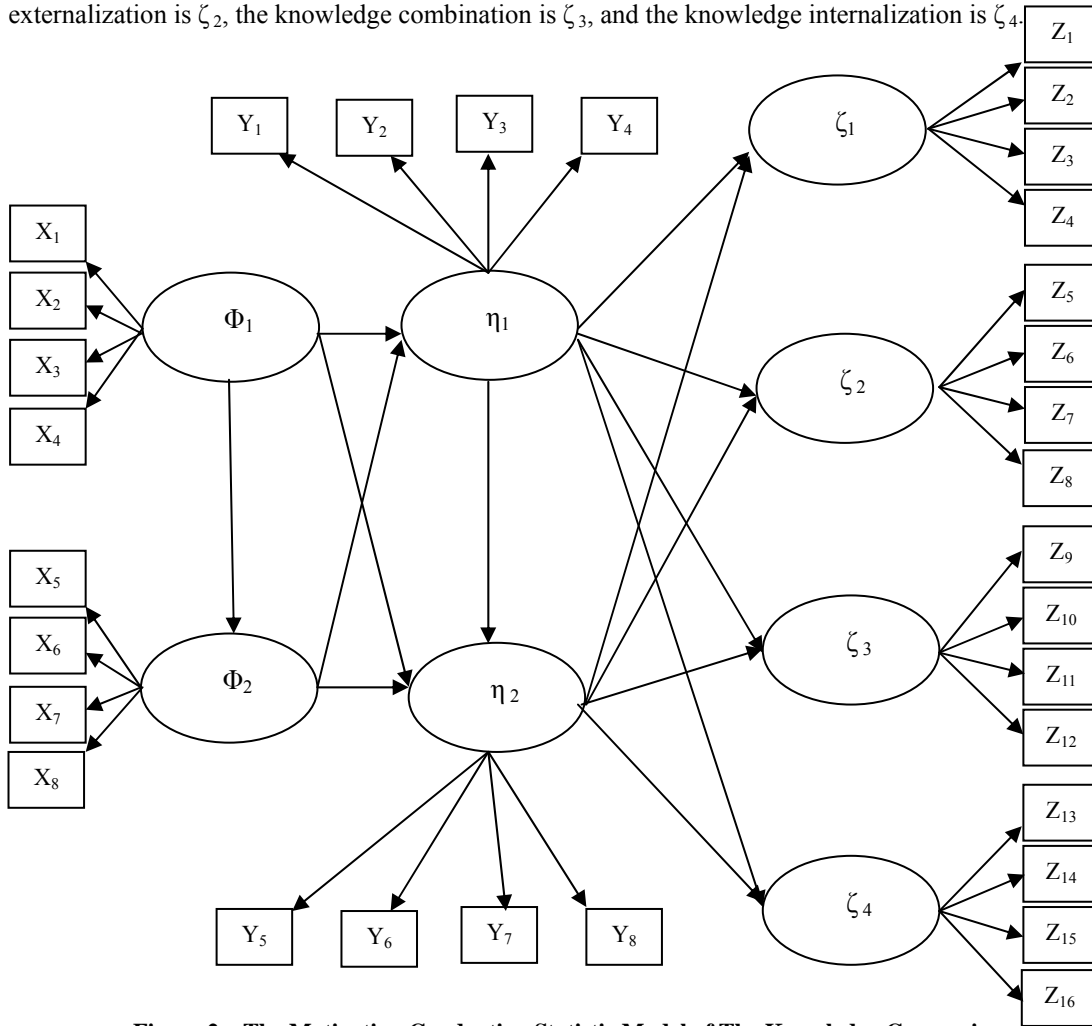


Figure 2 The Motivation Conduction Statistic Model of The Knowledge Conversion

6 Conclusion

According to above, we concluded the follows. Firstly, the implicit knowledge is the source of the knowledge creation and the object of the knowledge conversion. Secondly, the successful knowledge conversion depends on the effective motivation mechanisms and countermeasures. Thirdly, SECI is a good framework for the research on the motivation of the knowledge conversion. Fourthly, there are the motivation conduction relationship between the motivation factor of the knowledge worker and the

knowledge conversion. Finally, the motivation conduction structural and statistic models of the knowledge conversion can be referred by the organizational motivation management.

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