

Research on the Relationship Among Social Capital, Organizational Learning and Knowledge Transfer Performance

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Abstract—The core of the organizational learning theory was that the organizational learning activities were the source of organizational value creation. The research focus of organizational learning theory was to discuss the socialization process of organizational learning from the perspective of social capital and its specific impact on the performance of organizational knowledge transfer. Previous studies took more attention to the direct and positive effect of social capital on knowledge transfer, promoting effect of organizational learning on knowledge transfer, and the positive impact of social capital on organizational learning. However, they neglected the intermediary role of organizational learning between social capital and knowledge transfer performance. On the basis of current knowledge transfer theory, this article considered financial performance and innovation behavior as indexes to measure the knowledge transfer performance, and proposed a uniform framework to elaborate the relation and influencing mechanism among social capital, organizational learning and knowledge transfer performance.

Index Terms—social capital, organizational learning, knowledge transfer performance

I. INTRODUCTION

Era of knowledge economy, knowledge has replaced land, labor and capital, become the largest arms and source of competitive advantage in company¹ and also being to be the most important strategic resource. The main task of knowledge management is knowledge innovation. And knowledge transfer within the organization can't be separated from effective organizational knowledge innovation. Organizational knowledge transfer needs not only advanced technology as a guarantee but also effective form, which means organizational learning. As we know, the concept of organizational learning that means the team or organization has shown an overall learning behavior at the macro level is derived from the individual learning. Generally speaking, organizational learning is process and tools of knowledge flows from the individual level to

organizational level, including knowledge acquisition, digestion and absorption. However, organizational learning is not a simple cognitive process, but a complex social process². The situation embeddedness, relationship embeddedness and action embeddedness of knowledge determines the organizational knowledge transfer must make use of social transfer mechanisms³. Social capital theory provides a new perspective for research in organizational learning, and also become a research focus. Mitchell cognitive affective personality system theory proposed the complexity of human social cognition that means the situation prototype and the characteristics of human and social behavior have interaction. This theory says everyone has their own unique cognitive prototype, and this unique cognitive method determines that people has different behavior resulted from this different cognitive prototype and classification standards, even in the face of the same person or thing. The mapping model between the complexity of social cognition and organization is that organizational social capital determines the organization's situation prototypes, interaction between human and situational factors produce organizational learning, and knowledge transfer performance is used to measure the effectiveness of interactions.

Chery company through the internal organization networks in cultivating common vision, motivate their intrinsic motivation and in the external, establish contact with world famous companies to build internal and external double different network and effectively promote the organization of knowledge transfer and the internal organization of knowledge transfer, greatly improving the innovation ability of the company. At the beginning of establishment of Chery company, it brings up the common vision among employees using its organizational internal strong ties network for promoting national automobile industry and making the independent brands in China. In Chery company, it also provides various chances for young staff to take part in many development projects, promote the organizational

internal knowledge transfer using the strong relationships and realize the effective internal knowledge transfer through learning from trying. In addition, Chery also establishes extensive external relations, expands network scale, and improves inter-organization knowledge transfer for obtaining a lot of automobile designing and manufacturing technology, mastering automobile development advanced technology, and improving their ability of domestic enterprises through establishing extensive contact with universities and research institutions at home and abroad. Through a wide range of external relations, Chery cars have access to the development of advanced technology, but due to the development of car is mainly the recessive knowledge plays a decisive influence, which requires Chery establish its external selective contact for transferring its requiring technology. Therefore, Chery strengthens the relevant research institutions' and personal communication and cooperation, make weak ties to become strong relations through different ways and promote tacit knowledge transfer across the organization. Firstly, Chery promotes its tacit knowledge transfer within organizations through the direct introduction of talents. Secondly, it set research institute in Beijing, Shanghai and Turin in Italy, recruit local senior r&d personnels, and assigns the company personnel to joint research. Finally, Chery cooperates with large foreign design companies in the way as joint designing group to cultivate your own design team. Chery's successful example shows, on one hand, social capital embedded in organization social network knowledge has important effects on transfer performance, on the other hand, the organization's social capital determines the choice of the ways of organizational learning, and also affects the organization of knowledge transfer performance.

On the basis of the extensive literature review, we find that: on one hand, social capital theory is used by more and more scholars to explain knowledge creation, transfer and retention (Argote et al., 2003), but in the integration perspective of social capital and organizational learning, study of organizational knowledge transfer performance is almost research gap; on the other hand, most of Chinese scholars research from the the direct effect that social capital influences knowledge transfer. And the relationship between social capital and organizational learning and relationship between social capital and knowledge transfer has been confirmed by current research. But mechanisms and influence path among social capital, organizational learning and knowledge transfer need further study. Therefore, we hope to make up for this research gap, trying to make social capital, organizational learning and knowledge transfer performance into a unified research framework to explore the relationship of the three.

II. DEFINITION OF RELATED CONCEPT

A. Organizational Learning

The concept of organizational learning can be traced back Argyris and Schon 's (1978) pioneering research,

that organizational learning is the development and expansion of existing knowledge and capacity in organization to meet the competitive demands and apply these knowledge and ability to organizational action. The follow-up study of their context generally followed their perspective, but the scholars make some development on definition of organizational learning based on their research level and latitude. And on the basis of views of social networks, I believe that organizational learning occurs in the social fabric that embedded within organization and it is also construction process of knowledge transfer, application and creation through group interaction.

In addition, scholars have also has a lot of exploration on the manner and process of organizational learning. For example, Argyris proposed single-loop learning and double loop learning; Schon proposed maintenance-type learning and transformational learning; and Peter • Sheng Ji proposed adaptive learning and the productive learning. This paper agrees with March (1991) who proposed exploration learning that characterized by discovery, experiment, and innovation and exploitation learning which marked by refining, implementation and choosing. The fundamental difference between the two is the individual's attitudes towards organization current knowledge. While exploration learning tends to exploit and develop the new knowledge within the organization on the basis of current knowledge, exploitation learning is aiming at sufficiently study and reuse organizational current knowledge. This division method of March concerns the using and enhancing of the stock of knowledge that the organization possesses. And the propose of Organization for effective knowledge transfer is to enhance their original stock of knowledge, and through making effectively integration between original knowledge and new knowledge from transfer, organization can share it and enable its application, finally, organization can enhance its own innovation capability⁴. Therefore, it has some theory foundation that our paper makes perspective of social capital as a starting point to study organizational learning approach affecting knowledge transfer performance.

B. Social Capital and Its Dimension

In the late 1990s, social capital comes into vigorous development, and its associated research almost cover all the sphere of the social sciences, such as social, political, managerial, economic, market and so on⁵. As the different objects on the analysis, the definition and classification for social capital made by scholars differ widely. Nahapiet and Ghoshal⁶ introduce social capital into organization's intellectual capital division, after comprehensively reviewed the classic study of Granovetter, Bourdieu, Coleman, Putnam and Burt. They give a definition of social capital that it is the sum of existing and potential resources derived from the embedded relations network owned by individuals or community. And they also divide into the three study dimensions: structure, relationship and cognition.

- Structure dimension. It discusses the whole network embedded in the organization or

community resolve the various link in social systems and the overall network connectivity form from an objective point of view. In particular, to observe the whole objective connection form, we can start from existence of network relations among individuals, contact strength and density.

- Relationship dimension. It is interpersonal relationships created and maintained by interaction within organization, including trust, norms, obligations, expectations and so on. If the structural dimension concerns the existence of such a relationship, then the relationship dimension focus on the quality of this relationship.
- Cognition dimension. It provides those system resources for common expression, interpretation and meaning within organization among different actors. Such as: language, professional background, cultural habits and so on. Its concretely realize individuals' interpretation and perception to the common things.

C. Knowledge Transfer Performance

Knowledge is considered as the most important strategic resources of enterprise, and nowadays, business or organization mainly focuses on the integration and transfer of knowledge^{7, 8}. In an ongoing survey research, scholars believe that companies that can effectively transfer knowledge will be more productive than companies that can't transfer knowledge effectively⁹. Although the nature of knowledge influences knowledge transfer to a certain extent, scholars have increasingly recognized that other factors influence the performance of knowledge transfer with the continued in-depth research. The relationship between social capital and knowledge has been widely recognized, for example, Tsai says social interaction can significantly improve organization knowledge sharing¹⁰, Zhihong Li has confirmed that social capital has effects on informal knowledge transfer among individuals from the three dimensions: structure, relationship and cognition¹¹, etc.. The situational factors in organization knowledge transfer are gradually receiving attention as the application of situational factors in organization knowledge innovation. It seems from the existing literature that studies mainly focus on the organizational structure, organizational incentives, information technology and organizational

learning and some other situational background within organization. From the perspective of organizational learning, Lam (2000) pointed out that it is the necessary condition of tacit knowledge construction that the intensive and extensive interaction among organization members contribute to knowledge application and transfer, which is also in line with the characteristics of tacit knowledge¹². Therefore, based on the known research results, our research uses "knowledge transfer performance" as the dependent variable, and uses it to examine how social capital and organizational learning affect knowledge transfer.

Knowledge transfer performance can be measured with a behavior management model, such as: balanced scorecard, communication and knowledge integration and reorganization (Kogut and Zander, 1992). Based on the indicator framework of balanced scorecard, knowledge transfer performance can be evaluated with learning and growth, internal management processes, customer satisfaction and financial effects. Generally speaking, enhancing organizational knowledge transfer performance can due to the two factors: 1) improving organization's financial performance; 2) enhancing the process of non-financial organizations, namely, innovation behavior.

III. RELATIONSHIP AMONG SOCIAL CAPITAL, ORGANIZATIONAL LEARNING AND KNOWLEDGE TRANSFER PERFORMANCE

Existing research on organizational learning mainly focus on learning processes, methods, mechanisms and the influence on the organizational knowledge innovation and enhancing the core ability. And fewly focus on background of social network in organizational learning. As a result, we are lack of study on organizational learning that based perspective of social capital. In fact, social capital provides internal drive mechanism and effective implementation means.

A. The Impact of Structure dimension of Social Capital on Organization Learning

Social capital structure dimension is the whole pattern of ralationships among actors in social network that embedded in the organization and it also shows the impersonalization of social network. The impact of the structure dimension of social capital on organizational learning mainly manifests in the different strength of the

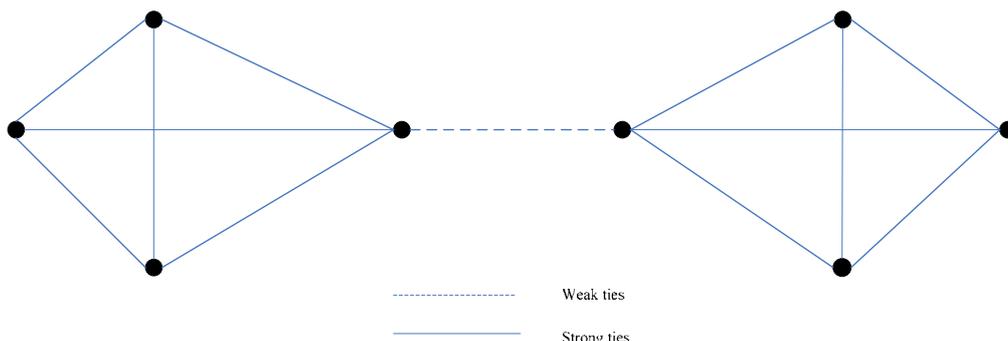


Figure 1. The diagram² of strong ties and weak ties in organizational social relations network

network relationship. Strong relationship is the closely emotional connection, frequent contacts, and multiple social relations. Coleman (1988) says it is very favorable for their knowledge acquisition that individuals in social networks have strong ties to the other members in the organization. Strong ties' contribution to the organization's performance is mainly realized through direct advantage to achieve useful resource. Leana and Van Buren point out that the social capital of strong ties creates a better platform and mechanism for careful and in-depth knowledge exchange and sharing within organization, and it also promotes organizational exploitative learning¹³. In the strong relationship network, team members frequently contact with each other and have sufficient time and opportunity to exchange ideas, which make information transmission high and create good conditions for exploitative learning.

Weak ties' contribution to the organization's performance is information advantage, because it can provide new and non-repeated information. Burt (1992) have suggested that the weak ties containing a large number of Structural Holes and non-redundant network of relationships may be more useful for employees obtaining new and useful information from contacts with others groups within or outside organizations¹⁴. Exploratory learning aim to refine the innovative elements, and the new and useful information is an essential element of organizational innovation. Therefore, the weak ties and social capital with no redundancy can provide more recognition for the organization and opportunities for using new knowledge, and thereby contributing to organizational exploratory learning.

B. The Impact of Relationship Dimension of Social Capital on Organizational Learning

While structure dimension of organizational social capital characterizes the structural characteristics of the network, the relationship dimension focuses on the motive, common expectations and norms of behavior (that is trust in essence) of relevant groups within and outside the organizational boundary². Trust is the core of relationship dimension of organizational social capital, and Kang and others believe that individual acts of trust have the two kinds: Generalized Trust and Resilient dyadic Trust. Generalized Trust adapted from the whole group or community's norms and expectations are not directly generated by trust between the two individuals. But Resilient dyadic Trust that the strength of this trust is much higher than general trust is direct mutual trust built on the two individuals' understanding with each other. For example: CHERY COMPANY arranges R&D personnel in Austria to work for more than one year with employees of AVL COMPANY. In the original stage AVL R&D workers think that our technical staff ability is too poor to work together. But our R&D workers at last get a good working relationship with the Austrian technical staff through working hard for more than three months. And finally CHERY R&D workers independently research and develop a new kind of the engine. This case illustrates that organizational exploitative learning is the deepening and refining of

existing knowledge in specific areas, in which the knowledge communication and sharing just based on the general trust, for example: our technical personnel study the core technology of the engine's development through working with Austria workers, and we improve our technical capacity in three months working together. This trust in the case does not require every individual have personal experience working together with the others in the network, which means it is not need Resilient dyadic Trust to derive forward.

In the above case, our workers striving to independently develop our first new engine after establishing good cooperation friendship with Austria workers and mastering the the core technology shows that innovation will be just born in the network of bilateral flexibility trust. Thus, I believe that Resilient dyadic Trust in the promotion of organizational exploratory learning may be more dominant. The high intensity of trust is built based on the direct communication among individuals, completely promoted by wishes of the two sides in interaction and not intervened by the third party. Therefore it is more favorable to the exchange and sharing of new knowledge. However, due to the Resilient dyadic Trust easily influenced by uncertain factors of individuals and the environment, it isn't helpful to the persistence and regularity of knowledge sharing. So the Resilient dyadic Trust isn't favorable to organizational exploitative learning.

C. The Impact of Cognition Dimension of Social Capital on Organizational Learning

The cognition dimension of social capital is the cognitive paradigm in the network, specifically detailed in the shared code, stories and example. It promotes a general understanding of common goals as well as the appropriate way to act in the organization system. Knowledge is limited to the regionality, so that experts often encounter limitation in the absorption of knowledge in other areas¹⁵. While Nonaka and Takeuchi also made a similar point of view, they believe that in the process of knowledge transfer, whether knowledge receivers understand the expression content is decided by whether they possess a common knowledge. Thus, the common knowledge background of individuals is to the key to promote organizational learning. Henderson divided the common knowledge background among individuals into two forms according to different characteristics: Component Knowledge and Architectural Knowledge. The former refers to localized form of knowledge, which is the encoding of linear knowledge, and we use "Common Knowledge" to mark the organization's component knowledge; the latter is the systematic and integrated tacit knowledge, and we use "Shared Vision" to mark the architectural knowledge. In addition, this paper also gives a deeper level of meaning on "Common Knowledge" and "Shared Vision": Common Knowledge is used to solve organizational everyday business on the basis of the same background and paradigm within organization; Shared Vision means the members of the organization have the common planning and consensus on the long-term development strategy for the organization,

which is beneficial to long-term development and operation of organizations.

Common knowledge aims to address organizational practices of business on the basis of fundamental professional background and knowledge background, involves with the organization's explicit knowledge and interrelates to organizational exploitative learning. In fact, different departments within the organization and the organization Ibid and downstream must take close communication in the process of the new product development, which require different organizational groups involved in the knowledge coordination and integration. And at this time, common knowledge helps different groups combine their knowledge with others' and think and solve problems together. In view of this, common knowledge urges individuals recognize, understand and absorb the depth of knowledge from partners that effectively promote exploitative learning. Accordingly, shared vision is built on the basis of the more abstract and systematic knowledge. And it is used to help members capture and understand the overall knowledge essentials from the top. In the project related to development of new areas, high specialization and intensive-knowledge, shared vision helps the organization carry out deep communication and development, and it also makes partners and the whole organization has the same understanding and expectation on the goal attainment and future development. So that individuals are able to put the general interest first and break the field and direction of the previous knowledge. Therefore, shared vision help individuals get access to new knowledge and promote the organizational exploratory learning.

D. The Relationship between Organizational Learning and Knowledge Transfer Performance

Knowledge transfer and organizational learning are closely integrated, and the effective transfer of knowledge is not static, but a dynamic process of learning to reach goals.¹⁶ Organizational learning does not only lead to changes of organizational knowledge, beliefs and behavior, but also improve organizational knowledge transfer performance. Garvin believes that organizational learning is process of the organization to create, access and disseminate knowledge, and it is also good at changing the original behavior within organization to adapt to new knowledge and future development needs. Garvin divides organizational learning into the two extremes: knowledge transfer and behavioral changes¹⁷. It can be found that knowledge transfer is the key to organizational learning and organizational learning as an organizational situation conditions on the performance of knowledge transfer play a decisive role. Therefore, organizational learning is the driving force and an important source of organizational development and innovation, while knowledge transfer is the necessary means to achieve the oorganizational development and innovation.

The impact of different learning styles on the organizational knowledge transfer performance is mainly incranated in the organizational financial benefits and

innovation behavior. Exploitative learning aiming to refine existing factors of production and improve existing products and services, have effects on organizational short-term performance but no influences on innovation capability and new product development. The organization in which exploitative learning plays a dominant role shows steady improvement, gradual technological improvements and continuous improvement of the dynamic adaptation in the relatively stable environment. The disadvantage of this exploitative learning is that excessive reliance on the existing organizational knowledge results in a lack of innovation activity, and if significant changes occurs in the external competitive environment, the organizational existing knowledge is too old to adapt the new changes that will lead to oorganization encountering technical bottlenecks and bearing risk and loss.

The burst-type social capital is corresponding to exploratory learning. And if the exploratory learning plays a a dominant role in the organization, its members shows the state of intense emotion, frequent communication, and stimulating innovation thinking, on the basis of the shared vision, resilient dyadic trust and a large number of weak ties without redundancy. And in that case, the organization is willing to try new technologies, new technics or new management processes. This breakthrough-type development strategy lay a solid foundation for organization to adapt to complex environments, survival and development. Exploratory learning focuses on access to new knowledge, new ideas and new methods, and it aims to develop the new product, technology and technics for gaining the advantage of opening up the market. So that this organization can get access to a breakthrough-type growth, relatively high resilience and dynamic response capabilities in the uncertainty environment. Nevertheless, the exploratory learning can bring high returns to organizations and make it face a high risk, because the super-conventional development can not guarantee the success. In fact, organizations make a difficult choice on the both organizational learning methods. Riitta Katila and other scholars have suggested that organizations should make full use of organizational existing knowledge to ensure the current survivability while exploring and developing new knowledge to ensure the organization's future viability¹⁸. Therefore, the results of the impact to different ways of organizational learning on knowledge transfer performance are complete different. Organizations must work out the developing and learning strategy for the knowledge transfer performance improvement based on the external environment and the advantage of existing knowledge.

In summary, social capital have effects on oorganizational learning from the three dimension: structure, relationships and coginition. And different styles of organizational learning leads to differences in knowledge transfer performance. Therefore, I think the influence path between social capital, organizational

learning and the knowledge transfer performance shows as the following figure (Figure 2).

Draw on indicator framework in balanced scorecard system, knowledge transfer performance can be

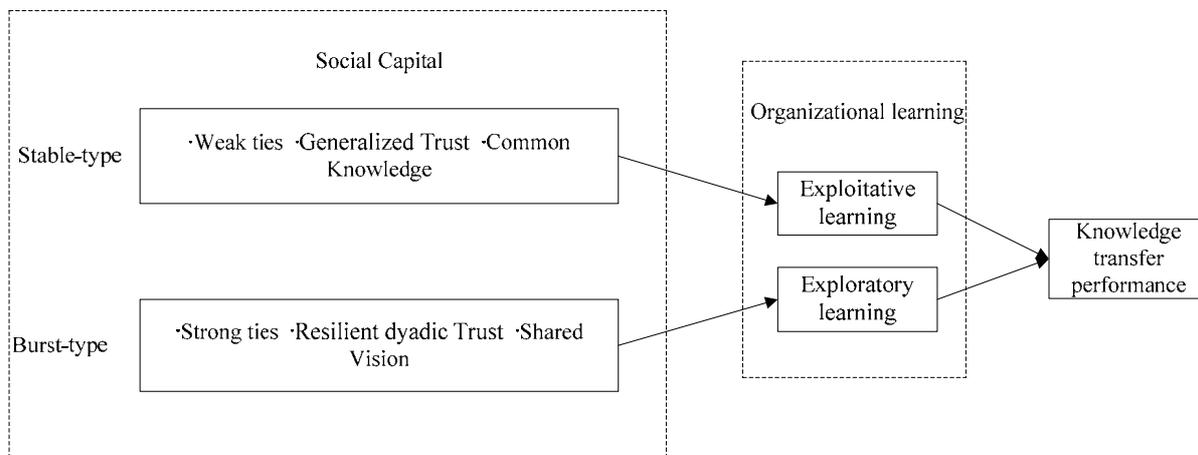


Figure 2. the influence path to social capital and organizational learning on knowledge transfer performance

E. The Relationship between Social Capital and Knowledge transfer performance

Tacit knowledge and the causal ambiguity decides that knowledge must carry out the transfer by social mechanism¹⁹. Social capital becomes to a so effective catalyst that scholars has concerned how the social capital affect the knowledge transfer. Such as: Sanyi Wang confirmed by empirical study that the structure dimension of social capital have effects on knowledge transfer among companies through its impact on knowledge transfer's chance, motivation and capacity¹⁸; the cognitive level of social capital is positively with knowledge transfer performance among companies³; Cui-hua Wu confirmed social capital relationships of the alliance network is positively with knowledge transfer through the mediator effect of knowledge transfer's change, motivation and capacity²⁰. Zhihong Li et al based on the existing knowledge transfer theory presents assumptions and theoretical models about the impact to social capital over knowledge transfer in inter-individual and also congrimed by empirical research that the three dimensions of social capital are not only positively influence the knowledge transfer performance and also affect knowledge transfer performance in inter-individual through knowledge transfer's change, motivation and capacity¹³. Through the literature review, domestic scholars research on the influence parth of social capital and knowledge transfer, mostly from the three dimensions: structure, relationships and cognition, with changes, motivation and capacity as the mediator variables and the knowledge transfer performance as the dependent variable. So I think now that scholars have been a consensus on the relationship between social capital and knowledge transfer, the indicators to measure knowledge transfer performance can be multifaceted, multi-angle and multi-level. Therefore this paper study social capital's direct role in promoting the two indicators of knowledge transfer performance from the two complete angles that used to divide social capital.

summarized from the two indicators to measure: financial performance and innovative behavior. There is no doubt that social capital has significantly positive effects on knowledge transfer performance. We divide the social capital within organization from the three dimensions: structure, relationship and cognitive. While stable social capital includes strong ties, generalized trust and common knowledge; burst-type social capital contains weak ties, resilient dyadic trust and shared vision. Advantages of stable social capital are frequent communication, close contact, quick transmission of information and consensus on organizational norms responsibilities and obligations. And all of that could be helpful to maintain the organization's steady sustainable development. However, building and maintaining strong ties requires a lot of time and energy. And generalized trust and common knowledge is not enough to promote the tacit knowledge sharing between individuals. Thus, the stable social capital could be able to improve the organizational short-term financial performance, but has no effects on organizational long-term innovation. The relative burst-type social capital aims to encourage innovation, in which there are a larger number of weak ties without redundancy to supply new information. And also the resilient dyadic trust can promote knowledge to be explicit and socialization. But this type of social capital has disadvantages that organizational innovation and market matching runs the risk and threat of short-term financial performance.

IV. CONCLUSION AND OUTLOOK

This article aims to analyze the the relationships among social capital, organizational learning and knowledge transfer performance and explore the impact path to social capital over organizational knowledge transfer performance (Figure 3). The organizational social capital with strong ties, generalized trust and common knowledge as the main feature is a stable type of social capital that positively promote exploitative learning. And this type of social capital also promote the organizational

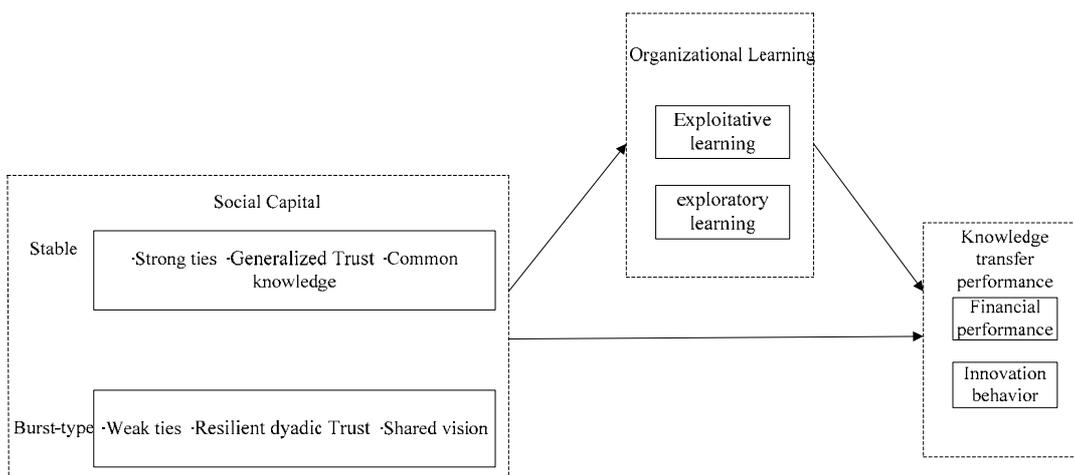


Figure 3. The relationship model of social capital, organizational learning and knowledge transfer performance

short-term financial performance create development advantages for the organization in the stable environment and help organizations improve the current value. The burst-type social capital with weak ties without redundancy, resilient dyadic trust and shared vision as the main feature matches with the innovation of exploratory learning. And this type of social capital has positive effects on organizational innovation, to some extent help organization adapt to complex environment and conducive to the long-term future of the organization. Therefore, the organization to improve the performance of knowledge transfer, must be oriented by organizational learning, change management thinking, and emphasizing the integration and strategic management of the two types of social capital.

In order to make the organization reasonable adjustment on two kinds of organizational social capital and select the appropriate organization learning mode for improving knowledge transfer performance, this paper puts forward some countermeasures:

1) Building a strong ties network within organization. Strong ties can make the other side is willing to take time and effort to knowledge transfer activity. to strengthen the tacit knowledge transfer, the organization should aim at enhancing the relationships between the sides of knowledge transfer. And strengthening the emotional factors of the two sides' relationship will make both willing to invest time and effort to complete the transfer of knowledge. At the same time, the organization should strengthen internal rules and regulations, make the tacit knowledge transfer popularization through reducing the knowledge background difference of organizational members, and thus help to knowledge transfer recipient a better understanding of the knowledge for improving the knowledge transfer performance. Strong ties playing a leading role in organizational social network determines the organizational learning will tend to exploitative learning.

2) Cultivating organizational external weak ties relations network and paying attention to organizational structure holes. Weak ties network is the organizational

social relations network structure that based on organizational task. From the view of the long-term development within organization, this kind of weak ties is more stable than strong ties. Tacit knowledge transfer between the knowledge source and recipients with more is due to project or task demands, and so the way of knowledge transfer doesn't affect by personal emotions, which will be stable and continued in the process of the development of projects. Thus, the organization of exploratory learning needs the solid knowledge transfer path exists.

The significance of our research reflects the two aspects: 1) Our research makes up the research gap that integrating the social capital theory and organizational learning to study their influences on knowledge transfer performance, from the socialization features of organizational learning as the visual angle. 2) This paper measures the organizational transfer performance from the two dimensions: financial performance and innovation behavior, on the basis of indicators framework of balanced scorecard system. The shortcomings of our research is the lack of definite data to support the proposed hypothesis. And the corresponding empirical research will be the next step.

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