

Applications of Social Network in Business Management

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ABSTRACT

In the recent many country are used social network in business management. In recent scenario textile industry, manufacturing industry etc are prefer social network in business management because they improves business quality and focus on customers needs. In this paper, the research on applications of social network in business management is introduced in detail. The applications of social network in business management can be studied from three aspects: enterprise structure, industry cluster and competition of enterprises. On these bases, further research directions are proposed.

Keywords : Social Network, Competitive Intelligence, Knowledge Management, Industrial Cluster, Competitive Advantage

I. INTRODUCTION

The conception of social network was firstly proposed by the anthropologist Barnes, and after 1960, it was gradually accepted and used in a variety of researches about related social science^[1]. Social network is made up of some nodes which have been connected or have possibility to be connected directly or indirectly, the character of these nodes and the relationship between these nodes^[2]. The theory of social network provides a new angle of view to look into our society and the society is viewed as a network graph, in which there are many nodes. Nodes are connected with lines which are social relationships. Individuals can get social approbation from the network and then establish social contacts, so as to get access to relevant resources. A social network includes at least two basic elements: actors and relationships.

With the globalization of economy and the continuous development of knowledge network, it cannot satisfy the needs of enterprises if enterprises only relied on their own resources and capabilities. Therefore, enterprises should be embedded in social

network to achieve their competitive advantages. On the other hand, the social network is the collection of various social relationships formed by the participants (including individuals and organizations), based on the long-term emotional relationship and cultural approbation in the process of transferring and sharing resources. The social network of enterprises includes the internal and the external relationship network. Therefore, the social network of enterprises should be studied mainly from two aspects: the internal social network and the external social network.

II. INTERNAL SOCIAL NETWORK OF ENTERPRISES

The competitive advantages mainly come from the enterprises' own resources and capabilities from the view of the internal social network which embedded in enterprises. The enterprise culture formed in the long-term process of the Enterprise operation, including management ideas, spirit, behavioral norms, and environment and so on, becomes the 'soft glue' to integrate the resources and capabilities of enterprises. The research about internal social network of

enterprises mainly focuses on competitive intelligence and knowledge management.

The research of enterprises' internal social network on competitive intelligence is to analyze applications of interpersonal social network on competitive intelligence with the method of social network analysis. The first scholar on this was Changhuo Bao, who expatiated the construction and the analysis of interpersonal network, based on the descriptions of interpersonal network. He provided a theoretical and methodological guidance to study the application of interpersonal network on competitive intelligence^[3]. In addition, in other literature, some scholars focused on theoretical research, such as the study of the model and the construction of interpersonal network in enterprises, based on different social network theories^[4], while some others focused on empirical analysis, such as the analysis of competitors' interpersonal network^[5].

Some scholars had applied the social network analysis to the knowledge management of enterprises. The application of social network on knowledge management was divided into four interrelated levels. On distinguishing the application domains of each level, the scholars introduced the relevant theoretical approaches, and then solved the question that how to promote the development of social network effectively after analyzing the characteristics of social network and exploring regulation of the social network development^[6]. Some scholars had studied the internal resource integration of enterprises with social network analysis, bringing forward that it was necessary to embedded internal social network in enterprises if that resources matched and coordinated each other, the efficiency of resources allocation and the performance of enterprises were wanted to be realized. With the trust and cooperation among internal members, the communication and the coordination among departments as well as team learning and interaction, the sharing of enterprise

resources, especially the intellectual capital, could be well improved and the competitive advantages could be achievable^[7]. Some scholars have studied how to optimize corporate culture in the perspective of social network, proposing that social capital should be taken advantages of, relationship configuration of social network should be constructed, sub-analysis of cohesion should be paid attention to and corporate culture should be optimized in the method of structural hole theory in process of culture construction of enterprises^[8].

III. EXTERNAL SOCIAL NETWORK OF ENTERPRISES

The enterprises achieve their competitive advantages mainly from the network resources formed in the long-term interaction with other enterprises or other organizations from the view of the external social network which the enterprises are embedded in. The network resources include complementary resources, location resources and coordination resources, which especially the acquirement and the share of coordination resources cannot be separated from the social network culture which includes the mutual benefit, the spirit of cooperation and the credit of the long-term cooperation between enterprises and other members. The research on external social network of enterprises mainly focuses on industrial cluster and the competitiveness of enterprises.

A. Research of External Social Network of Enterprises on Industrial Cluster

The research of social network outside the enterprises on the industrial cluster mainly referred to the innovation and upgrade of industrial cluster and competitive advantages of enterprises

The innovation and upgrade of industrial cluster Xiaoning Wang (2005) studied the hypothesis of impact of industrial cluster network on the innovative capabilities of enterprises and used the

method of multiple regression analysis to test the hypothesis empirically, based on the analysis of the construction and the characteristic of the industrial cluster network as well as the example of the industrial cluster in some district, which laid the basis for quantitative theory to study how to innovate and upgrade the industrial cluster^[9]. Huijun Gu (2007) built a framework of upgrading the industrial cluster, based on the analysis of social network structure after studying growth theory of enterprises, new regionalism and the research on upgrade of the industrial cluster in the theory of the global value chain. Starting from four characteristic indicators (centrality, network density, degree of structural autonomy and degree of structural peer-to-peer), he analyzed the upgrade of the industrial cluster which was caused by growth of enterprises in the view of global value chain^[10]. Jianfeng Wang (2007) studied the influence of characteristics of the industrial cluster structure on the innovation of the industrial cluster, based on studying the connotation, features, nodes, connections, composition of resources and microstructure characteristics. After studying the theory, he applied analytical method to analyze specific industrial cluster (XinDu Furniture) by cases, and then validated it when studying impacts of the structural characteristic of the individual innovative network on innovative behavior of enterprises, using multiple regression analysis^[11]. Geoffrey (2005) pointed out that the position of enterprises outside or inside the industrial cluster affected the innovation effect and that enterprises inside the industrial cluster had more innovative advantages than those outside the industrial cluster, based on the research about the relationship of the cluster, the network and the innovation^[12]. Jiang Wei (2003) studied the relationship between the industrial cluster and technological innovation and analyzed the structure of the innovative system of the industrial cluster and the connection mode. At the same time he analyzed the problem of technological learning of the industrial cluster. On this basis, path mechanism and dynamic mechanism of technological learning of the

industrial cluster were put forward^[13]. Qiongfang Liu (2003) proposed a macro-framework of cluster innovation network, considering that the cluster innovation network should contain the core network, external network support and assistant network. Besides, she analyzed the running environment and the running mechanism of the cluster innovation network^[14]. Ning Cai and Jiebing Wu (2005) studied the elements and the performance of innovative capability of the industrial cluster from multiple perspectives. They constructed a model of the relationship among knowledge, learning and network innovative capability on the basis of the division of the learning behavior in the industrial cluster and then analyzed the learning process of the network innovation^[15]. Jianglong Wang (2004) defined the connotation of the cluster innovation network, focused on the evolution of the cluster innovation network and then analyzed the element structure of the cluster innovation network at the stages of early days, growing days and the mature period that the industrial cluster developed, considering that different innovation model might go with different stage of development. Finally, through the questionnaires of six clusters such as Hangzhou, Fuyang, Ningbo and Wenzhou, the critical network nodes which affected the process of the cluster network innovation were found^[16]. Dengke Ji (2006) studied the influences of internal and external network of enterprises on performance of technological innovation empirically, based on the conceptual model that showed enterprise network not only had a positive impact on performance of technological innovation of enterprises but also had a modulating action influenced by the absorption capacity of enterprises, pointing out that the strength, the size and the position of the external network of enterprises had positive influences on improving the performance of technological innovation^[17]. Zhigang Yuan (2005) considered that the cluster innovation network should be made up of such three layers, the core network, the assistant network and the network of policy and culture, among which the core network

was made up of enterprises in the cluster and the assistant network was made up of universities, research institutions and technical information intermediary while the network of policy and culture was made up of soft culture^[18].

Competitive Advantages of Industrial Cluster

Jiebing Wu (2006) studied the competitive advantages of the industrial cluster from the view of network and discussed the micro -mechanism formed by the competitive advantages of the industrial cluster with the theory of structural properties of enterprise network and network dynamic capabilities, confirming that structural properties of enterprise network played an important role in the development of the competitive advantages of the industrial cluster. Furthermore, the evolution of enterprises network structure and the influences which the evolution of enterprises network structure had on the Competitive advantages were explored^[19]. Some scholars analyzed the medium sized private enterprises with the method of social network analysis, inferring that the reason that different cluster models had different characteristics was the social network and the cluster was essentially the view of social networks of enterprises. Finally, the development tendency of the enterprise industrial cluster was explored from the view of the network^[20]. Some scholars studied mutual complementarity of knowledge resources of enterprises in social network, and then analyzed the conditions and the impact factors of the mutual complementarity, pointing out that trust was the common standard that all enterprises in network should abide by and the trust was the basis of the enterprise cooperation^[21]. Some scholars studied the competitive advantages formed by controlling cost factors, reconfiguring value chain, reducing costs, adding unique driving factors, reconstructing enterprise value chain or forming differentiation in the network where enterprises existed. Sustaining competitive advantages could be generated by enterprises in social network. Besides, the scientific

construction and the management of the social network were an important way for enterprises to maintain competitive advantages^[22]. Some scholars studied the influence of social network on the enterprise competitiveness from three aspects: first, enterprises in the social network could obtain the relationship resources easily; second, social network could optimize enterprise competitive environment; third, enterprises in the social network were advantageous to establish community superiority. According to this, two methods to improve competitiveness by constructing social network were proposed: creating 'created relational network' and relying on 'inherited relational network'^[23].

B. Research of External Social Network of Enterprises on Competitiveness of Enterprises

Scholars had access to many strong arguments about influences exerted on competitiveness of enterprises by social network from an empirical perspective. Joseph and Rugman indicated that enterprises shared their resources and pursued their common strategic goals through the construction of the cooperation network, such as researching new products or technologies together, reducing costs or risks and sharing external resources or facilities, so as to reduce operating costs and expenses^[24]. McEvily and Zaheer analyzed 227 metal manufacturing enterprises empirically, pointing out that the relationship mode of the network where enterprises exist was an important factor affecting competitiveness^[25]. Renyong Chi indicated that mutual trust and the abilities of permeation can be able to be solidified and coordinated in one district through frequent interaction and interdependence among enterprises, which may improve the productivity of enterprises, stimulate the innovation of enterprises and improve the performance in the upshot^[26]. In short, different connection forms of network and different characteristics of overall external networks will

impact the core competitiveness of enterprise in all aspects.

Helper found that close members of social network exchanged their important information of technology and knowledge of management with each other when he studied Japanese automobile industry [27]. Nohria thought that enterprises shared their views, engineering methods, the method to solve problems and all relevant new technologies through professional, social and transactional relationship network to achieve competitive advantages [28]. Tony and David explored the role of network participants when commercialising high-technology innovation internationally and specifically how the participants established and managed their respective network relationships [29].

Banerji and Sambharya found that enterprises could get many physical resources (such as components, labors, capital and so on) and intangible asset (such as experiential knowledge, productive plans), especially the diversification of intercourse, through social network, which made it easy for enterprises to get more heterogeneous resources. Therefore, when the market demand was greatly changed, it could help enterprises adjust the business scope and restructure resources rapidly, based on their own conditions [30]. Kraatz thought that, the weak link in the relationship network emphasized the breadth of contact surface and the flexibility of mobile relationship network could be kept to increase production flexibility of enterprises consequently [31]. Meanwhile, if the strong relationship of mutual benefit and steady cooperation existed in enterprises, the relationship of the long-term cooperation would provide enterprises more room to adjust their demands of production when the market demand or the product combination was greatly changed [32]. Especially when the enterprise played a central role in the network, its throughput could be adjusted by outsourcing or being delegated to secondary manufacturers [33].

Uzzi thought that frequent interaction among enterprises helped stabilize reliable products through network. At the same time, he indicated that if there was something wrong with the quality of products, it would be widely spread in the network, which would bring continuous and serious negative impacts [34]. Analogously, Jiexuan Chen pointed out that the central manufacturers must persist on looking for partners of reliable quality in the process of constantly changing of the product quality, the consignment and the price [35]. More members in the network, more opportunities in the hands. Enterprises can find their partners of reliable quality and good reputation any time, which makes enterprises who have the initiative more initiative and makes enterprises who don't have the initiative more passive. Thus, the external network can enlarge its impacts on the quality of products. In the long term, the external network will help prevent speculation and form a set of invisible restrictive mechanisms among members in network, which has a positive effect on the output quality of members.

Shiqin Zhang thought that network members provided each other with better service naturally if they contacted with each other intimately. That is to say, if one provided good service, another one did the same thing to continue the situation accordingly, according to which the overall quality of customer service of network members will be improved because of the mutual benefit [36]. Analogously, Sihua Wu indicated that enterprises formed collective power from the connections of network, which provided customers with collective service and helped enterprises raise their competition position. Besides, that network members communicated with each other frequently and that they were familiar with each other were beneficial for enterprises to find opportunities timely and provide the most-needed service [37].

IV. SUMMARIZATION OF THE LITERATURE REVIEW

The reason why social network is concerned by enterprise researchers is that the social network is closely related with resources acquisition and the growth of enterprises. Enterprise cannot grow up without resources, and the resources of the enterprises as well as the individuals depend on each other. Resources flow among all actors in network. Therefore, resources are obtained from the social network, which provides an important idea about the analysis of the enterprise growth and the acquisition of resources.

A. Research on Analysis of Enterprise Structure

When the theory of social network analysis is used to enterprise organization, not only the formal hierarchical structure of an organization, the formal working relationship and the mechanism of information flow, but also the informal coupling relationship inside the organization should be paid attention to. The researchers of the social network which is applied to the analysis of the enterprise structure mainly focus on competitive intelligence and knowledge management, paying attention to the internal organizational information flow and the sharing of the knowledge. With the method of social network, the management of the recessive knowledge inside the organization will be realizable, which promotes the flow and the sharing of the organizational knowledge.

However, seeing from the current situation of the researches, it is expounded only theoretically that organizational structure can be analyzed by the method of social network analysis and it remains a thorough study that how to integrate it with the specific situations of enterprises to make strategies for enterprises to upgrade the knowledge management of enterprises, which has important practical significance without a doubt. Social network provides

an analytical method to construct interpersonal social network. But the analysis of legal aspect and moral aspect is ignored. In concrete activities of competitive intelligence, influences of some factors, such as law, morality, culture and so on, should be taken into account inevitably. All these questions need be studied a deep-going way when social network analysis is used in the process of analysis, selection, implementation and evaluation of competitive intelligence.

B. Research on Analysis of Industry Cluster

The main nodes of the industrial cluster network include the upriver enterprises and downriver enterprises who have vertical contacts with each other and similar enterprises who have horizontal contacts and relationships of the cooperation with each other, universities or research institutions of technic exploitation, governments or public organizations, intermediary service agencies and financial institutions. Industrial cluster is the sum total of formal and informal relationships which are steady relatively and are able to promote innovations.

The connections between the economic actors and the non-economic actors in the industrial cluster network are able to generate elastic concentration of production, complementary advantages of capabilities and innovation system of the industrial cluster. Seeing from the current situation of the researches, the upgrade of the industrial cluster is driven by the growth of enterprise which is influenced by not only internal network of the industrial cluster where the enterprise embeds but also the interactive relationship between the industrial cluster and its value chain. However, the research in most existing literature of the social network analysis on the innovation and the upgrade of the industrial cluster is studied only theoretically while the research in some literature is studied empirically. Only little literature involves the strong or weak relationship between the enterprise which is considered as a node in the

industrial cluster network and other enterprises, how to quantize the relationship and its effect. All these need further exploration.

C. Research on Analysis of Competition of Enterprises

Whether the theory of social network is used to study organizational structure of enterprises or the industrial cluster the enterprises embedded in, in the final analysis, it is used to increase competitiveness of enterprises. Social network is the carrier of social capital, providing network members with ways of obtaining competitive advantages. Due to the long-term coexistence and frequent contact, the consensus and the cooperation are formed in the enterprises inside the network (especially the network members of the same value chain), which has positive influences on their capabilities of R&D innovation, elasticity of production, quality of product and customer service. Enterprises are able to get access to advantages of low cost or differentiated competition strategy through optimizing the value chain to realize the maximum value of the value chain.

However, the cost of embedding enterprises in social network and the construction or operation of social network is ignored while it is inevitable. In numerous studies on applications of the social network, few of them involve the attention of limitations of social network. Further exploration is necessary for the direction.

V. CONCLUSION

Admittedly speaking, the theory of social network and the method of social network analysis are growing more and more mature, which accelerates the development of enterprises and affects the competitive advantages or behaviors of enterprises. Therefore, it is necessary to construct internal social network in enterprises and embed enterprises in right external social network with a plan through

certain path to increase competitiveness of enterprises. In this way, social capital will be able to be relied on to utilize and share resources to realize sustainable growth of enterprises. How to apply social network to business management concretely needs further more discussion on relevant theories.

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