

Research on Venture Capital, Social Network and Innovation Capability —A Case Study

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ABSTRACT

Enterprise innovation is inseparable from the support of funds and resources. This paper studies the influence of venture capital's capital, decision-making and management support on enterprise's creativity. Any enterprise is in an interconnected network relationship with its environment. This paper explores the influence of the breadth and depth of social network relationship and network structure on enterprise innovation ability. Finally, taking Bianli Bee Store as a case to study, it is concluded that the financial support has the greatest impact on the technological innovation ability of the enterprise; the decision support has a certain impact on the enterprise system innovation; and the management support has a certain impact on the enterprise management innovation.

Keywords: *Venture capital, Social network, Innovation capability, RBV.*

1. INTRODUCTION

In the increasingly fierce competitive environment, enterprises cannot survive without innovation. Innovation is not only the soul of a nation, but also an inexhaustible driving force for an enterprise to develop forward. Wernerfelt's (1984) [1] theory of enterprise resource-based (RBV) holds that an enterprise has two kinds of intangible and tangible resources, which can be transformed into the core competence of an enterprise under certain conditions. Scholars have studied venture capital from different angles. Among them, Kortum and Lerner [2] found that venture capital activities can increase the number of patent registrations in an industry. Zhu Xiaozhong (2008)[3] conducted an empirical study using relevant data, and found that venture capital in China has a positive effect on enterprise technological innovation. Yang Ye(2012)[4] demonstrated the causal relationship between venture capital and innovation through panel data, indicating that there is a long-term stable equilibrium relationship between venture capital and patent licensing variables, and obtained the research conclusion that "venture capital precedes innovation". Li Na et al. (2013)[5] found that venture capital can bring a greater positive role in promoting corporate strategy, structural governance, cost control, etc., which has a certain impact on the growth of enterprise potential value.

The liquidity of resources among enterprises is restricted by trust, information sharing and relationship, and it is difficult to replicate at the same time. The unique resources and core competence of these enterprises are the source of sustainable competitive advantage and innovation. The most important factors to enhance the innovation ability of enterprises include the support of funds, technology, information, personnel and even environment. In the past, many scholars have studied the relationship between venture capital and firm performance, but few have studied the impact of venture capital on enterprise innovation capability. This paper tries to analyze the case of innovation and development of domestic Bianli Bee Store after obtaining venture capital to elaborate the model, so as to expand the research vision in theory and provide certain reference value for the development of enterprise innovation in practice.

2. LITERATURE REVIEW

2.1. Venture Capital

Hall & Lerner (2009)[6] believes that venture capital is a kind of professional fund which mainly carries out equity or equity related investment to private enterprises with high development potential and adopts independent management. In the process of starting a business, enterprises often face the shortage of funds, customers,

resources and important information. They need to obtain funds, resources and information from venture investors even through "pre-endowed network relationship" and "acquired network relationship" Shi Xiuyin (1998) [7].

2.2. Social Network

The research on social network originated from anthropologists' finding that the traditional structure function theory of role status cannot explain the interpersonal relationship in complex society. After that, Barnes [8] and Bott [9] discussed the concept of network, but it was not until the 1950s and 1960s that social network theory emerged, and in the 1990s, social network theory received the attention of enterprise researchers. According to the theory of resource-based view, enterprises need to match various resources and capabilities in the process of development to ensure the development of the current stage. Scholars such as Michael Song (2005) [10] have extended the research on social network to organizations, believing that social network is a collection of nodes connected by some social relations (such as market relations and personal emotional connections). Social network resources are the sum of internal resources and external resources for enterprises to survive.

2.3. Innovation Capability

Drucker (1954) [11] is the first scholar to put forward the importance of innovation ability to organization. He thinks that an enterprise must have innovation ability if it wants to survive in the dynamic environment. Burgelman et al. (2004) [12] defined innovation capability as a series of complex characteristics of organizational support and support innovation strategy. Innovation capability includes the possibility of creating and transferring new technologies through economic practice. Wallin et al., (2011) [13] believed that innovation ability is the ability to achieve the given innovation results. According to Egbetokun et al. (2007) [14], there are various influencing factors for enterprises to establish their innovation capability, including five aspects: leadership, opportunistic behavior, culture and change, learning, and network and relationship construction.

3. RESEARCH FRAMEWORK

This model mainly constructs the internal relationship among venture capital, social network

relationship and enterprise innovation ability. It mainly embodies the following six aspects: on the one hand, the influence of different dimensions of venture capital on different dimensions of social network relationship; the second is the driving effect of different types of venture capital on enterprise innovation capability; the third is to investigate the driving mechanism of network relationship and network structure dimension of social network relationship on enterprise innovation ability; the fourth is to investigate the driving mechanism of network relationship and network structure dimension on enterprise innovation ability. The mediating role of social network relationship between venture capital and enterprise innovation ability. Fifth, based on the literature research, the network relationship dimension of social network relationship is studied from the perspective of centrality, scope and density, and the potential relevance of network structure is studied from the perspective of connection stability, interaction frequency and reciprocity. Finally, this paper studies the influencing factors of enterprise innovation ability from the perspective of technology, system and management.

3.1. Venture Capital and Innovation Capability

Domestic and foreign research shows that venture capital institutions, as professional investors, can play an important role in enterprise innovation according to their own funds, relevant knowledge and strategic resources. (CHEN Si et al., 2017) [15]. Zhang Kaige and Gu Lulu [16] found that venture capital has "capital increase effect" and "supervision and governance effect", which can promote enterprise innovation. At the same time, they also believe that early venture capital is more conducive to enterprise innovation. However, some studies have shown that venture capital has a negative impact on the innovation ability of enterprises. The innovative enterprises that they choose to invest in do not attach importance to cultivating their innovation ability after investment, so venture capital may inhibit enterprise innovation (Pahnke et al., 2015) [17]. The status of venture capital directly affects the development of enterprise innovation activities and the diffusion of innovation achievements. Hottenrott & Peters (2012) [18] believed that under a certain degree of financing constraints, enterprises with stronger innovation ability are more able to propose new research directions, and the probability of innovation is higher.

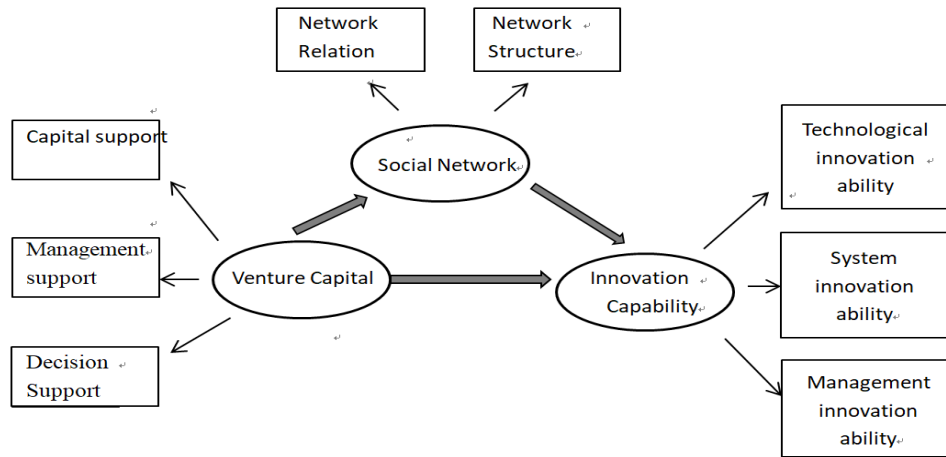


Figure 1 Venture capital and innovation capability framework

3.2. Social Network and Innovation Ability

Any firm in today's fierce competitive market must be a subsystem, should exchange materials with other organizations in social environment to keep its sound operation. Shi Xiuyin (1998) [7] believed that social network was not only preconceived network and acquisitive network but also essential conditions when a firm or organization input and exchange products or service. Building social network directly affects innovative capability of the firm. Nerkar & Paruchuri (2005)[19] believe that an organization who wants to obtain external information and resources and pursue enterprise innovation, it mainly rely on closeness of network relationship among stakeholders. The closer the relationship between enterprises and customers, governments, suppliers, scientific research institutions and financial intermediaries, the faster the technological and institutional innovation of enterprises will be.

Wu Shengnan (2011)[20] believed that the dynamic factors of social network include scale, density and intermediary centrality to measure the external social network. Social scale refers to the number of all subjects in the network; the density of network refers to the ratio of the number of connections in the network to the number of potential connections in the network; and network intermediary centrality refers to the ability of a subject to appear on the shortest path of any two subjects in the network, which is used to measure the degree of control of the subject on resources. Larson wrote on his research to build an enterprise is the operation process of the entrepreneur's social network relationship. Helper (2004) [21] considered there is a positive correlation between innovation network and innovation capability. Through the study of network relationship and technological innovation capability of enterprises, it is found that strong network links between enterprises have a positive impact on technological innovation. Based on the research conclusion of Xie Hongming (2007)[22], this study observes the

relationship of corporate social network from three aspects of density, intensity and reciprocity.

3.3. The Mediating Role of Social Network Relationship

After obtaining venture capital, enterprises get support from venture capital institutions in terms of capital, decision-making and management. At the same time, due to the entry of venture capital, on the one hand, it further broadens the social network relationship of enterprises; on the other hand, it also enhances the role of the original "strong relationship" and "weak relationship" in the expansion of business and market.

Good social network relationship can provide timely information and resources for enterprise innovation. According to the classification of social relationship network, it can be divided into three dimensions: relationship strength, relationship breadth and relationship height. The strength of the relationship lies in the long-term, high-frequency and stable relationship between the enterprise and its main partners, which will promote the innovation ability and performance of the enterprise. The breadth of relationship is the ability of enterprises to establish extensive contact with different organizations and new partners, so as to provide more resources and information to promote the promotion of enterprises.

The heterogeneity difference of social network relationship can enhance the breadth of enterprise's relationship network, and may also expand the height of social network relationship. At the same time, it can enhance the cooperation between the enterprise and the supplier, and enhance the cooperation between the enterprise and the supplier.

4. CASE STUDY

Bianli Bee CO.Ltd. is a private enterprise established in December 2016 and headquartered in

Beijing. The first store of Bianli Bee was opened in Beijing in February 2017, and then expanded in many business districts in Beijing, and the intensive opening of the store was adopted to serve users in depth by using block penetration strategy. The team is composed of the former 7-seven, the senior executives of the convenience store in the Neighborhood Company and the Internet team. [23]It is a new 24-hour chain convenience store. By 2020, Bianli Bee has raised \$1.5 billion in financing. Investors include the world's top private equity funds, national sovereign wealth funds, University investment funds and the Tencent Company.

The retail industry has always been in the situation of "low integration and low innovation" at home and abroad, and there are few giants. The competition situation and business model of each company are similar. When the Bianli Bee stores in Beijing are not favored by the outside world, Zhuang Chenchao, the former CEO of Qunar company, founded Bianli Bee with 7-Eleven and other executives. Bianli Bee in the outside world, whether it is business practices or business model is not the traditional convenience store. Zebra capital investment is not a short-term VC behavior. In addition to capital investment, it also carries out management integration and resource expansion, and provides business guidance, which belongs to the strategy of "long-term fishing for big fish". We can see as follow chart what kind of sources input by those venture capital and how they affect its output strategy.

In 2016, zebra capital invested in Bianli Bee. After zebra capital, it has successively received investment from the Tencent Company. Until 2020, round C financing reached 1.5 billion US dollars. Therefore, a series of actions of Bianli Bee are thought to be "not short of money" by outsiders. First of all, Bianli Bee has

focused on information technology innovation from the beginning, driving its business development with the power of science and technology. Through the precipitation and analysis of the data of the stores in the early stage, and using algorithm (software) drive from the aspects of store selection, shelf display, etc., it provides operation data guidance for the second batch of stores and even later stores, aiming to achieve the goal of "one thousand stores, different strategies". Secondly, Bianli Bee broke the traditional location and operation of convenience stores and carried out management innovation: first, in terms of the location of its own stores, it broke the tradition of bottom merchants as the main business, instead, it competed with restaurants for high flow of people, and the area of a store was far more than that of the traditional convenience store; second, in terms of store area, shelf display and cash collection arrangement, it was more than enough to open a supermarket It's in the market. "

Finally, on the basis of technological innovation, the Bianli Bee built a core user traffic entrance, formed an ecological closed loop, and realized innovation in business model. It also made app and shared bicycles. The ERP system will be responsible for the fine management of the store, get through the user data, and access to the user data, so as to realize the refined operation of the "resident customers" high-frequency users, so as to guide the selection of stores and the survival of the front-end supply chain. From the operation of Bianli Bee, we can see that the entry of venture capital can not only bring the capital needed for the development of enterprises, but also bring huge benefits and support in social resources, management, promote the innovation of technology, system and management, and promote the development of enterprise performance while improving the overall innovation ability of enterprises.

Table 1. Bianli Bee’s Venture Capital and its innovation strategy

Year	Venture Capital organization	Investment Strategy	Bianli Bee Innovation Strategy
2016	A Round Unpublished Zebra Capital	Financial support; Actual holding; Participate in the management and operation;	Technological innovation: the strategy of "thousands of stores and different strategies" driven by algorithm; Management Innovation: build ERP system, fine management;
2020	C Round Up to US \$1.5 billion the world's top private equity funds; National sovereign wealth fund; University Investment Fund; Tencent Co., etc	Financial support; Shareholding; Social resources and relationship input;	Business model innovation: core user app flow entry, access to user data; Sharing bicycle, access user data;

5. CONCLUSIONS

This research demonstrates the importance of venture capital and its relationship with social network and innovation capability. Future research should make an empirical study to get more samples to prove. If venture capital is the input, then the innovation capability may be the output in the sound social network with other organizations. Further studies should examine what factors affect innovation capability, and then put more explicit variables in to the framework to develop a better research. For instance, knowledge integration that different organization may have complementary or supplementary knowledge will promote the core enterprise to develop its innovative capability. Wei Jiang (1995; 1997)[24-25] believes that in the process of "acquisition reorganization creation", enterprises realize the reserve and accumulation of technology and knowledge, which is the integration of all knowledge and skills condensed in the organization, personnel, information and equipment, and carried by people and organizations. Thus, there are many paths for future studies to combine different variables into the research framework and use more research methods.

AUTHORS' CONTRIBUTIONS

Social network were discussed mainly through questionnaire data and empirical research, few use a case study approach to analyse the affection of social network and venture capital on enterprise innovation capability. This paper stands in China and chooses a fast growing enterprise in retail industry to see how it grown with the help of venture capital and social network.

ACKNOWLEDGMENTS

I would like to show my best gratitude to my supervisor, Dr.Gao Hongyan, my classmate Lijuan, Zhu Man, Zhou Wen, and Yu Miao; they give me too much help about this paper.

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