

Social Network, Social Capital and New Venture Performance

Liangxing CHEN

School of Management, Zhejiang University, Hangzhou, China

Abstract—on the basis of extant literature, this paper makes a brief proposal on exploring the mechanism from social network to new venture performance. The social network produces social capital which mediates network effects on new ventures' both economic and innovation performance. The tentative approach of separating social capital out from social network tries to forward social network and social capital theory to be more guiding for entrepreneurs. Afterward, a case on Baidu.com is studied detailed in following the model.

Keywords-social network, social capital, social competence, new venture performance

1. Introduction

Undoubtedly, issues relative to entrepreneurship become the hottest hit among all the social discussions at present. Basically, entrepreneurship creates jobs and wealth at least. Furthermore, entrepreneurship innovates new products and services to rich people's life and push the society forward. Therefore, huge attentions from sorts of fields are attracted by uprising entrepreneurship. So do academics. Duane (2005) looked up all Academy of Management Journal from 1963-2005 and made an interesting report. Among the 50 papers related to entrepreneurship, 37 are published in the recent 10 years (1995-2005), accounting for 74%. There are 16 papers on new ventures and small business at 32%, much higher than other problems. What's more, among the topics around new ventures and small business, opportunities discovery and exploitation is the exclusive focus.

2. Model proposal

2.1. Model Sketch

From the beginning of the entrepreneurship research, academics always try to explain why someone succeed in discovering and exploiting the scarce opportunities but others can't at the similar circumstance. Consequently, it becomes the key problem of the entrepreneurship research and lots of past researches support that it's related to entrepreneurs' alertness, social network, pre-experience, market knowledge and education background. Each of these fields has been studied in detail, and social network theory is one of them which are acknowledged widely. Ardichvili (2003) examine the social network's effects on the opportunity discovery process and the structure of the social network is emphasized by Hoang & Antoncic (2003). Meanwhile, the associations between social network and opportunity exploitation are studied as well. Ozegen & Baron believe that informal industry network providing high-quality information in shorter time contributes opportunity discovery and exploitation a lot[1]. Wu & Wang think high-trust strong connections help new ventures reduce risks and obtain critical competency[2]. Apparently, social network's significant effects on entrepreneurial opportunities discovery, evaluation and exploitation have been a general consensus by academics.

On this background, this paper constructs a research model to explain how a new venture's social network influences its entrepreneurial performance through the social capital deriving from the network (as shown in Fig. 1). As start-ups tend to be small scale, largely dependent on the entrepreneur or the team, the entrepreneur and the core team generally bring their whole social network into the new ventures. Therefore, in most cases, the social network of the entrepreneur and his team reflect the start-up's social network. In accordance to this model, we believe the start-ups' social network largely determine the ventures' performance mediated by the social capital aggregating on the social network. At the same time, the social competence of the entrepreneurs and the entrepreneurial context moderate the correlation between social capital and ventures' performance. As the carrier of the social capital, the social network's strong ties, weak ties and centrality determine the characteristics of information, resource and influence which the new venture are potentially able to obtain. Especially, at the outset, venture's performance is highly associated with its social capital. Under certain entrepreneurial context, the ability of adopting appropriate social capital moderates the social capital's effects on the venture's performance.

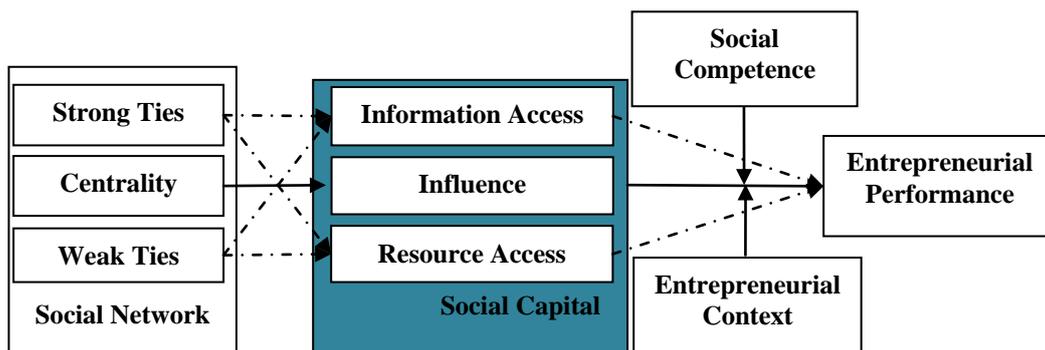


Fig. 1 The model of social network, social capital and entrepreneurial performance

Social network is generally considered to affect the entrepreneurial process and its economic output (Hoang & Antoncic, 2003). Friends, relatives and community around entrepreneurs are willing to provide information and resources in priority to help entrepreneurs realize their business dreams[3]. A large number of past studies reflect that social network is highly related to venture's outputs at the early age. Granovetter says that for personal economic behavior is embedded in individuals' social network, so all economic objectives are achieved in personal social environment as well. Through a multi-case analysis, Young shows how economic activities are affected by the social network structure and tie strength. He takes examples that the acquisition and fulfillment of orders are not only bounded by the law but also by the social network. Anderson & Jack (2002) agree that enterprise access to its own shortage of resources through social network at the outset, thereby increasing its likelihood of success. Through statistics analysis, Asrstad found the social capital forming from social network leads to performance spillover[4]. On other words, a start-up with more developed social network has a better performance.

Therefore, we recommend the **Proposition 1**: The social network is positively related to new venture's performance.

2.2. Social Network and Social Capital

Social network has different characteristics on centrality, strong ties and weak ties. The characteristics of strong ties can be observed in perspectives of the heterogeneity, reachability and extensity. And weak ties can be investigated from the structural hole, network efficiency, network scope and network range. Though the social network consists of strong ties and weak ties together, strong ties constitute the backbone of the network supporting the entire network and extending the network with lots of weak ties.

Social capital embeds in the ties inside and outside the social network, which makes entrepreneurs unique and apart from imitations (Galaskiewicz & Zaheer, 1999). Under the surface of the social network, the substance of social capital is the information, resources and influence which entrepreneurs can draw from the network (Lux, 2005). People receive and spread information through social network consciously and unconsciously. The valuable information after filtered and the power to control its access form the information capital. Similarly, the social network helps entrepreneurs to obtain necessary resources to meet their demand. For entrepreneurs, the resource capital mainly refers to the finance, human resource and material (Adler &

Kwon, 2002; Lin, 2001). Meanwhile, the trust, reputation and motivation generated from the social network also play an important role in entrepreneurs' decision-makings. To a large extent, the composition and structure of the network set a large impact on the three kinds of social capital's formation and dissemination.

By strong ties, the entrepreneur can get rich and accurate information with high credibility (Jack, 2005). The diversity of information from weak ties makes them used as a scan tool to enable enterprises to discover new trends and market asymmetry more quickly (Monsted, 1995). Entrepreneurs who stand closer to the network center can reach more information and resources flow, which make them know information on markets, competitors and potential partners earlier and more alternative to changes (Powell, 1999). Therefore, we recommend the Proposition 2a: The social network is positively related to the information capital strength.

Lechner & Dowling (2003) emphasize strong ties' important role in terms of the access to resources. The unique and sustainable resources it offers benefit start-ups a lot[5]. Besides, weak ties confer diverse and novel resources to ventures, which connect them to ventures on pursuit of innovations[6]. Network centrality can bring ventures more credibility to help them get more resources in the industry, as links to suppliers, consumers and venture capitals (Stuart, 1999). Therefore, we recommend the Proposition 2b: The social network is positively related to the resource capital strength.

Nodes connected by strong ties have a strong influence on each other[7], providing incentives, building credibility and setting up synergy with each other. Wide-range weak ties will bring reputation advantages to ventures inside and outside industry (Starr & MacMillan, 1990). Owning the centrality, ventures are easier to acquire venture capital, which tempt them to innovation and risk strategy (Burton, 2002). In this way, those ventures are more likely to be the leader in their industries, which enhance its industrial status and influence in turn. Therefore, we recommend the Proposition 2c: The social network is positively related to the influence capital strength.

Therefore, we recommend the **Proposition 2**: The social network is positively related to the social capital.

2.3. Social Capital and New Venture Capital

It's generally recognized by academics that social capital is critically related to business performance (Elfring & Hulsink, 2007; Shane & Venkataraman, 2000). As new enters with small market share, new ventures usually are lack of necessary supports (Baum, 1996). Reynolds & Miller (1992) observe that start-ups are largely constraint from the needs on human resource and finance support. Kogout (2000) states that low credibility and recognition restrict business development at the initial time. Consequently, in most cases, entrepreneurs input their own personal social capital into new ventures, as supports from family and friends (Hite & Hesterly, 2001).

In the early days, entrepreneurs object to promote ideas to be a fine business opportunity. Under this condition, start-ups are facing pressure from both surviving and future development. So, the study on new ventures' performance should be detected from two aspects, economic performance and innovation performance[8]. High economic returns offer a great help on overcoming difficulties in start-ups' survivals. At the other side, high innovation performance probably drags down economic performance in short term, but it instills large growth potential into new ventures for future.

With high stability and familiarity, strong ties are able to convey complex information (Jack, 2008), which help start-ups maintain high-level cooperation in uncertain environment. Second, the adequate and reliable information provided by relative strong ties reduce transaction risk among business partners, increase profits and thus enhance the economic performance. However, for lack of network range and thus information gaps, network constructed mainly by strong ties is vulnerable to network inertia (Baker, 2000; Burt, 2000). In this way, strong ties possibly turn to burden for innovation. On the contrary, weak ties are more likely to become a bridge for long-distance transmits, passing new information and accessing to exclusive information from competitors (Baker & Obstfeld, 1999), enhance innovation capability. Enterprises are able to take advantages on different weakly connected partners to obtain wide knowledge and information sources, to overcome the challenge of resources constraints (Ebers, 1999; Hite, 1999). In fact, to a large extent, ventures' innovation performance is highly associated with their ability on bridging relative information (Hargadon & Sutton, 2000).

Therefore, we recommend the **Proposition 3**: The new ventures' information capital is positively related to their performance, mediating the social network's positive effect on venture performance. Proposition 3a: The new ventures' information capital strength mediates strong ties' positive effect on the economic performance. Proposition 3b: The new ventures' information capital range mediates weak ties' positive effect on the innovation performance.

The resources gotten by strong ties are more predictable and reliable. The resources with such characteristics largely reduce business cost and risk (Jack, 2008; Walker, Kogut & Shan, 1997), thereby increasing profits and improve ventures' economic performance[9]. What's more, strong ties offer resources with priorities, which avoid the negative impact in uncertain environment (Wiklund & Sheperd, 2005). Weak ties connect up social network in different regions which are supposed not to be connected to each other. So, social network extended by weak tie transmit various sorts of resource from diverse source, to elevate innovation possibility (Gittleman & Kogout, 2003). Besides, with the stronger ability of discovering network structure hole, ventures are more likely to find new suppliers (Gargiulo & Benassi, 1999). And new suppliers are critical for fast development. Lastly, Ghoshal (1998) found that ventures' source range is positively correlated with their products and services innovation level.

Therefore, we recommend the **Proposition 4**: The new ventures' resource capital is positively related to their performance, mediating the social network positive effect on venture performance. Proposition 4a: The new ventures' resource capital strength mediates strong ties' positive effect on the economic performance. Proposition 4b: The new ventures' resource capital range mediates weak ties' positive effect on the innovation performance.

Through their existing social network, entrepreneurs accumulate existing and potential partners' commitment in the course of future cooperation and exchanges[10]. Ventures that stand at the central spot of its social network gain more negotiation leverage power and thus benefit a lot from communication and exchanges among its network (Brass & Burkhardt, 1993). As a kind of influence, trust reduces transaction cost (Gulati, 1995), induces trading partners to behave positively (Madhok, 1995), decreases the frequency of using formal channels and eliminates commercial disputes largely (Larson, 1992). Furthermore, trust within business relationship speeds up problem solving and deal achievement (Ring & Van de Ven, 1994).

Therefore, we recommend the **Proposition 5**: The new ventures' influence capital mediates social network's positive effects on the performance.

2.4. Social Competence, Entrepreneurial Context and New Venture Performance

Early days, entrepreneurs capture and utilize the information, resource and influence from their social network in order to exploit the business idea and improve the business model. However, strong social network and abundant social capital can't decide new ventures' performance alone. On the other side, the entrepreneurial context and how well entrepreneurs make use of the social capital generated from their social network also affect the initial performance a lot.

How to pay less to adopt social capital for start-ups' growth is an advanced strategic capability which entrepreneurs dream of (Jack, 2008). Entrepreneurs must select useful information, integrate effective resources, and leverage influence to convert their social capital to entrepreneurial performance (Bhagavatula, 2008). And the effectiveness and efficiency of the process largely depend on entrepreneurs' human capital, like experience, skills, intelligence and so on. Jack (2008) found that entrepreneurs' education, family background and experiences affect their knowledge channels and framework which transfer their information advantage to business advantage. Baron & Ensley believe that those who set up their own framework of general knowledge and industry independently are more capable to sense opportunities on the new changes and trends, then improving immature products and services. Besides, Delmar (2008) said that the ventures set up by those with business or industry experience averagely survive longer.

Therefore, we recommend the **Proposition 6**: The new venture's social competence moderates social capital's positive effects on the performance.

Social network provides entrepreneurs with access to social capital, but the effectiveness of the social capital varies in different entrepreneurial contexts. Entrepreneurial context is often dynamic and full of

uncertainty, which means under certain circumstances, entrepreneurs possibly fail on transferring social capital to new ventures' performances. On the other words, sometimes, on different conditions, with the same social capital, new ventures' performance may change dramatically[11]. Besides, attributes of the opportunity entrepreneur dedicates on have a significant impact on ventures' performance.

Therefore, we recommend the **Proposition 7**: The entrepreneurial context moderates social capital's positive effects on the performance.

3. Discussion

The question why some people can discover and exploit certain opportunities while others fail has been the focus of worldwide entrepreneurship research. In accordance to social network and social capital theory, this paper illustrates the mechanism between social network, social capital, social competence and entrepreneurial performance. It's expected to reveal the black box from ventures' social network to their performance logically and thus to explain the performance difference between ventures. The content and structure of network constructed by entrepreneurs determine their access to information, resources and influence which sum up social capital. Meanwhile, the social capital's effects on performance are almost constrained by its social competence and the environment it imbeds.

The model set up in this paper contributes in three points. Firstly, this model is of great help on clarifying the boundary and logics between social network, social capital and entrepreneurial performance. Under the same clue, social competence's moderation role between social capital and entrepreneurial performance is also advocated seriously. Since long time ago, about social network theory, the disputes on functionalism and structuralism, static and dynamic measurement hasn't stopped yet. Recently, more scholars support structuralism of Burt (1991) over functionalism of Coleman (1988), because of the agreement on that social capital derives from social network. Following this line, the social capital spitted from social network is well-grounded. Besides, the information, resources and influence embedded in social network are static and unorganized. Without mobilization, it can't affect ventures' performance. Therefore, social capital consists of the access to information, resources and influence which embed and derive from social network (Foley & Edward, 1999). In addition, social competence realizes social capital's function by utilizing and converting it on particular purpose.

Secondly, to complete social capital content, apart from information and resource, this paper sums up the influence as the third dimension. Generally, the concepts of motivation (Jenssen & Koening, 2002), reputation (Jack, 2005) and synergy (Nahapiet, 1998) haven't been taken seriously into the refined theory. But these forces were indeed observed repeatedly using by entrepreneurs and impact on total business performance admitted by entrepreneurs. Beside some from entrepreneurs individually, considerable influences are also rendered by the network structure.

Lastly, this paper also demonstrates that the relationship between social capital and entrepreneurial performance is also moderated by entrepreneurial context. In common, context is one of the key elements in strategic management research. Given that performance is always moderated by context, it may be reasonable for entrepreneurship as well. In fact, to achieve high performance, ventures' requirements on social capital vary according to the industry profile. What's more, sole venture's performance is certainly related to the industry growth as a whole.

4. Case study

Baidu.com (NSDQ: BIDU) set up by Robin Li is the largest web search engine in China and the largest Chinese web search engine worldwide. From 1999 to 2003, it only took Baidu.com three and half year to defeat Google.com in China with the first place in the web search field. Achieving such an excellent performance at the initial stage, its entrepreneurial team definitely made huge contribution. Without any question, they boldly grasped the emerging opportunity which gave them the first-mover advantage. But, from our network-to-performance model perspective, the network configuration deriving from the initial team also accounted for its success a lot as well.

At the end of 1999, Robin gave up his Ph.D. on computer science of the University of Buffalo and went back to Beijing with Yong Xu to commence his entrepreneurial road. After Jianguo Liu, a former associate professor of the Peking University, joined the team, they registered the Baidu.com Ltd.,Co. and settled the company in the campus of the Peking University. These three persons who formed the initial team were so different on their backgrounds and social connections, but in sum, they made Baidu.com perfect at the beginning stage.

Robin studied on Information System in Peking University before he went to states. During the period of Buffalo, Robin was diligent on search technology following his tutor. Beside his school time, Robin also fully utilized his vacation time to take internship in the DJI and Infoseek. Before his back, he was an advanced project manager of the Infoseek and viewed the top three on the web search engine worldwide by the Infoseek CEO. So we can tell from Robin's experience that he was strongly connected to world top players on web search technology and weakly connected to computer industry in Beijing.

Yong XU, the second partner, was a TV program director before his joining. For taking several programs about the Silicon Valley, he was acquainted with a number of VCs there. What's more, Robin believed that Yong's broad mind on high-tech industry would also be helpful to Baidu.com development in China.

Jianguo Liu, a young and promising associate professor of the Peking University on computer science, gave up his stable life and joined in Baidu for his dream to bring lights of technology to common people. Apart from his own excellent technology, he strongly connected to the top computer scientist in China with wide associations to local industry.

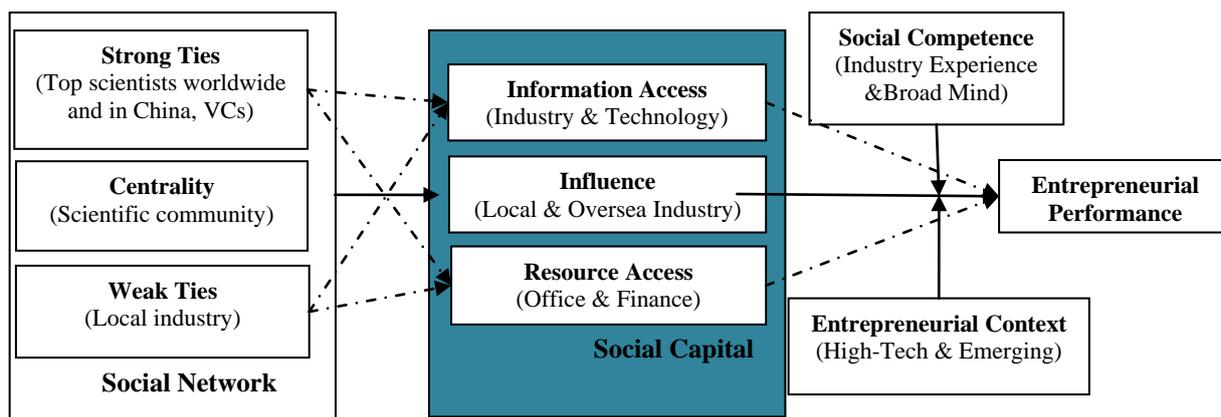


Fig. 2 The model analysis on Baidu.com

From the model analysis before, we can see that as a high-tech company in emerging field, the social network configuration constructed by splendid team benefited Baidu.com a lot and the social capital generated from it is quite abundant for Baidu.com at the initial time to harvest its first-mover advantage.

However, a big deficiency of its social network is lack of connections to its down-stream enterprises who buy Baidu's services. It's tremendous perilous to Baidu's development at the next round. After took a lesson in 2003, Baidu.com swiftly brought in its marketing manager, Sheng BI who led a series of successful campaigns afterward, supporting Baidu a new rapid growth.

5. Conclusion

This paper develops a model which reflects how social network influences new venture's opportunity exploitation. Based on the model, we recommend up 7 propositions, presenting a new perspective on social network, social capital and new venture performance for future study. According to the previous theoretical researches, we distinguish concepts of social network, social capital and social competence with their positions in the function process in the model. This model not only constructs a theoretical system from social network to opportunity exploitation, but propose entrepreneurs how to build up social network with appropriate configuration in terms of social competence and entrepreneurial context in order to achieve high performance and win at the beginning.

However, this paper owns extant flaws to be perfected continuously. Firstly, the concept and measurement on social network and social capital are of a little overlap and a clear separation remains to be further. Secondly, the influence concept construction is incomplete, requesting incoming summary and complements. Lastly, the propositions in this theoretical model have yet been supported by empirical research.

6. References

- [1] Ozgen, E. and R.A. Baron, *Social sources of information in opportunity recognition: Effects of mentors, industry networks, and professional forums*. Journal of Business Venturing, 2007. **22**(2): p. 174-192.
- [2] Wu, L.Y., et al., Internal Resources, External Network, and Competitiveness during the Growth Stage: A Study of Taiwanese High-Tech Ventures. Entrepreneurship Theory and Practice, 2008. **32**(3): p. 529-549.
- [3] Jack, S.L., *The Role, Use and Activation of Strong and Weak Network Ties: A Qualitative Analysis*. Journal of Management Studies, 2005. **42**(6): p. 1233-1259.
- [4] Aarstad, J., S.A. Haugland, and A. Greve, *Performance Spillover Effects in Entrepreneurial Networks: Assessing a Dyadic Theory of Social Capital*. Entrepreneurship Theory and Practice, 2010.
- [5] Hoang, H. and B. Antoncic, *Network-based research in entrepreneurship: A critical review*. Journal of Business Venturing, 2003. **18**(2): p. 165-187.
- [6] Stam, W. and T. Elfring, *Entrepreneurial orientation and new venture performance: the moderating role of intra-and extraindustry social capital*. The Academy of Management Journal (AMJ), 2008. **51**(1): p. 97-111.
- [7] Nahapiet, J. and S. Ghoshal, *Social capital, intellectual capital, and the organizational advantage*. Academy of Management Review, 1998. **23**(2): p. 242-266.
- [8] Hite, J.M. and W.S. Hesterly, *The evolution of firm networks: From emergence to early growth of the firm*. Strategic Management Journal, 2001. **22**(3): p. 275-286.
- [9] Pirolo, L. and M. Presutti, *The Impact of Social Capital on the Start-ups' Performance Growth*. Journal of Small Business Management, 2010. **48**(2): p. 197-227.
- [10] De Carolis, D.M. and P. Saporito, *Social capital, cognition, and entrepreneurial opportunities: A theoretical framework*. Entrepreneurship Theory and Practice, 2006. **30**(1): p. 41-56.
- [11] Baron, R.A. and M.D. Ensley, *Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs*. Management Science, 2006. **52**(9): p. 1331.