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Social capital impact on entrepreneur's innovation: A test of Chinese entrepreneurs in Italy

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Abstract:

According to the theory of Burt (2005), brokerage and closure are two main feature of social network and metaphor of social capital. The purpose of this research was to investigate how immigrate entrepreneur's social network may affect entrepreneur's innovation. The relationship between social capital and entrepreneur's innovation can be mediated by trust and information diversity. These relationships are especially relevant in the case of immigrant entrepreneurs, which function in multiple groups and networks. The hypothesised relationship were examined with data from 91 Chinese entrepreneurs in Italy (Rome, Milan, Venice and Florence). This research aimed to prove the relationship between entrepreneur's social network and innovation. This research distinguish two types of social network which are closure and structural hole, and two components of social capital which are trust and sharing diversity information. Through applying Burt's theory about types of social network and dimensions of social capital, it show the two types of entrepreneur's social network is all positively associated with innovation. The obtained results confirm prior hypothesis. The value added of this research is an indication that in the case of immigrant entrepreneurs social capital which derives from social networks positively impacts entrepreneur's innovation.

Keywords: social capital; trust; tacit knowledge; innovation; Chinese entrepreneur

JEL codes: L31, O35, D83

1. INTRODUCTION

Innovation is nature to entrepreneurship and its fundamental feature according to Schumpeter's definition (1934). From the point of competition, innovation puts the firm in the lead. Incremental innovation, which continue to improve existing products and service, can extend the product life cycle. Radical innovation, has the potential to fundamentally drive down costs (Zaltman *et al.*, 1973; Henderson & Clark 1990). Innovation in SMEs is of particular interest because of the key role SMEs play in creating jobs, new firms, products and industries and often expanding the market beyond its domestic boundary (Bloch & Bhattacharya, 2016). On the social side, innovation, especially radical innovation, also facilitates knowledge spillovers improving quality of living and resolving social problems. Therefore, in the interest

of both economic and social benefits, it is important to foster innovation in entrepreneurship.

One route toward increasing the level of entrepreneur's innovation authors point to extending their vision through receiving more diversified information. Diversity is the key to creativity. Living in a new culture, connecting with local people, exchanging information can make entrepreneurs more creative. Many research tested that diverse teams produce more creative results than teams in which all members are from a similar background (Fitzsimmons, 2013; Giridharadas, 2010; United Nations Statistics Division, 2011). Diversified information come together in a mental process to create a new and useful idea.

Another route is to build trust based relationships in entrepreneur's social network. Trust facilitates informal relational contacts enabling people to exchange their informal information and tacit knowledge which in turn can facilitate to create new ideas. At the same time, the innovation process involves risk both for the R&D running the process and employees participating in the process.

Based on these two routes, this study address the following three research questions: first, do social networks improve innovation of immigrate entrepreneurs? Second, does social capital increase innovation of immigrate entrepreneurs? Third, is this effect the same for women and men entrepreneurs? To address these questions, this study relied on OLS regression based on statistical data, which was collected from 91 Chinese entrepreneurs in Italy, to test the relationship between social capital and entrepreneur's innovation.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. SOCIAL CAPITAL: CLOSURE (TRUST) AND BROKERAGE (INFORMATION DIVERSITY)

Capital is a necessary condition of everyone economic and social activity and a result of human labour, as human labour can increase the capital. It was classified in the past as economic capital, human capital, intellectual capital and social capital. The notion of social capital can be traced to Marx who saw capital as part of the surplus value captured by capitalists or the bourgeoisie based on the exploitive social relations between two classes (Lin, 2001, p. 4, 19). Others see social capital as a social asset by virtue of actor's connections and access to resources in the network or group of which they are members. This social asset in view of Bouedieu and Wacquant (1992) is the sum of the resources, actual or virtual that accrue to an individual or group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition (Burt, 2005, p. 5). Social capital come from and can be increased by social connections and relations. Social capital is the contextual complement to human capital in explaining that the people who do better are more able individuals, intelligent, attractive and skilled. Social capital explains that people do better also result from better connection with other people (Burt, 2005, p. 4). This connection as a function of prior contact, exchange and attendant emotions form formally or informally a social structure. There are defined two features of social structure by Burt: closed network within the group and structural holes as the empty spaces beyond the group.

Relationships are the fundamental elements in any network. They can be measured for strength and context. Granovetter (1973) defined the strength of a tie as a combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie. A bridge is a (strong or weak) relationship that spans a structural hole (Burt, 2005, p. 25). Relations can be measured for strength and context such that they can be sorted into three categories: bridges, bonds, and something else (more than a bridge and less than a bond). A strong relationship in a closed network is a bond between the people connected (Burt, 2005, p. 25).

Brokerage is the action of coordinating across the hole with bridges between people on opposite sides of the hole (Burt, 2005, p. 18). Social capital of structural holes comes from the opportunities that holes provide to broker the flow of information between people, and shape the projects that bring together people from opposite sides of the hole. People whose networks bridge the structural holes between groups have an advantage in detecting and developing rewarding opportunities. Information arbitrage is their advantage, they are able to see early, see more broadly and translate information across groups. Burt (2005, p. 38) provided evidence through supply-chain managers that managers whose network spanned structural holes tended to enjoy salaries higher than peers, had more positive performance evaluations than their peers, and odds of promotion higher than their peers. Brokerage across structural holes provide a vision of options otherwise unseen. New ideas emerge from selection and synthesis across structural holes. The social capital of structural holes comes from the opportunities that holes provide to broker the flow of information between people, and shape the projects that bring together people from opposite sides of the hole.

Burt (2005, p. 25) described that bridges are valuable for creating information variation, they separate non redundant source of information. Bonds (a strong relationship connected in a closed network) are valuable for eliminating variation and protecting connected people from information inconsistent with what they already know. Relations within closed network are more dense than beyond the group. The higher the density of relations within groups, information circulates more within than between groups, more greater homogeneity within than between groups. However closure increases the odds of a person being caught and punished for displaying belief or behaviour inconsistent with preferences in the closed network. In so doing, closure reinforces the status quo, protects against decay in new relations between friends of friends, and amplifies strong relations to extremes of trust and distrust. Bonds can facilitate the trust and collaborative alignment. Trust is a fundamental feature of closed networks.

Immigrant community, because of language, culture, education, and economic condition are usually closed networks relying on family, kin, fellow villager and friendship. Newcomers can get emotional and cultural support and various information for example initial housing, job opportunities and legal aid. Within this

closed network, they communicate redundantly the same information and stories repeated by different members in their community. The more consistent the information and story one hears about, the more certain one can be about trusting later. The more members' behaviour illustrates shared beliefs and reflect the story, the higher member's social identity. The more a person is predicted to behave in a way consistent with shared beliefs, the less risky it is trust to this person.

2.2. TRUST VERSUS TACIT KNOWLEDGE IN INNOVATION

Innovation is an outcome of learning and thus knowledge acquisition or knowledge accessing via the utilization of knowledge assets (Grant & Baden-Fuller, 2004). However, innovation is something more than the acquisition or generation of knowledge. Knowledge must be put into action to make a genuine difference (Nielsen & Nielsen, 2009). Human knowledge is usually classified into two types (Nonaka & Takeuchi, 1995, p. 8). One is explicit knowledge, which can be articulated in formal language and thus can be transmitted across individuals formally and easily. A more important kind of knowledge is tacit knowledge which is hard to articulate with formal language, is personal and embedded in individual experience and involves intangible factor such as personal belief, perspective and the value system. Tacit knowledge is hard to formalize, making it difficult to communicate or to share with others. Transmission of tacit knowledge requires strong relationship and contacts during long time to. Nielsen and Nielsen (2009) pointed that trust not only directly facilitates learning, but also conditions the effect of knowledge tacitness on innovative outcomes. Thus innovation depends on the quality of relationship (trust) between partner in team or community.

Burt held the point that there were reasons why closed network could create trust. You trust someone when you commit to a relationship before you know how the other person will behave (Burt, 2005, p. 93). Anticipated cooperation is implicit in this definition. The more unspecified, taken-for-granted, the terms, the more trust is involved. Granovetter (1973) defined that trust is strong relations. Trust builds over a period of years. Trust more easily take place within closed network. Within closed network people have reliably early and low cost to protect the innocent providing scarecrow warning about abusive people or squeeze them out of the network (Burt, 2005, p. 105). Putnam (1993, 2001) also preserved the focus on action facilitated by social structure: "Social capital here refers to features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated action" (Putnam, 1993, p. 167). Gossip in the closed network is the sharing of news. Wong and Ellis (2002) describe the tendency for Hong Kong companies entering China to more quickly decide between alternative venture partners when their information comes from family or close friends rather than casual friends or acquaintances.

The closed network occurs where a set of people have contacts through whom they are strong directly or short connected. Burt (2005) evidenced, by a manager citing a colleagues as someone with whom he or she would discuss potentially damaging personal information, that older relationships are more likely to be cited for

trust or distrust, however brokerage requires trust within a much shorter time frame even minutes (Burt, 2005, p. 104).

Immigrate community is a closed network, because of the problem of language and culture, they meet more difficulty in the living and working, they have more contact and exchange information in the hosting country, therefore their reciprocal helps produce the mutual confiding. Within this closed network, redundant communication enables numerous stories of entrepreneur get around quickly, further, one learns from stories repeated by different members a richly detailed account of entrepreneurs' behaviour, at the same times, detecting misbehaviour. Redundant contacts ensure reliability. Smallbone *et al.* (2005) also have studied trust in an immigrant business community. Hans-Hermann, Höhmann and Welter (2005) investigated that trust has a decisive impact on entrepreneurship from a West-East perspective.

2.3. INFORMATION DIVERSITY VERSE EXPLICIT KNOWLEDGE IN INNOVATION

Knowledge comes from information, information come from data. Information is a flow of messages, knowledge is created by that very flow of information, anchored in the beliefs and commitment of its holder (Nonaka & Takeuchi, 1995, p. 58). Cleveland (1982) stated that information is the sum total of all the facts and ideas that are available to be known by somebody at a given moment in time, knowledge is the result of somebody applying the refiner's fire to the mass of facts and ideas, selecting and organizing what is useful to somebody, wisdom is integrated knowledge –information made super-useful by creating theory. In the theory of DIKW pyramid, "wisdom in terms of knowledge, knowledge in terms of information, typically information is defined in terms of data" (Rowley, 2007)

Drucker (1985, p. 23) described entrepreneur's innovation as "doing something different not doing better what is already being done". But, Nonaka and Takeuchi (1995, p. 6) believed that innovation was not a one-act drama for successful Japanese companies. Rather continuous improvement and upgrading (continuous innovation) leads to competitive advantage of Japanese companies. These companies accumulate knowledge from the outside and share widely within the organization, stored as part of the company's knowledge base, and utilized by those engaged in developing new technologies and products.

Burt (2005, p. 16) pointed that structural holes are gaps between social groups in the structure of information flow. It means that the people are focused on their own activities such that they do not attend to the activities of people in the other group. The value potential of structural holes is that they separate non redundant sources of information. People on either side of a structural hole can access to a wider diversity of information. Brokerage is the action of coordinating across the hole with bridges between people on opposite sides of the hole.

A "small world" structure coined by Milgram (1967) is the tendency for people at different geographic locations to be connected through a few intermediaries. Grannovetter (1973) drove the point home with respect to "weak ties" providing

the key intermediary. This weak ties can take more diversity information than your closed network.

Immigrant entrepreneur is a broker who is on both sides of a structural hole between the immigrate community and the local people. Through their brokerage they remain aware of interests and need of the local group and create value for them. Immigrant entrepreneur is familiar with activities in the community and local groups. They are more likely to see new beliefs and behaviors that combine elements from both groups. For example it is primarily an import-export business. Burt (2005, p. 62) believed that people whose networks span structural holes have early access to diverse, often contradictory information and interpretation gain a competitive advantage in seeing and developing good ideas. Immigrate entrepreneur's creativity by brokerage involves moving an idea mundane in one group to another group where the idea is new and valued.

2.4. CONCEPTUAL MODEL AND HYPOTHESIS

Just as mentioned above, social network is classified into closed network and structural holes, which can create social capital. Trust within closed network and sharing diverse information through brokerage can a have positive impacts on immigrant entrepreneur's innovation. Therefore, this study construct following conceptual model (Figure 1). consistent with the conceptual model, this paper make some hypothesizes as follows:

- H1: Closed social network has a positive impact on trust derived from the social capital of closure.
- H2: Structural holes in a social network have a positive impact on sharing diversity information.
- H3: Trust derived from the social capital of closure has a positive impact on innovation of immigrant entrepreneur.
- H4: Diversity information derived from the structural holes has a positive impact on innovation of immigrant entrepreneur.

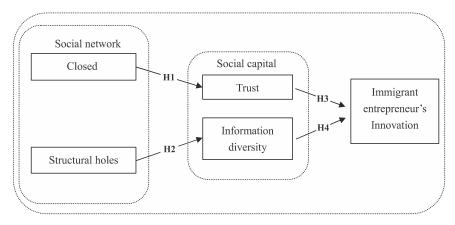


Figure 1. The conceptual model: network of entrepreneurs Source: own study.

3. METHODOLOGY

Sample and data collection

For the purpose of testing the hypothesized relationships, data was collected by means of questionnaire interviews among Chinese entrepreneurs in Italy. The author conducted structured interviews with 121 entrepreneurs, in which 91 valid interviews took place in Rome, Milan, Vince and Florence. 64% of the respondents were men, 20 were from Rome, 35 from Milan, 14 from Vince, 22 from Florence. These data was collected in summer of 2014.

Dependent variables

According to Schumpeter's conceptualization (1934), this paper consider immigrant entrepreneur's innovation including the following items: (1) introducing new products; (2) exploring new client/marker; (3) taking new methods of management.

Independent variables

Second the degree of relations, social network are classified by closed and structural holes (Burt, 2005). This paper consider Chinese community as a closed network, in which there are strong relations based on kinship-fellow village based network, and consider Chinese entrepreneurs interact with their hosting country as structural holes, where there are weak relations based on work relationship. The questionnaire employee a five-point Likert scales to indicate the social relations, 1 = interact with Italian business partner, 2 = with Italian friends, 3 = with Italian classmate, Chinese friends, 4 = with fellow villager and classmate, 5 = with kin and family members, the later three type are defined to a closed network, other two to structural holes.

Mediator variables

Trust is metaphor of social capital of a closed network, brokerage is metaphor of social capital of structural holes where there are flow of diversity information (Burt, 2005). On this base, this paper use five of five-point Likert scales to measure trust and sharing diversity information. To measure trust, the paper used two items: (1) if there are no third guarantee, do you trust him/her? (2) would you introduce your friends who need help to him/her?

Control variables

According to relevant prior researches, this research select the amount of years when immigrant entrepreneur live in Italy, level of education, Italian language and gender as control variables.

4. RESULTS

This research relied on OLS regression to test above hypotheses. Three models were estimated. Model 1 is the baseline model including only the control variables.

Model 2 adds to the control variables two independent variables: close network and trust. Model 3 adds to independent variables of structural hole and sharing diversity information (Table 1).

Hypothesis 1 states that the closed social network has a positive impact on trust derived from the social capital of closure. As shown in model 2 in table, the coefficients of closed social network and trust are positive and statistically significant (p=.000<0.001), suggesting that entrepreneur's closed social network is positively associated with trust. Model 2 is statistically significant (F=54.264; p=0.000<0.001). Therefore, this sample support this hypothesis regarding the positive effect between closed social network and trust.

Table 1. Regression analysis: effects of social capital on IE's innovation

	Model 1	Model 2	Model 3
Control Variables			
Gender	1.123	259	1.346
Years in IT	737	611	461
Language	.090	.957	.133
Education	.181	.383	2.587*
Independent Variables			
$CN \rightarrow Trust(T)$		7.366***	
T→ IE's innovation		7.075***	
SH→Diversity information(DI)			2.749**
DI→IE's innovation			3.034***
Model Statistics			
R square	.102	.488	.156
Adjusted R square	.007	.497	.135
F	1.078	54.264***	7.559***

Note: Values represent unstandardized B coefficients. p<0.1; *p<0.05; **p<0.01; ***p<0.001 Source: own calculation.

Hypothesis 2 states that the structural holes in a social network have a positive impact on sharing diversity information. As shown in model 3 in table, the coefficients of structural holes and sharing diversity information are positive and statistically significant (p=0.004<0.01), suggesting when entrepreneurs are in structural hole with their Italian social network, they can share more diversity information. Model 3 is statistically significant (F=7.559, P<0.001). Hence, this result support the hypothesis regarding the positive effect between structural hole and sharing diversity information.

Hypothesis 3 states that the trust derived from the social capital of closure has a positive impact on innovation of immigrant entrepreneur. As shown in model 2 in table, the coefficients of trust among entrepreneur and their innovation are positive and statistically significant (p<0.001), suggesting that trust derived from the social capital of closure is positively associated with their innovation.

Hypothesis 4 stated diversity information derived from the structural holes has a positive impact on innovation of immigrant entrepreneur. As shown in model 3 in table, the coefficients of sharing information with Italian and entrepreneur's innovation are positive and statistically (p<0.001), suggesting that entrepreneurs share diversity information with local people is positively associated with their innovation.

5. DISCUSSION

The purpose of this research was to investigate how immigrate entrepreneur's social network may affect entrepreneur's innovation. This research aimed to prove the relationship between entrepreneur's social network and innovation. Through applying Burt's theory about types of social network and dimensions of social capital, it show the two types of entrepreneur's social network is all positively associated with their innovation. The result confirm prior hypothesis. This research distinguish two types of social network which are closure and structural hole, and two components of social capital which are trust and sharing diversity information.

Results suggest that trust has a positive effect on innovation. That is to say trust can enhance entrepreneur's innovation. Trust can trigger strong emotions in entrepreneur's social network and commit to a relationship before they know how the other person will behave (Burt, 2005). When entrepreneurs create revolutionary products or technologies, they take on the great risk because they create new markets. Therefore building trust also in entrepreneur's social network is essential to successfully bringing new products and services to market. In the closed social network, there is more trust among members. Past cooperation is a basis for future cooperation such that trust is correlated with the strength of a relationship. In a closed network, interconnected people tell stories and nonessential (often trivial) news. A closed network provides wide bandwidth for the flow of stories as packets of people data. Detection is the trust-relevant feature of the flow. The omnipresent hydra-eyes of a closed network makes it difficult for misbehaviour to escape detection (Burt, 2005).

Results also suggest that diversity information sharing has a positive effect on entrepreneur's innovation. That is to say immigrant entrepreneur can enhance their innovation through contacting with host people and can get more diversity information which is source to creative thinking and innovation. There are holes in the structure of information flow between clusters where entrepreneurs contact. These holes usually happen in contacting with hosts, because of language and blood relation, immigrant entrepreneurs live within their community network and not focus on relationship with host people. They attend seldom to the activities of host people in their group. Thus, it builds some structural holes between immigrant community and host community. Host on either side of structural hole circulate in different flows of information. These information are usually non redundant and diversified.

However, as the result show, there is two control variables, language and education, which also positively affect entrepreneur's innovation. However these are

seldom statistically significant except entrepreneur's education when testing diversity information sharing effect on innovation. Better host language which entrepreneur can speak, more performance of entrepreneur's innovation; higher education which entrepreneur have gotten, also more performance of entrepreneur's innovation. When entrepreneur speak well the host language, they can communicate deeply to exchange information. At the same time, their knowledge helps them to discover useful new information and also trust.

But, there is no positive relationship between years when immigrant entrepreneur live in host country and their innovation. That means if entrepreneur can speak well host language and have a higher education, they could discover quickly useful diversity information when they contact with host people.

6. CONCLUSIONS

Entrepreneur's social capital is one condition and challenges to their creative thinking and innovation. This research enhances some understanding which social network through trust and diversity information sharing can improve entrepreneur's innovation. Although social capital and trust are concepts widely studied in business and management, the existing studies did not connect social capital to innovation.

Based on data from Chinese immigrant entrepreneurs in Italy, the results show that closed social network within their community and structural holes with host people all contribute to entrepreneur's innovation. Immigrant entrepreneur span more structural holes with host people, exposes the individual to more diverse information and perspectives, which can then be brought together in new ways to yield a creative insight. But closure is a complement to brokerage such that the two together define social capital in a general way in terms of closure within a group and brokerage beyond the group (Burt, 2005). Facilitating the trust and collaborative alignment need to deliver the value of brokerage.

And the results also suggest that more trust and sharing diversity information, the more performance of entrepreneur's innovation, and that the level of immigrant entrepreneur' language and education are all important to build social network which contribute to their innovation. This study explains how innovation benefit from diversity information and trust in the social networks. But this paper did not study how entrepreneur build their the social network which provide trust and diversity information. Therefore the advanced study should be involved in building social network and network services which provide lucrative or emotionally rewarding relationships and make immigrant entrepreneurs not "bowling alone" and more contribution to innovation and human life.

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