Research on the influence of social network on risk control of New Ventures

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Abstract. We have witnessed many firms use social network to facilitate their business transactions. In this study we discuss the impact of social network on new ventures’ risk control. We test our hypotheses with survey data collected from 3149 from a questionnaire survey about private businesses in China. Our results show that social network is the protective umbrella to prevent risk during their growth.

Keywords: Social Network, Risk Control, New Ventures

1. Introduction
Many firms use social network to secure advantages. Most research indicates that firm specific benefits may result from their social network. As for new ventures, some research thinks that new ventures need to adapt more aggressively to the regulatory environment and engage more actively with bureaucrats and officials to overcome the regulatory and institutional uncertainties in transitional economies. During the entrepreneurial process, there are many risks facing entrepreneurs in the various stages of their development [1]. This study aims to explain the impact of social network on the new ventures’ risk control, figure 1 shows the risk control process of firms.

Our study contributes to the entrepreneurship literature about social network, and provides a healthy complement with social embeddedness perspective to the existing entrepreneurship literature in emerging economies. We will focus on how these inter-personal relationships connections are used by entrepreneurs to derive some competitive advantages.

2. Data and Method
The data used in this research come from a questionnaire survey about private businesses in China conducted by the United Front Work Department of the Central Committee of the Chinese Communist Party, the All-China Federation of Industry & Commerce, and the State Administration for Industry & Commerce of China, and China Private Economy Association in March 2008. The original sample frame for this survey is used for its annual data collection by the State Bureau of Statistics of China, which is representative of all registered private enterprises in China.
Figure 1. The risk control process of firms

The respondents of this survey are business owners of private enterprises. The full sample consists of 4096 cases. 625 private firms are transferred from the ownership restructuring of the state or collective owned firms. These cases are dropped because we focus on new ventures in this paper. Our main interest is how social network influences the risk control. We also exclude 322 firms that are more than 15 years old. Therefore, we eventually use 3149 cases in our analyses.

### 3. Measures and Models

For each of these changes, firms are asked if each of these conditions leads to big impact and difficulties (coded 3), some impact and difficulties (coded 2) and finally little impact (coded 1). We then sum up their answers to the seven questions and get an overall index of risks firms may confront when environment becomes tougher. The greater the index, the greater the risk firms have.

Our main independent variable is social network which we measure using three different types of connections to the government [2, 3].

The first type of social network is the government social network. Entrepreneurs can directly join the Chinese People’s Political Consultative Conference (CPPCC) and the People’s Congress (PC). This allows them to get in touch with the high-level political officials and directly participate in the process of political decision making on major economic, social, and political issues. For Chinese new ventures, a great number of entrepreneurship opportunities root in the government policy changes [4].

Third, being government officials not only makes the acquisition of rare resources possible, but also allows firms to take proactive measures to overcome business challenges [5]. We add up the three dummy variables (members of CPPCC, delegates of the PC, and working in the government) to measure the strength of social network. The greater the index is, the stronger the social network.

The second one we call Party network. As we know the Communist Party of China (CPC) is the only ruling power in China. The Party has strict recruitment criteria which ensure Party members’ quality and ideology consistency with the Party Constitution of the CPC [6]. Not until recently did the CPC allow private entrepreneurs to become a member. We measure Party network in three ways. First, whether the founders/entrepreneurs of surveyed firms are Party members is the first way. Second, the second way is to examine whether their firms have positive number of Party members [7]. The third way is to investigate whether firms have established Party organizations such as Party branches or groups etc. These three dummy variables are summed up so that we have a Party network measure ranging from 0 to 3, with a greater number indicating a stronger Party network.

The third type of social network lies in the industry associations. We sum up three dummy variables to measure the strength of industry connections. The first is whether entrepreneurs are members of the All-China Federation of Industry & Commerce (AFIC). The second is whether entrepreneurs have joined an AFIC-supervised industry association. The third is whether entrepreneurs have joined a government-regulated industry association. A greater number indicates a stronger social network and the access to government resources.

We use OLS regression to model the donation amount and number of self-owned intellectual property rights. To reduce the biased estimation of coefficient, we use the logarithm of the donation...
amount [8, 9]. We employ the binary logistic regression to model all other dependent variables since they are all dummy variables.

Control variables

There are some variables which may confound the relationship between social network and risk control: entrepreneurs’ gender, age, education, the industry a firm locates in, and also firm size. We use three broad industry categories [10]: the primary industry includes agriculture, forestry, animal husbandry, the second industry includes manufacturing, construction, transportation etc. and the tertiary industry includes whole sale and retail, finance, real estate, service etc. Firm size is measured by the amount of sales in 2007. We use the logarithm of the number in the model to reduce the bias of the distribution. We report the effects of all these variables in our final model but are not interested in interpreting them.

4. Results and Findings

Table 1 reports the mean, standard deviation, and Pearson correlations among all these variables. The average donation amount that these firms make is only about 87 thousand yuan. Only 13% of the firms have products that are granted as “Far-famed Brands”. The average number of intellectual property rights owned by all these firms is greater than 1 but less than 2. Only a small section of firms has adopted some horizontal market strategy and has been involved some international business. The degree of social network, whether it is government social network, party social network or industry social network, in all the firms is all less than 1.5, which is not that high because the largest number of social networks for each of the three is 3.

We examine the social network on the risk control of unexpected difficulties when new ventures face tougher political and economic conditions. Table 2 provides the coefficient estimates of all the covariates for the degree of risk firms confront. The significant effects of the social network on risk control, whether this means government network and Party network on the reduction of firm risks are supported. This suggests that more investment in the social network may be able to help firms shield from unanticipated shocks or risk when the environment turns austere.

Table 1. Descriptive statistics and pearson correlations

| Variables                  | Mean | S.D. | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  |
|----------------------------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Donation                   | 8.69 | 5.22 | 1.00|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Trademark                  | 0.13 | 0.34 | 0.23*| 1.00|     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Board                      | 0.52 | 0.50 | 0.13*| 0.11*| 1.00|     |     |     |     |     |     |     |     |     |     |     |     |     |
| IP                         | 1.77 | 12.72| 0.14*| 0.07*| 1.00|     |     |     |     |     |     |     |     |     |     |     |     |     |
| Horizontal integration     | 0.35 | 0.48 | 0.24*| 0.13*| 0.08*| 1.00|     |     |     |     |     |     |     |     |     |     |     |     |
| International business     | 0.28 | 0.45 | 0.19*| 0.21*| 0.10*| 0.18*| 1.00|     |     |     |     |     |     |     |     |     |     |     |
| Risk control               | 8.40 | 4.39 | 0.12*| 0.06*| 0.12*| 0.25*| 1.00|     |     |     |     |     |     |     |     |     |     |     |
| Gender                     | 0.82 | 0.38 | 0.09*| 0.02 | 0.04 | 0.06*| 0.08*| 0.06*| 1.00|     |     |     |     |     |     |     |     |     |
| Age                        | 44.26| 8.31 | 0.13*| 0.07*| 0.03 | 0.03 | -0.01| 0.04*| 0.01 | 0.09*| 1.00|     |     |     |     |     |     |     |
| Education                  | 14.02| 2.86 | 0.14 | 0.09*| 0.15*| 0.10*| 0.16*| 0.08*| 0.04*| 0.003| -0.16*| 1.00|     |     |     |     |     |     |
| Industry                   | 2.68 | 0.84 | -0.16*| -0.15*| -0.07*| -0.05*| -0.11*| -0.15*| -0.19*| -0.10*| -0.09*| -0.01| 1.00|     |     |     |     |     |
| Firm size (ln)             | 6.17 | 2.44 | 0.46*| 0.25*| 0.12*| 0.24*| 0.29*| 0.22*| 0.12*| 0.11*| 0.14*| -0.26*| 1.00|     |     |     |     |     |
| Government network         | 0.45 | 0.61 | 0.22*| 0.15*| 0.06*| 0.19*| 0.12*| 0.12*| 0.09*| 0.11*| 0.14*| -0.16*| 0.35*| 1.00|     |     |     |     |
| Party network              | 1.15 | 1.03 | 0.39*| 0.22*| 0.14*| 0.09*| 0.22*| 0.23*| 0.16*| 0.15*| 0.23*| 0.16*| -0.22*| 0.41*| 0.33*| 1.00|     |
| Industry network           | 1.48 | 1.20 | 0.47*| 0.23*| 0.17*| 0.09*| 0.28*| 0.22*| 0.19*| 0.09*| 0.11*| 0.11*| -0.18*| 0.42*| 0.42*| 0.36*| 1.00|
| Firm stages                | 1.93 | 0.55 | 0.06*| 0.05*| 0.01 | 0.03 | 0.08*| 0.07*| 0.01 | 0.02 | 0.03 | 0.03 | -0.11*| 0.12*| 0.05*| 0.08*| 0.08*| 1.00|

N=3,149, *p<0.05 (two tailed)
Table 2. Coefficient estimates of risk control

| IVs                                | Model 1     | Model 2     |
|------------------------------------|-------------|-------------|
| **Control variables**              |             |             |
| Male entrepreneur                  | -0.70       | -0.69       |
| (0.63)                             | (0.53)      |             |
| Entrepreneur's age                 | -0.01**     | -0.02*      |
| (0.02)                             | (0.03)      |             |
| Entrepreneur's education(years)    | -0.13       | -0.10       |
| (0.05)                             | (0.08)      |             |
| Secondary industry                | 0.59**      | 0.60*       |
| (0.77)                             | (0.90)      |             |
| Tertiary industry                 | -0.33       | -0.25       |
| (0.89)                             | (1.01)      |             |
| Firm size (ln)                     | 0.26***     | 0.23*       |
| (0.11)                             | (0.12)      |             |
| **Social network**                 |             |             |
| Government network                 | 0.28*       |             |
| (0.44)                             |             |             |
| Party network                      | 0.40**      |             |
| (0.26)                             |             |             |
| Industry network                   | -0.14       |             |
| (0.24)                             |             |             |
| Constant                           | 7.83***     | 8.73***     |
| (1.77)                             | (1.89)      |             |
| Adjusted R²                        | 0.03        | 0.03        |
| N                                  | 3149        | 3149        |

Note: Standard errors in parenthesis
* p<0.1, ** p<0.05, *** p<0.01 (two-tailed).

5. Conclusion
Our research suggests that new ventures can benefit from social network. Social network gives entrepreneurs to use the power of government to produce public policy outcomes that are favorable to the start-ups continued economic survival and success [11], and it helps firms avoid the external environmental uncertainty. Indeed, although the previous research showed that social network can be viewed as a competitive tool for firms, our study considers the effects of different kinds of social network on risk control, which could be strategically employed to match different resource of firms.

Our research was tested using a sample of Chinese new ventures. Though they were distributed across several geographic regions, it is still likely that the industry context influenced the results. For example, could it be that most start-ups are the transactional sector, which usually are in industries whose business is built on obtaining assets that are legally owned by the state and under the control of government agencies. It increases reliance on social network and continue to depend on them as a key feature of their business models [12]. Future studies might explore the difference between transactional sector and entrepreneurial sector (were established as private firms to exploit new products, technologies, or business plans and subsequently grew to large scale), will broaden our understanding of the growth of new ventures.

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