

Does Social Capital Affect Family Firm Innovation

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Abstract. Social capital, as an important link between family firm and external environment, plays a significant role in helping firms to obtain environmental support. This paper selects the intermediary factors that connect family firm with the external environment and studies how social capital can influence innovation through family governance and SEW factors. The results show that the regulation of social capital has heterogeneity.

1. Introduction

Innovation is an important foundation for the sustainable development of family firms and plays an important role in enhancing competitiveness and enhancing enterprise value. Social capital, as an important connection factor between family firms and external environment, has a significant role in helping firms to obtain environmental support[1]. Social capital, as a mediating factor, promotes family firm innovation through social emotional wealth (subjective factor) and family involvement (objective factor). Social capital is an important factor and key point to promote family firm innovation.

2. Theoretical Analysis and Research Hypothesis

As a carrier, social capital plays an important role in family firm innovation. It can help family firms win more policy support and financial aid, and protect them from abuses by government officials. It can provide firms with political legitimacy, and help firms to obtain bank loans, market access, government subsidies and other key resources, which are bases for family firms to carry out research activities.

H1: The degree of social capital is positively related to family firm innovation.

Social capital can regulate the relationship between family equity involvement and family firm innovation. Family equity involvement in the innovation process is complicated. High degree of equity involvement causes high risk to the family during the process of innovation, and self monitoring behavior has adverse effects on innovation. Social capital provides necessary resource support for family firm innovation, which can alleviate the tendency of the family's innovation aversion due to the high degree of family risk.

H2: The degree of social capital weakens the negative correlation between family equity involvement and innovation.

Social capital can adjust the relationship between social emotional wealth (SEW) and family firm innovation. Social emotional wealth can be divided into restricted SEW and extended SEW, which have different effects on innovation[2]. For restricted SEW, because the social capital can provide necessary resources and policy support to the family who holds restricted SEW, the family owners with restricted SEW will further strengthen the control of the family and focus on the economic goal of short-term gains, and will improve the degree of innovation risk aversion. For extended SEW, because the family owners with extended SEW have long-term goal, social capital can provide

resource and policy support for innovative, and the decision to implement innovation is more smoothly.

H3: Social capital has a heterogeneity regulating effect on the relationship between social emotional wealth (SEW) and family firm innovation.

H3a: The degree of social capital strengthens the negative correlation between restricted SEW and innovation.

H3b: The degree of social capital strengthens the negative correlation between restricted SEW and innovation.

3. Research Design

3.1 Data Selection and Variable Settings

The research data mainly comes from the national private enterprises sampling survey database (2012). According to the definition of family firm, this paper screened the family firm data and finally obtained 893 data observations. According to the above theoretical research, this paper takes the R&D intensity as dependent variable, takes family involvement and SEW as independent variable, and takes social capital as the moderator variable. SEW variables include restricted SEW and extended SEW.

Table 1. variables

type	Name	variable	Code	Measurement and encoding
Dependent variable	R&D intensity	R&D intensity	RD	The ratio of R&D investment and owner's equity
Independent variable	Governance structure	Family equity involvement	FO	The proportion of family owners' equity
	Social emotional wealth (SEW)	Restricted SEW	FRI	"Do you agree with the family should have more than 50% stake " and other six items , code value and sum
		Extended SEW	FEI	"Have you considered the issue of child succession" and "Your child has no intention of succession" two items, code value and sum
Moderator	Social capital	Social capital	SC	"If you are a National People's Congress, what level?" 4 items , code value and sum
Control variable	Entrepreneurial characteristics	Age	AGE	Age of entrepreneurs
		Gender	GENDER	The gender of the entrepreneur, 1 for men and 0 for women
		Education level	EDU	Entrepreneurship education, from elementary school to graduate school and above, code 1-6 in order
	Firm characteristics	Years	F_AGE	From before 1989 to after 2005, code 1-5 in order
		Size	SIZE	0 to more than 100 million, code 1-7 in order
		Asset liability ratio	LEV	0 to 50% or more, code 1-5 in order
		Diversification	DIVER	Number of industries entered
		Net profit	NT	Net profit of the year
		Industry dummy variables	IND	Industry type, with dummy variables to represent

3.2 Model Settings

According to the research hypothesis, the article set up a multiple regression model as follows:

$$RD_{it} = \alpha + \beta_1 AGE_{it} + \beta_2 GENDER_{it} + \beta_3 EDU_{it} + \beta_4 F_AGE_{it} + \beta_5 SIZE_{it} + \beta_6 LEV_{it} + \beta_7 DIVER_{it} + NT_{it} + \beta_9 FRI_{it} + \beta_{10} FEI_{it} + \beta_{11} FO_{it} + \beta_{12} SC_{it} + \sum IND_dummy + \varepsilon_{it} \quad (1)$$

$$RD_{it} = \alpha + \beta_1 AGE_{it} + \beta_2 GENDER_{it} + \beta_3 EDU_{it} + \beta_4 F_AGE_{it} + \beta_5 SIZE_{it} + \beta_6 LEV_{it} + \beta_7 DIVER_{it} + \beta_8 NT_{it} + \beta_9 FRI_{it} + \beta_{10} FEI_{it} + \beta_{11} FO_{it} + \beta_{12} SC_{it} + \beta_{13} SC_{it} * FRI_{it} + \beta_{14} SC_{it} * FEI_{it} + \beta_{15} SC_{it} * FO_{it} + \sum IND_dummy + \varepsilon_{it} \quad (2)$$

4. Empirical Results

Model 1 and Model 2 show that social capital is positively correlated with family firm innovation, indicating that social capital can indeed provide necessary resource support for family firm innovation (coefficient 0.148, $P < 0.1$). The interaction term of social capital and extended SEW (FEI) is significant positive related to R&D intensity (coefficient 0.014, $P < 0.1$). At the same time, the interaction term of social capital and equity involvement also plays a positive role (coefficient 0.002, $P < 0.05$). Therefore, Hypothesis 1, Hypothesis 2 and Hypothesis 3b are validated. The interaction term of social capital and restricted SEW have a not significant positive correlation (coefficient 0.015, $P > 0.1$). Although the regression results are not significant, compared with the negative correlation between restricted SEW (FRI) and R&D intensity in model 1, the hindering effect of R&D intensity is weakened. Hypothesis 3a and Hypothesis 3 are partially validated.

Table 2. regression analysis results

variable	Model 1	Model 2	variable	Model 1	Model 2
FRI	-.003* (-1.384)	-.003* (-1.928)	AGE	.005* (2.24)	.003* (2.289)
FEI	.027* (1.894)	.028* (2.018)	GENDER	-.011 (-1.342)	-.012 (-1.525)
FO	-.001*** (-2.221)	-.002* (-2.967)	EDU	.025** (1.842)	.021*** (2.496)
FB	.026* (1.537)	.023* (1.029)	F_AGE	.003 (0.169)	.004 (1.882)
FM	-.007 (-0.725)	-.009 (-0.973)	SIZE	-.027 (-2.893)	-.019 (-2.116)
SC	.144* (1.561)	.148* (1.627)	LEV	.018*** (3.271)	.019*** (3.906)
SC*FRI		.015 (1.822)	DIVER	-.014 (-1.423)	-.016 (-2.119)
SC*FEI		.014* (.729)	NT	.003 (1.062)	.002 (.803)
SC*FO		.002** (.486)	R	.238	.278
constant	.203 (2.016)	.051 (.775)	The adjustment of R	.125	.168
			F	2.128	2.679

Note: *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$, the figures in parentheses are the value of T.

5. Conclusion

This paper selects the intermediary factors that connect the external environment and studies how social capital can influence innovation through family governance and SEW factors. The results show

that the regulation of social capital has heterogeneity. In order to promote family firm innovation and seize the key node to make certain theoretical contribution, this paper studies on the influence of family firm innovation mechanism to further explore. In future research, we can further expand the scope of research and the inheritance of family firm.

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