

Entrepreneurial Self-efficacy, Entrepreneurial Climate and Entrepreneurial Performance of Family Farm

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ABSTRACT

On the basis of social cognitive theory, this paper investigates whether and how entrepreneurial performance of family farm is affected by a farmer entrepreneur's entrepreneurial self-efficacy, as well as the moderation effect of entrepreneurial climate. Evidence from a field survey of family farmers in China suggests that organizational commitment self-efficacy, opportunity identification self-efficacy and management control self-efficacy are positively related to entrepreneurial performance of family farm, but the effect of risk bearing self-efficacy on entrepreneurial performance of family farm is not significant. In addition, entrepreneurial climate strengthens the positive effect of organizational commitment and management control self-efficacy on entrepreneurial performance of family farm. This study illustrates the role of entrepreneurial self-efficacy in improving entrepreneurial performance of family farm, and provides valuable insights for family farm entrepreneurship.

Keywords: *Entrepreneurial self-efficacy, professional farmers, entrepreneurial performance*

1. INTRODUCTION

In recent years, farmer entrepreneurship has been paid close attention by academic circles and government agencies. There existing massive research on exploring the whole process of farmer entrepreneurship, including entrepreneurial intention, entrepreneurial motivation, opportunity identification, entrepreneurial decision-making and resources acquisition. Amounts of researchers have found that farmer entrepreneurship affects by various factors such as a farmer entrepreneur's education level (Surendra, Shorav, & Shobha, 2006), [1] human capital (Meccheri & Pelloni, 2006) [2] and previous experience (Psaltopoulos, Stathopoulou, & Skuras, 2005) [3]. As the ultimate attribution of entrepreneurial activities, entrepreneurial performance is the focus of scholars. The existing works on the antecedents of entrepreneurial performance have predominantly focused on individual and environmental characteristics, such as the farmer entrepreneur's family income, telephone expenses, number of siblings [4] (e.g., Zhu, 2012), geographical proximity [5] (Yang & Li, 2013), entrepreneurial skills, personality traits [6] (Luo & Chen, 2014), social relationship networks [7] (e.g., Shane & Cable, 2002), and entrepreneurial environment.

Professional farmers and family farms, both of them have become the hot topic in academic circles since the two words appeared on the No.1 Central Document in China. Cultivating professional farmers need carriers, family farm, as a new form of agricultural production and operation organizations, is the most ideal carrier for new professional

farmers. Meanwhile, there existing interdependent relationship between family farm and new professional farmer, family farm members are the typical professional farmers. (Zhu, 2013) [8] Family farm, according to the Ministry of Agriculture of the People's Republic of China, refers to a kind of new agricultural business entity regarding family members as main labors, engaging in agricultural scale, intensive, and commercial production, as well as taking agricultural income as the main source of family income.

The entrepreneurial studies based on social cognitive theory has been affirmed and valued by more and more scholars, entrepreneurial self-efficacy as the core component of entrepreneurial cognitive theory, its impact on entrepreneurial process and entrepreneurial behaviors has become a new research hotspot. However, researches on incorporating entrepreneurial self-efficacy into professional farmer entrepreneurship is rare. We conduct this research in China whose national conditions is more people but less land. Based on social cognitive theory, this study explores the relationship between entrepreneurial self-efficacy and entrepreneurial performance of family farm, and introduces regional entrepreneurial climate as a moderating variable into theoretical model.

2. THEORIES AND HYPOTHESIS

2.1. Organizational Commitment Self-efficacy and Entrepreneurial Performance of Family Farm

Organizational commitment refers to individual attitude or behaviour tendency that individual with strong sense of organizational identity is willing to make the greatest effort for the organizational goals. Due to the turbulence of external environment, entrepreneurs will encounter various difficulties in the process of entrepreneurship, especially in Chinese rural area with poor resources. Individual with high self-efficacy has stronger self-belief and confidence, shows strong organizational commitment, which contributes to actively accepting challenges from external environment and conquering it through working harder (Bandura, 1977). As a result, the level of performance will be better. The family farmer, as the owner, manager and worker of farm, in order to obtain higher level of profit and wages, also should be so. Thus, we expect that the organizational commitment self-efficacy will play a positive role in entrepreneurial performance of family farm. We propose the following hypothesis:

Hypothesis 1: Organizational commitment self-efficacy is positively related to entrepreneurial performance of family farm.

2.2. Opportunity Identification Self-efficacy and Entrepreneurial Performance of Family Farm

Opportunity identification means a kind of subjective judgment and identification that individual perceives new development opportunities in uncertain environment. Researchers have found that opportunity identification self-efficacy is positively related to entrepreneurial motivation (Sun, Guo, & Chen, 2013), which help promote entrepreneurial behaviours and entrepreneurial performance (Shane, Locke, & Collins, 2003). [9] It is believed that family farmers with stronger opportunity identification self-efficacy are usually more confident, they believe that they have higher entrepreneurial alertness, which is conducive to perceiving and seizing new market opportunities, and thus enhancing entrepreneurial performance of family farms. Therefore, we expect that opportunity identification self-efficacy will also force family farmers to obtain better entrepreneurial performance of family farms. The above discussion justifies following hypothesis:

Hypothesis 2: Opportunity identification self-efficacy is positively related to entrepreneurial performance of family farm.

2.3. Management Control Self-efficacy and Entrepreneurial Performance of Family Farm

Management control self-efficacy is the individual self-assessment and confidence in their own capability to manage and control. Generally speaking, compared with non-entrepreneurs, entrepreneurs have more confidence in their own management capability. After a plan is made, the entrepreneur manages and allocates various resources (including human, capital, material, information, etc.), and tries his best to ensure successfully complete objectives. Family farmers possessing stronger management and control self-efficacy argue that they can ensure the completion of expected performance goals. Furthermore, when the completed organizational performance exceeds expectation, prior behaviours and activities will be strengthened (Zhang & Chen, 2008). [10] Hence, we expect that the management control self-efficacy will also boost entrepreneurial performance of family farm. We put forward the following hypothesis:

Hypothesis 3: Management control self-efficacy is positively related to entrepreneurial performance of family farm.

2.4. Risk Bearing Self-efficacy and Entrepreneurial Performance of Family Farm

Risk tolerance, defined as the risk-taking degree that individual is willing to invest a large amount of resources to obtain higher returns. There will be a variety of possible risks in the process of entrepreneurship, which forces entrepreneurs to bear more risks than non-entrepreneurs. According to actual situation of family farm entrepreneurship, the risks faced by family farms include natural risk, marketing risk, political turbulence risk and financial risk. Based on the perspective of high risks and high rewards, entrepreneurs with higher risk bearing self-efficacy tend to conduct risk-taking behaviours in order to obtain higher performance. What's more, they usually argue that they possess better awareness and capability of risk management. Accordingly, we expect that risk bearing self-efficacy will also promote entrepreneurial performance of family farm. We present the following hypothesis:

Hypothesis 4: Risk bearing self-efficacy is positively related to entrepreneurial performance of family farm.

2.5. Moderating Effect of Entrepreneurial Climate

Entrepreneurial climate, as a kind of social climate, refers to the mental abilities, value judgments and social conventions of entrepreneurship formed over a long period of time by local people. Regional entrepreneurial climate reflects the degree of attention and attitude to entrepreneurial activities, and people tend to have a positive attitude towards entrepreneurship in areas with strong entrepreneurial climate. Entrepreneurial climate can cultivate individual

characteristics, and shape individual perception of entrepreneurial activities through affecting individual cognitive pattern and behaviour style. Local environment can accept failure of entrepreneurship, encourage people to propose new ideas and practices, and then individual is inclined to conduct risky behaviours and implement entrepreneurial activities. Researcher also has found that the regions with stronger entrepreneurial climate contributes to the accumulation of entrepreneurial activities and the formation of non-monetary network externalities when compared with other areas with the same economic conditions (Maria, 2005). [11] Favourable entrepreneurial climate represents a kind of positive value judgment on entrepreneurship, and it is conducive to boost local level of entrepreneurial activities by heightening entrepreneurial risk appetite and entrepreneurial average rate of return.

Moreover, perceived entrepreneurial climate environment is friendlier, consequently, individual self-affirmation of entrepreneurial behaviours will be enhanced. The support of public, especially from family, enables individual to have a positive view of own capability. The demonstration effect from entrepreneurial role models has an active impact on entrepreneurs, entrepreneurs can improve their entrepreneurial capability and confidence through observing and imitating role models, especially when individual consider that they have something in common with role models, their capability beliefs and judgment will be promoted, and then translate into entrepreneurial performance. From this point of view, the family farm entrepreneurial activities are affected by both individual characteristics and the surrounding environment. Therefore, we expect that entrepreneurial climate will positively moderate the relationship between entrepreneurial self-efficacy and entrepreneurial performance of family farm. We propose the following hypothesis:

Hypothesis 5: Entrepreneurial climate strengthen the relationship between entrepreneurial self-efficacy and entrepreneurial performance of family farm.

3. MATERIAL AND METHODS

3.1. Data Collection

We test the above hypothesis using a survey data of family farmers in China. We conducted this survey in 2015 and 2016, and used a questionnaire to conduct direct interviews with family farmers. A total of 300 questionnaires were used and 200 were completed. By dropping the questionnaires with information missing, we obtain a final sample consisting of 184 family farmers. The characteristics of the sample family farmers include gender, age, education level and farm age.

3.2. Measurement of Variables

3.2.1. Entrepreneurial performance

Entrepreneurial performance of family farm, our dependent variable in this study, is comprehensively measured by the combined personal performance and organizational performance. In the survey respondents were asked to answer these six questions: “family farm operates well,” “family farm is profitable,” “family farm’s business expands rapidly,” “personal income is much better than before,” “household income is much higher than before,” “the standard of living is greatly improved than before.” All items are measured by the Likert five-point scale with 1 representing “complete disagreement,” 2 “some disagreement,” 3 “neutrality,” 4 “some agreement,” 5 “complete agreement.” We conducted an exploratory factor analysis (EFA) for the six questions mentioned above. These results suggest that factor analysis is appropriate (Kaiser-Meyer-Olkin [KMO]=.851, Barlett χ^2 =995.488, $p<.001$). Cronbach’s α for this factor is .915, and all the values of factor loadings were above .70.

3.2.2. Entrepreneurial self-efficacy

In the survey respondents were asked to answer fourteen questions concerning entrepreneurial self-efficacy, which is divided into four dimensions: organizational commitment self-efficacy, opportunity identification self-efficacy, management control self-efficacy and risk bearing self-efficacy. All items are measured by the Likert five-point scale with 1 representing “complete disagreement,” 2 “some disagreement,” 3 “neutrality,” 4 “some agreement,” 5 “complete agreement.” We conducted an exploratory factor analysis (EFA) for the fourteen questions. These results suggest that factor analysis is appropriate (Kaiser-Meyer-Olkin [KMO]=.813, Barlett χ^2 =1665.170, $p<.001$). Cronbach’s α for this factor is .852, and all the values of factor loadings were above .60.

3.2.3. Entrepreneurial climate

Entrepreneurial climate, our moderating variable in this study, is measured by five items, including “local people think that entrepreneurship failure is tolerable,” “local climate encourages people to take risks in entrepreneurship,” “local people are encouraged to have new ideas and practices,” “entrepreneurship will be supported by family,” “there are many successful entrepreneurs in the area.” All questions are measured by the Likert five-point scale with 1 representing “complete disagreement,” 2 “some disagreement,” 3 “neutrality,” 4 “some agreement,” 5 “complete agreement.” We conducted an exploratory factor analysis (EFA) for the five questions mentioned above. These results suggest that factor analysis is appropriate (Kaiser-Meyer-Olkin

[KMO]=.851,Barlett $\chi^2=425.319$, $p<.001$). Cronbach's α for this factor is .867, and all the values of factor loadings were above .50.

3.2.4. Control variables

In this study, we controlled for family farmer's gender, age, education level and farm age.

3.3. Model Specification

In this study, we adopt multiple regression analysis method to test the relationship between entrepreneurial self-efficacy and entrepreneurial performance of family farm, as well as the moderating role of entrepreneurial climate. The explanatory variable of entrepreneurial self-efficacy includes four dimensions, organizational commitment self-efficacy, opportunity identification self-efficacy, management control self-efficacy and risk bearing self-efficacy.

4. RESULTS

In this paper, we conduct hierarchical regression analysis by using SPSS19.0 to explore the impact of entrepreneurial self-efficacy on entrepreneurial performance of family farm, and the results are shown in Table 1, which show that gender ($\beta=-.145$, $p<.05$ in Model 1), education level ($\beta=.327$, $p<.01$ in Model 1) and farm age ($\beta=.131$, $p<.05$ in Model 1) are significantly related with entrepreneurial performance of family farm (adjusted $R^2 = .115$, $F = 6.952$, $p<.01$ in Model 1).

Specifically, the female, higher education level and longer entrepreneurial period, can product better entrepreneurial performance. The possible reason is that family farmers with higher education level master more knowledge and skills, which can contribute to improving entrepreneurial performance of family farms through making more judicious entrepreneurial decision. Meanwhile, with the development of family farms, the organizational structure, staff, technology and other aspects will be improved, so is entrepreneurial performance of family farms.

Table 1 Regression analysis results

	Model 1	Model 2	Model 3	Model 4
Gender	-.145**	-.189***	-.146**	-.175**
Age	-.059	-.053	-.061	-.072
Education level	.327***	.274***	.316***	.244***
Farm age	.131**	.129**	.141**	.121*
Organizational commitment self-efficacy		.137**		.125**
Opportunity identification self-efficacy		.222***		.196**
Management control self-efficacy		.123*		.103*
Risk bearing self-efficacy		-.056		-.060
Entrepreneurial climate			.084	.068
Organizational commitment self-efficacy \times entrepreneurial climate				.186**
Opportunity identification self-efficacy \times entrepreneurial climate				.024
Management control self-efficacy \times entrepreneurial climate				.181**
Risk bearing self-efficacy \times entrepreneurial climate				.021
R^2	.134	.175	.141	.221
Adjusted R^2	.115	.137	.117	.162
F	6.952***	4.628***	5.862***	3.720***

The main effect regression results suggest that organizational commitment self-efficacy ($\beta=.137$, $p<.05$ in Model 2), opportunity identification self-efficacy ($\beta=.222$, $p<.01$ in Model 2) and management control self-efficacy ($\beta=.123$, $p<.1$ in Model 2) are positively correlated with entrepreneurial performance of family farms (adjusted $R^2=.137$, $F=4.628$, $p<.01$ in Model 2). The effect of risk bearing self-efficacy on entrepreneurial performance of family farm is not significant ($p>.1$ in model 2). The reason is that most farmers transformed from smallholders, peasant ideology still exists, which leads to the management of farm is more conservative. What's more, their education level is generally not high, and lack of knowledge and skills, as a result, they always underestimate risks and difficulties, as well as risk management ability is weak. In summary, Hypothesis 1, Hypothesis 2, and Hypothesis 3 are supported.

Because the effect of risk bearing self-efficacy on entrepreneurial performance of family farm is not significant, this study will focus on the moderating effect of entrepreneurial climate on organizational commitment self-efficacy, opportunity identification self-efficacy, management control self-efficacy and entrepreneurial performance of family farm. The results show that entrepreneurial climate has no significant effect on entrepreneurial performance of family farm ($p>.1$ in model 3). The likely explanation is that the main entrepreneurial motivation of family farmers in China is to survive at this stage, and the surrounding cultural environment has little impact on entrepreneurial activities. What's more, the regression results also reveal that the interaction term between organizational commitment self-efficacy and entrepreneurial climate ($\beta=.186$, $p<.05$ in Model 4), as well as the interaction term between management control self-efficacy and entrepreneurial climate ($\beta=.181$, $p<.05$ in Model 4) significantly positively affected entrepreneurial performance of family farm (adjusted $R^2=.162$, $F=3.720$, $p<.01$ in Model 4). The possible explanation is that the family farmer with higher organizational commitment self-efficacy has stronger initiative, positive perception and aspiration of success. Favorable entrepreneurial climate is beneficial to further enhancing confidence of entrepreneurs, reducing entrepreneurial pressure, and improving entrepreneurial performance of family farm accordingly. Furthermore, management control self-efficacy is the subjective perception of family farmers on their capability of management and control. Based on knowledge spillover effect, family farmers can promote their capability of management and control through observing and imitating entrepreneurial role models. What's more, it also conduces to strengthen their beliefs that they can accomplish the same tasks successfully, finally prompt their subjective conviction and objective entrepreneurial capability to translate into entrepreneurial performance of family farm. Therefore, Hypothesis 5 has been partially verified.

5. CONCLUSIONS

By analyzing a field survey of family farmers in China we have demonstrated that entrepreneurial self-efficacy (including organizational commitment, opportunity identification and management control self-efficacy) enhances entrepreneurial performance of family farm because entrepreneurial self-efficacy could strengthen family farmers' subjective capability brief and confidence. We have also found that the favorable entrepreneurial climate help family farmers acquire more support and encouragement from the external environment, strengthening the positive effect of organizational commitment and management control self-efficacy on entrepreneurial performance of family farm. We hope this study will serve an important role in reinforcing our understanding of family farm entrepreneurship in rural areas of China.

ACKNOWLEDGMENT

This research was supported by research grant at the National Social Science Foundation of China (SSFC) (No.14BJY132).

REFERENCES

- [1] Surendra, K. K, Shorav, K., & Shobha, K. How higher education in rural india helps human rights and entrepreneurship. *Journal of Asian Economics*, 17(1) (2006) 29-34
- [2] Meccheri, N., Pelloni, G. Rural entrepreneurs and institutional assistance: an empirical study from mountainous Italy. *Entrepreneurship and Regional Development*, 18(5) (2006) 371-392
- [3] Psaltopoulos, D, Stathopoulou, S, & Skuras, D. The location of markets, perceived entrepreneurship risk, and start-up capital of micro rural firms. *Small Business Economics*, 25(2) (2005) 147-158
- [4] Zhu, H. G. Influences of policy resources on returning migrant laborers' businesses performance: based on survey data of jiangxi province. *Finance & Trade Research*, 1(2012) 18-26
- [5] Yang, X. R, & Li, X. C. Geo-cultural similarity, prior experiences and the growth of pioneering agriculture entrepreneurs. *Academic Research Journal*, 7(2013) 64-69
- [6] Luo, M. Z, & Chen, M. Personality traits, entrepreneurial learning and farmers' entrepreneurial performance. *Chinese Rural Economy*, 10(2014) 62-75

[7] Shane, S, Cable, D. Network ties, reputation, and the financing of new ventures. *Management Science*, 48(3) (2002) 364-381

[8] Zhu, Q. Z. New professional farmers and family farms. *Journal of China Agricultural University (Social Science Edition)*, 2(2013) 157-159

[9] Shane, S. Locke, E. A, & Collins, C. J. Entrepreneurial motivation. *Human Resource Management Review*, 13(2) (2003) 257-279.

[10] Zhang, Y. L, & Chen, H. S. *Entrepreneurship Management*. Beijing: China Machine Press, (2008)14-59.

[11] Maria, M. Entrepreneurship and network externalities. *Journal of Economic Behavior and Organization*, 57(1) (2005) 1-27.