

THE RELATIONSHIP BETWEEN NETWORK ORIENTATION AND VALUE CO-CREATION ON THE PERFORMANCE OF NEW VENTURES.*

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Abstract

In the current market competition environment, the relationship between network orientation and the performance of new ventures has been paid more and more attention. This study aims to explore the relationship between network orientation and the performance of new ventures and explore the intermediary mechanism of this relationship through value co-creation. A questionnaire survey of Chinese start-ups found that there is a positive correlation between network orientation and performance, and value co-creation has a partial intermediary role between network orientation and start-up performance. This study shows that new ventures can achieve value co-creation and improve performance by establishing and maintaining their network relationships, thereby gaining a competitive advantage. This study helps to improve the research on the mechanism of network orientation on corporate performance and provides a useful reference for how new ventures can achieve effective value acquisition and performance improvement.

Keywords: Network orientation, Value co-creation, New venture performance, Mediation effect

Introduction

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In recent years, with the development of economic globalization and information technology, start-ups have played an increasingly important role in the economy. New ventures are not only an important source of innovation and economic growth, but also an important

guarantee of employment and social development (Acs, Audretsch, & Lehmann, 2005). In the study of new ventures, researchers have gradually paid attention to how network orientation affects the performance of new ventures. Network orientation refers to the behavior that enterprises obtain resources and information by establishing and maintaining external relationships (Bozeman & Gaughan, 2001). New ventures are particularly dependent on external resources due to resource scarcity (Amit & Schoemaker, 1993). Thus, a new venture's network orientation may have an important impact on its performance.

Research purposes

This study researches the relationship between network orientation and the performance of new ventures to gain a deeper understanding of the mechanism of network orientation on the performance of new ventures. In particular, to explore whether value co-creation has a mediating effect. The study is of great significance for an in-depth understanding of the relationship between network orientation and the performance of new ventures, and for improving the performance of new ventures. It will also provide managers and policymakers of new ventures with countermeasures and suggestions on how to improve the performance of new ventures.

literature review

1. Network Orientation

Network orientation mainly focuses on how an organization establishes and maintains relationships in the external environment to achieve its goals. It refers to the behavior of an enterprise to actively establish, maintain, and utilize external relationships to obtain resources and support. Studies have found that the relationship between the organization and key partners has a significant impact on the success of the organization (Gulati, 1995; Dyer & Singh, 1998); Moreover, there is a positive correlation between the organization's position in the external network and the organization's performance (Burt, 1992; Uzzi, 1997); Bouwman, H. et al. (2015) found that network orientation has a significant positive impact on innovation performance; Zhao, X. et al. (2016) found that network orientation has a significant positive impact on firm growth.

Dai, Q. et al. (2017) found that network orientation has a significant positive impact on new product development performance.

2. Start-up performance

Studies have found that the resources and capabilities of new ventures are important factors affecting their performance (Davidsson, 2001; Shane & Venkataraman, 2000); Some scholars believe that the external network of new ventures has an important impact on their performance (Amit & Schoemaker, 1993; Ucbasaran et al., 2008); Autior, E. et al. (2014) found that entrepreneurial activities have a significant positive impact on economic growth; at the same time, Lerner, J. et al. (2011) found that the survival rate and growth rate of new ventures were significantly higher than that of mature firms; Amit, R. et al. (2005) pointed out that the innovative ability of new ventures has a significant positive impact on their performance.

3. Value co-creation

Enterprises can jointly create value through relationships with suppliers, customers, competitors, and other key partners (Chen & Chen, 2009; Gomes-Casseres, 1996), The degree of network orientation of an enterprise is an important factor affecting its value co-creation ability (Chen & Chen, 2009; Gomes-Casseres, 1996), Some scholars have found that the trust and relationship quality between an enterprise and its external partners are important factors affecting its value co-creation ability (Chen & Chen, 2009; Gomes-Casseres, 1996). In addition, Chen, Y. et al. (2018) found that value co-creation has a significant positive impact on the performance of new ventures, Lusch, R.F. et al. (2015) found that value co-creation has a significant positive impact on customer loyalty, Gummesson, E. (2011) found that value co-creation has a significant positive impact on corporate innovation capabilities.

4 Research Review

This study aims to explore the relationship between network orientation and the performance of new ventures and conduct in-depth research with value co-creation as the

intermediary variable. This study will conduct a questionnaire survey on new ventures and use quantitative statistical analysis methods for empirical testing. It is expected that the research results will contribute to a deep understanding of the relationship between network orientation, new venture performance, and value co-creation, and provide new venture managers with important guidance on how to improve firm performance.

5 Research Hypothesis and Theoretical Model

(1) The relationship between network orientation and new venture performance

Based on the Relativity Theory of Network Resources (Resource-Based View) and Network Externalities Theory (Network Externalities Theory), establishing connections between enterprises and other enterprises or organizations helps enterprises obtain resources and information, thereby improving enterprise performance. Network orientation is the behavior of enterprises to achieve their goals by establishing connections with other enterprises, which can help enterprises improve their innovation ability and competitiveness (Li, 2018). Burt (1992) found that the relationship between a firm and other firms, especially its competitors, has a significant positive impact on the firm's innovation capability and market competitiveness. Therefore, Hypothesis 1 is put forward: there is a positive correlation between network orientation and the performance of new ventures.

(2) The mediating role of value co-creation

Based on the value co-creation theory (Co-creation theory), value co-creation between enterprises can help enterprises achieve higher performance. Chesbrough (2003) found that the open innovation model can help enterprises achieve higher innovation performance and market competitiveness. Value co-creation is the joint creation of value between enterprises and other enterprises, customers, suppliers, and other stakeholders (Prahalad and Ramaswamy, 2004), which can help enterprises acquire more resources and skills, and improve innovation capabilities and competitiveness (Zhou et al, 2016). Therefore, Hypothesis 2 is put forward: value co-creation has a mediating effect on the relationship between network orientation and new venture performance. (3)Theoretical model

Based on the above deduction, this study constructs a theoretical model framework of "network orientation-value co-creation-new venture performance", as shown in Figure 1.

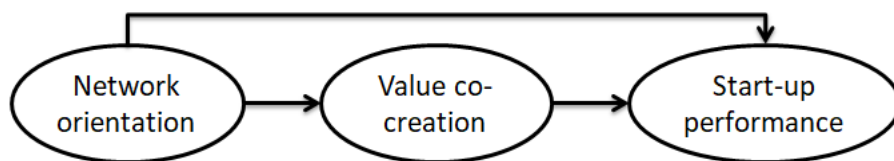


Figure 1 Theoretical model based on the research hypothesis

Research result

1. Research Design

This study adopts the method of quantitative research, through the method of questionnaire survey and statistical analysis, to explore the relationship between network orientation and the performance of new ventures and the intermediary role of value co-creation. Referring to the views put forward by McDougall et al. (1994) and Li and Atuahene-Gima (2001), the research objects are determined to be Chinese start-ups with an establishment period of fewer than three years. The source of the scale is as follows. The network orientation mainly refers to the research results of Sorenson et al. (2008) and Ren, P (2011), and is measured from the three dimensions of network cooperation, attention, and openness; the performance of new ventures is measured by Brush (1992) and Hmieleski (2001) and other scholars research scales for comprehensive measurement; for value co-creation, refer to the scale used in research by Gummesson (2010) for overall measurement; the size of employees, the number of years of business operation and the age of entrepreneurs And the educational level of entrepreneurs is used as the control variable in this study. Through the pre-investigation, a formal questionnaire was formed after some items were corrected, and the quantitative measurement of network orientation, value co-creation, and new venture performance was carried out by the principles of the 5-level Likert scale.

2. Data Collection

In this questionnaire survey, using the network platform resources of the questionnaire star professional data survey agency, 409 start-up entrepreneurs within 3 years of the establishment were selected in 25 cities in China to distribute and collect questionnaires. A total of 324 valid questionnaires were collected and recycled. The rate is 90.2%, and the effective rate is 87.8%.

3. Data Analysis

(1) Descriptive Statistics and Correlation Analysis

In this study, SPSS26.0 software was used to conduct descriptive statistics and correlation analysis on the measurement results of each main variable (Table 1). The results show that the three dimensions of the independent variable network orientation are significantly positively correlated with the dependent variable new venture performance, and the intermediary variable value co-creation is significantly positively correlated with the dependent variable new venture performance. At the same time, the three dimensions of the independent variable network orientation There is a significant correlation between them and the intermediary variable value co-creation. The variance inflation factor (Variance Inflation Factor, VIF) was used to measure the problem of multicollinearity. After testing, $0 < VIF < 10$, so there is no problem of multicollinearity in the research samples. The relevant research hypotheses have been preliminarily verified.

Table 1 Summary of descriptive statistics and correlation analysis results of each variable

variable	average value	standard deviation	1	2	3	4	5	6	7	8
1. The size of the company's employees	3.074	1.109								
2. Business life	3.621	0.897	0.442***							
3. Age of Entrepreneur	3.558	0.962	0.386***	0.365** *						
4. Entrepreneurs' education level	3.825	1.224	0.285***	0.354** *	0.486***					
5. Network cooperation	3.376	0.796	0.046*	0.026	0.028	0.041				
6. Network attention	3.293	0.812	0.058	0.048	0.864***	0.039***	0.462***			
7. Network openness	3.982	0.953	0.016*	0.012	0.648***	0.709***	0.082***	0.135***		
8. Value co-creation	3.354	0.921	0.043	0.043	0.513***	0.673***	0.589***	0.455***	0.381***	
9. Startup Performance	3.346	0.864	0.037	0.067	0.676***	0.644***	0.615***	0.536***	0.582***	0.210***

Note: *** means $p < 0.001$, ** means $p < 0.01$, * means $p < 0.05$, two-tailed test.

(2) Multiple regression analysis

Model 1 is the regression of control variables on the performance of new ventures, and the results show that the control variables have no significant impact on the performance of new ventures. Model 2 is the regression of the three dimensions of network orientation (network cooperation, network attention, and network openness) on the performance of new ventures. The results show that network cooperation has a significant positive correlation with the performance of new ventures ($\beta=0.728$, $p < 0.001$); network attention has a significant positive correlation with the performance of new ventures ($\beta=0.604$, $p < 0.001$); network openness has a significant positive correlation with the performance of new ventures ($\beta=0.453$, $p < 0.001$), so the research hypothesis H1 get verified.

Model 3 is the regression of control variables on value co-creation, and the results show that control variables have no significant impact on value co-creation. Model 4 is the regression of network-oriented dimensions on value co-creation. The results show that network cooperation is significantly positively correlated with value co-creation ($\beta=0.501$, $p<0.001$); network attention is significantly positively correlated with value co-creation ($\beta=0.372$, $p<0.001$); network openness has a significant positive correlation with value co-creation ($\beta=0.439$, $p<0.001$), indicating that network orientation has a significant positive impact on value co-creation. Model 5 is the regression of value co-creation on the performance of new ventures, and the results show that value co-creation has a significant positive correlation with the performance of new ventures ($\beta=0.524$, $p<0.001$).

Model 6 is the regression of the performance of new ventures after adding network orientation and value co-creation based on Model 2. The regression results show that value co-creation still has a significant impact on the performance of new ventures ($\beta=0.254$, $p<0.001$), while the standardized regression coefficient corresponding to network cooperation decreased to 0.693 ($p<0.01$); the standardized regression coefficient of network attention decreased to 0.322 ($p<0.05$); the standardized regression coefficient of network openness decreased to 0.332 ($p<0.001$). Therefore, referring to the mediation effect test method mentioned in the research results of Baron & Kenny (1986), value co-creation plays a partial mediating role between network orientation and new venture performance, and hypothesis H2 is verified.

Table 2 Summary of regression test results of hypotheses

variable name	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Enterprise employee size	0.158	0.165	0.132	0.108	0.056	0.092
business life	0.046	-0.101	0.073	0.068	0.035	0.067
Entrepreneur age	0.108	0.138	0.052	0.065	0.503	0.088
Entrepreneur's education level	0.226	0.256	0.112	0.143	0.284	0.169
network cooperation		0.728***		0.501***		0.693**
Network attention		0.604***		0.372***		0.322*
network openness		0.453***		0.439**		0.332***
Value co-creation					0.524***	0.254***
R ²	0.022	0.241	0.017	0.263	0.202	0.401
ΔR^2		0.275***		0.267***	0.218***	0.029***
F value	3.318	27.765***	3.882	25.264***	16.108***	24.562***

Note: *** means $p < 0.001$, ** means $p < 0.01$, * means $p < 0.05$, two-tailed test.

This study uses SPSS26.0 software to conduct statistical analysis on the collected sample data, and finally, the two research hypotheses have passed the empirical test.

Summary and Discussion

1. Research Conclusions

This study verifies that there is a significant positive correlation between network orientation and the performance of new ventures, and also finds that value co-creation plays an important mediating role in the impact of network orientation on the performance of new ventures, and is helpful for an in-depth understanding of network orientation, the relationship between the performance of new ventures and value co-creation, and provide useful suggestions for managers of new ventures on how to improve the performance of new ventures. The results show that enterprises should improve their network orientation level, and at the same time pay

attention to and strengthen the cooperative relationship with other organizations to achieve value co-creation, thereby improving the performance of new ventures.

2. Discussion

There is a significant positive relationship between network orientation and new venture performance. This conclusion is consistent with that of other studies (Li, 2018; Zhang, 2019), showing that firms can improve their performance levels by strengthening their network activities. Value co-creation plays an important mediating role in the impact of network orientation on the performance of new ventures. This indicates that value co-creation is one of the key factors in the influence of network orientation on the performance of new ventures. This is consistent with the conclusion of (Xu, 2016), that value co-creation is the mediating effect of network orientation on the performance of new ventures.

Value co-creation plays an important intermediary role. This shows that value co-creation plays an important role between the network orientation and the performance of new ventures. In (Zhang, 2019), found a positive correlation between value co-creation and new venture performance, and this study further found the mediating role of value co-creation in the relationship between network orientation and new venture performance.

In practice, these findings can guide new ventures on how to develop the network. In particular, companies can take measures to promote value co-creation, such as strengthening internal communication and cooperation, establishing strategic alliances with external partners, and participating in industry associations and other social organizations. These measures not only help to improve the performance of the enterprise but also help to improve the competitiveness of the enterprise in the market.

3. Suggestion

The stronger the degree of network orientation, the better the performance level of new ventures. Network cooperation helps to improve the internal information communication of new

ventures, and smooth communication helps companies to discover and solve problems promptly, and improve corporate management efficiency. New ventures should strengthen their connections with external entities and actively seek cooperation. A channel to promote enterprise development through resource exchange; the higher the degree of network attention, means that the opinions of the external relationship subjects in the social network of new ventures are more likely to be reasonably accepted, and new ventures should continue to pay attention to changes and development trends of the network. The better the openness of the network, the easier it is for the enterprise to establish the network relationship between the external partners and the better the information sharing. On the other hand, the openness of the internal network of the enterprise means communication between the internal organization and employees. The smoother the channels, the better the employees' trust in the organization and the fulfillment of their responsibilities, all of which will help improve the performance of start-ups.

Value co-creation plays a partial mediating role in the positive relationship between network orientation and new ventures. The study found that in value co-creation, there are positive interactive relationships between different cooperative enterprises, between enterprises and customers, and between customers and products. growth performance. It can actively carry out the effective integration, utilization, and development of social network resources for new enterprises in entrepreneurial practice activities, and implement network-oriented strategic choices in the value co-creation behaviors of various actors in the social network relationship, and ultimately boost new Improve the performance of start-ups and solve the problem of insufficient resources for start-ups.

Limitations and Prospects

First of all, there are limitations in data collection. The sample of the study only includes Chinese start-ups, and the applicability in other countries or regions needs further study. Secondly, this study only considered one dimension of economic performance. In future research, more dimensions of performance, such as market performance and social performance, can be

considered to more comprehensively evaluate the impact of network orientation on the performance of new ventures. Thirdly, the research mainly uses research methods such as questionnaires and statistical analysis. The research uses a self-evaluation scale to measure network orientation and value co-creation, which may lead to self-report bias. In the later stage, more detailed research methods, such as case analysis and in-depth interviews, can be used to better understand the practice of network orientation and value co-creation in the actual operation of enterprises.

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