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# Research on the Relationship Between Entrepreneurial Orientation and Entrepreneurial Learning of College Students——Based on the Moderating Role of Entrepreneurial Environment

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## Abstract

This paper explores the relationship among entrepreneurship orientation, entrepreneurial learning and entrepreneurial environment of College students, and constructs a corresponding relationship research model. Empirical research method is used to analyze the relationship between entrepreneurship and entrepreneurship environment. Finally, the results show that entrepreneurial environment and entrepreneurial environment dimension dynamics and hostility play a moderating role between entrepreneurial orientation and entrepreneurial learning.

**Keywords:** Entrepreneurship orientation; Entrepreneurship learning; Entrepreneurial environment

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## 1. Introduction

Currently, with the change of economic development, entrepreneurship as the important driving force for economic growth in one country or region has won the attention worldwide. However, the entrepreneurial activity in essence is one process of identifying and leveraging opportunities and also one dynamic and open process. The survey and analysis of entrepreneurial activity in different countries and regions in the world show that the entrepreneurial effect is significantly different in different regions, which suggests that the entrepreneurial activity is not isolated and the entrepreneurial process is affected by the external environmental factors and obtains the sustainable competitiveness by positive response to the external environment. Therefore, external entrepreneurial environment is the key factor affecting the success of entrepreneurial activity. The entrepreneurial orientation reflects how the enterprises shall operate in the entrepreneurial process and it is closely related to the entrepreneurial environment which changes the influence of entrepreneurial orientation on the entrepreneurial performance by affecting the entrepreneurial orientation. The research shows that external entrepreneurial environment is one important factor affecting the entrepreneurial performance and the entrepreneurial environment in

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different regions has different influence on entrepreneurial orientation and entrepreneurial learning of college students. The entrepreneurship of college students in the early period is taken as the subject in this paper so as to study and analyze their entrepreneurial status quo and entrepreneurial environment by analyzing the relationship among the entrepreneurial orientation, environment and learning so as to further complement and improve the theoretical and empirical analysis achievements of relevant entrepreneurial study.

## **2. Theoretical basis and research hypothesis**

### **2.1 Entrepreneurial orientation and entrepreneurial learning of college students**

Although there is little study by experts on the relationship between the entrepreneurial orientation and entrepreneurial learning and there is no verification of variable dimension relationship, the relationship between the entrepreneurial orientation and entrepreneurial learning and the relationship between their dimensions were studied and verified in the academic field. Zahra et al. incorporated such three variables as entrepreneurial orientation, knowledge learning and organization ability development into one model in 1999 and constructed the cyclic model among the three variables. Their results believe that the entrepreneurial orientation will lead to further flow and spread of knowledge and then promote the enterprises to make exploratory learning and experiential learning. Dess et al. (2003) conducted in-depth study on the action principle between the entrepreneurial orientation and enterprises' entrepreneurial learning. Zahra et al. (2006) further explored how the entrepreneurial orientation affects the learning and studied its internal action process based on previous research. Wei and Jiao (2008) summarized and analyzed systematically the positive promotion relationship between the entrepreneurial orientation and entrepreneurial learning. Following hypothesis is proposed in this paper by theoretical analysis above:

H1: The entrepreneurial orientation has significant positive influence on the entrepreneurial learning of college students.

### **2.2 Analysis of moderating effect of the entrepreneurial environment on the entrepreneurial learning of college students**

In previous study, Bruno et al. (1982) pointed out that the availability and access of resources in the environment are the important external factors for stimulating entrepreneurial orientation, i.e. the higher the ease, the higher the possibility for enterprises to obtain resources and the lower the dependence on the enterprises themselves. Castrogiovanni (1991) further expanded the definition of ease which is defined as the scarcity or adequacy of resources available in the environment and needed by the enterprises and this richness greatly affects the entrepreneurial orientation and enterprise growth. Lumpkin & Dess (1996) believed the environmental strength has certain influence on the entrepreneurial activity and it is characterized by environmental dynamics and hostility. Hayes et al. (1984) mentioned that change of

dynamic environment plays an important role for the enterprise behavior (Milleretal.1988). Therefore, following hypothesis is proposed in this paper by theoretical analysis above:

H2: The entrepreneurial environment plays a moderating role in the entrepreneurial orientation and entrepreneurial learning of the college students.

H2a: Dynamics of the entrepreneurial environment plays a moderating role between the entrepreneurial learning of college students and startup performance.

H2b: Hostility of the entrepreneurial environment plays a moderating role between the entrepreneurial learning of college students and startup performance.

The constructed research model as per the hypothesis is shown in Fig. 1.

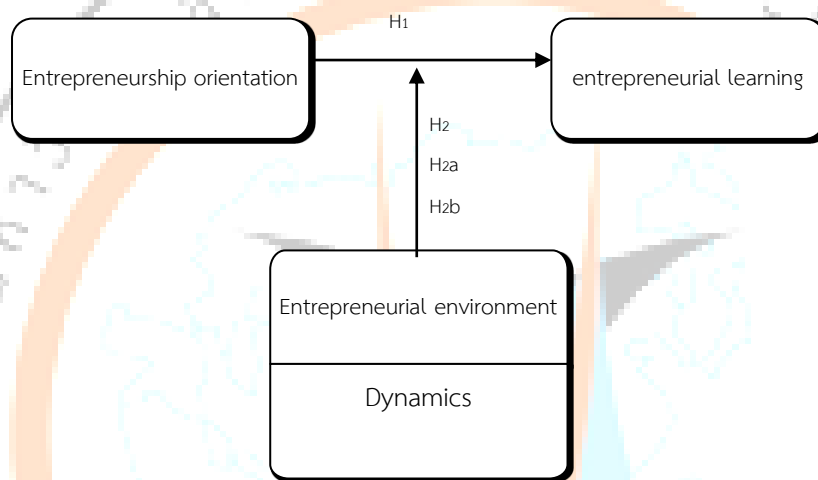


Figure 1. Research Model

### 3. Research design

#### 3.1 Sample and data collection

College students and those who have graduated and are starting business are taken as the research object in this paper. Since most of the college students are still in the start stage, the success rate is not high currently though enterprises set up by college students have been developing rapidly in recent years. The research becomes more difficult due to small number of samples. In order to obtain the research data in different regions in China and facilitate the respondents to make questionnaire reply and data collection, data were collected by issuing questionnaires online in this paper. Due to the difference among regions and disciplines, the results are affected to some extent. Therefore, junior college students and those with undergraduate degree and master degree, MAB and EMAB in most of colleges and universities in the East (Hangzhou, Guangzhou), Middle (Changsha, Wuhan) and West (Guangxi, Yunnan) China were selected. 356 questionnaires in total were issued nationwide, among which 316 ones were finally valid after 40 invalid ones were removed.

#### 3.2 Variable measurement

In order to ensure the reliability and validity of the scales, the scales used in the study are mature ones recognized by the academic field currently. Then, correction is made as per specific situation to form the scales. Specific scale design is as follows: At first, the entrepreneurial orientation (independent variable). The three-dimension theory for entrepreneurial orientation proposed by Miller (1983) was used in this paper to measure the entrepreneurial orientation from three aspects like innovation, risk and proactiveness. The description of scale items was corrected according to personal understanding of the respondents and finally nine items were designed. Secondly, the entrepreneurial learning of college students (dependent variable). In this paper, the entrepreneurial learning is discussed mainly from personal aspect of the college entrepreneurs. Although there is no special scale for entrepreneurial learning of college students in the academic field, the dimensions of entrepreneurial learning of college students were still decided to be within the entrepreneurial learning dimension frame proposed by authoritative Pawlowsky (2000). As known to all, the entrepreneurial learning of college students is greatly different from that of normal entrepreneurs. The entrepreneurial learning of college students can be obtained by part-time work, internship in enterprises and participation in venture contest which have outstanding personal feature. Therefore, the task design was adjusted and the items were designed mainly for characteristics of college entrepreneurs in the entrepreneurial learning. Finally, 12 items were designed. Finally, Entrepreneurial environment (moderating variable). The environment was divided into hostility and dynamics for study according to mainstream opinions of Lumpkin & Dess (2001) in this paper. The description of scale items was corrected according to personal understanding of the respondents, and finally 12 items were designed.

### 3.3 Reliability and validity test

Currently, the scale reliability is mainly checked by Cronbach's  $\alpha$  coefficient. The scale reliability is good when this value as checked is larger than 0.7. The scale validity check mainly means the content validity and structure validity check. Since the authoritative or recognized scales were selected for measurement, the scale content validity should meet the requirements. Secondly, KMO value and Bartlett sphericity test were used to check the scale structure validity. SPSS23.0 data analysis software was used in this research to make the check. See Tab. 1 for the results. The Cronbach's  $\alpha$  value and KMO value of variables in this research were all above 0.7, the value of Bartlett sphericity test is all lower than 0.001 significance level and the factor load of each item on its corresponding common factor is larger than 0.5, i.e. the questionnaire reliability, content validity and structure validity all meet the research requirements.

Tab. 1 Questionnaire reliability and validity analysis results

Variable	Item	Cronbach's $\alpha$ Value	KMO Value	Bartlett Sphericity Test sig	Factor Load
Entrepreneurial orientation	X32	0.829	0.835	0.000	0.864
	X33				0.828
	X31				0.779
	X13				0.833
	X12				0.820
	X11				0.812
	X22				0.835
	X23				0.809
	X21				0.764
Entrepreneurial learning of college students	M15	0.865	0.842	0.000	0.829
	M12				0.812
	M13				0.779
	M14				0.778
	M11				0.764
	M32				0.823
	M31				0.822
	M33				0.822
	M34				0.815
	M21				0.846
	M22				0.845
	M23				0.800
Entrepreneurial environment	N21	0.914	0.931	0.000	0.876
	N25				0.844
	N23				0.826
	N24				0.797
	N22				0.791
	N26				0.724
	N11				0.846
	N12				0.820
	N15				0.801
	N13				0.794
	N16				0.792
	N14				0.739

#### 4. Data Analysis

SPSS23.0 statistical analysis software was used and multiple linear regression was adopted to check the entrepreneurial orientation and entrepreneurial learning of college students as well as the medium effect of entrepreneurial environment between the entrepreneurial orientation and entrepreneurial learning.

##### 4.1 Regression analysis of relationship between the entrepreneurial orientation and entrepreneurial learning

Basic information of the research objects like sex, age, education degree, category of the college and university, time of entrepreneurship, whether the family members in business and major relationship was used as the control variable for the study; the entrepreneurial orientation and the entrepreneurial learning were used as the independent variable and dependent variable respectively for linear regression analysis. See Tab. 2 for the results. As shown in the table, the entrepreneurial orientation significantly affects the entrepreneurial learning of the college students ( $\beta=0.694$  and  $P<0.001$ ), so the hypothesis H1 is true.

**Tab. 2** Results of regression analysis of the entrepreneurial orientation and entrepreneurial learning

	M	
	M1	M2
	$\beta$	$\beta$
Sex	-0.104	-0.057
Age	-0.111	-0.061
Education degree	-0.206**	-0.047
School category	-0.018	-0.021
Time of starting business	0.107	0.046
whether the family members in business	-0.138*	-0.059
Major relationship	0.153**	0.025
X		0.694***
R-square	0.116	0.544
Adjusted R-square	0.096	0.532
F	5.773***	45.711***

##### 4.2 Analysis of moderating effect of the entrepreneurial environment on the relationship between the entrepreneurial orientation and entrepreneurial learning of college students

Information like sex, age, education degree, category of the college and university, time of entrepreneurship, whether the family members in business and major relationship was used as the control variable; the entrepreneurial orientation, entrepreneurial environment and the entrepreneurial learning were used as the independent variable, moderating variable and dependent variable respectively for moderating check, as shown in Tab. 3.

**Tab. 3** Analysis of results of the moderating effect of the entrepreneurial environment on the relationship between the entrepreneurial orientation and entrepreneurial learning of college students

	M			
	M1	M2	M3	M4
	$\beta$	$\beta$	$\beta$	$\beta$
Sex	-0.104	-0.057	-0.056	-0.05
Age	-0.111	-0.061	-0.054	-0.045
Education degree	-0.206**	-0.047	-0.038	-0.037
School category	-0.018	-0.021	-0.018	-0.027
Time of starting business	0.107	0.046	0.04	0.034
Whether the family members in business	-0.138*	-0.059	-0.047	-0.047
Major relationship	0.153**	0.025	0.044	0.053
X		0.694***	0.653***	0.672***
N			0.146***	0.141***
X_N				0.147***
R-square	0.116	0.544	0.562	0.583
Adjusted R-square	0.096	0.532	0.55	0.57
F	5.773***	45.711***	43.701***	42.695***

As shown in model 2 and model 3 in Tab. 3 above, the entrepreneurial orientation and entrepreneurial environment significantly affect the entrepreneurial learning of college students. As shown in model 4, the interaction item X of the entrepreneurial orientation and entrepreneurial environment has significant positive influence on the entrepreneurial learning ( $\beta=0.147$ ,  $p<0.001$ ), which indicates that the entrepreneurial environment plays a positive moderating role in the entrepreneurial learning of college students and the hypothesis is true. Therefore, the hypothesis H2 is true.

#### 4.3 Analysis of moderating effect of the dynamics of the entrepreneurial environment on the relationship between the entrepreneurial orientation and entrepreneurial learning

Information like sex, age, education degree, category of the college and university, time of entrepreneurship, whether the family members in business and major relationship was used as the control variable; the entrepreneurial orientation, entrepreneurial environment and the entrepreneurial learning were used as the independent variable, medium variable and dependent variable respectively for moderating check, as shown in Tab. 4.

**Tab.4** Analysis of moderating effect of the dynamics of the entrepreneurial environment on the entrepreneurial orientation and entrepreneurial learning

	M			
	M1	M2	M3	M4
	$\beta$	$\beta$	$\beta$	$\beta$
Sex	-0.104	-0.057	-0.056	-0.052
Age	-0.111	-0.061	-0.056	-0.045
Education degree	-0.206**	-0.047	-0.041	-0.047
School category	-0.018	-0.021	-0.019	-0.022
Time of starting business	0.107	0.046	0.039	0.03
Whether the family members in business	-0.138*	-0.059	-0.057	-0.061
Major relationship	0.153**	0.025	0.042	0.06
X		0.694***	0.665***	0.676***
N1			0.112**	0.118**
X_N1				0.155***
R-square	0.116	0.544	0.555	0.579
Adjusted R-square	0.096	0.532	0.542	0.565
F	5.773***	45.711***	42.413***	41.864***

As shown in model 2 and model 3 in Tab.4 above, the dynamics of entrepreneurial orientation and entrepreneurial environment significantly affect the entrepreneurial learning of college students. As shown in model 4, the interaction item X\_N1 of the entrepreneurial orientation and entrepreneurial environment has significant positive influence on the entrepreneurial learning ( $\beta=0.155$ ,  $p<0.001$ ), which indicates that the dynamics of entrepreneurial environment plays a positive moderating role in the entrepreneurial learning of college students and the hypothesis H2a is true.



#### 4.4 Analysis of moderating effect of the hostility of the entrepreneurial environment on the relationship between the entrepreneurial orientation and entrepreneurial learning

Information like sex, age, education degree, category of the college and university, time of entrepreneurship, whether the family members in business and major relationship was used as the control variable; the entrepreneurial orientation, the hostility of entrepreneurial environment and the entrepreneurial learning were used as the independent variable, medium variable and dependent variable respectively for moderating check, as shown in Tab. 5.

**Tab.5** Analysis of moderating effect of the hostility of the entrepreneurial environment on the entrepreneurial orientation and entrepreneurial learning

	M			
	M1	M2	M3	M4
	$\beta$	$\beta$	$\beta$	$\beta$
Sex	-0.104	-0.057	-0.057	-0.05
Age	-0.111	-0.061	-0.055	-0.05
Education degree	-0.206**	-0.047	-0.04	-0.034
School category	-0.018	-0.021	-0.019	-0.029
Time of starting business	0.107	0.046	0.043	0.041
Whether the family members in business	-0.138*	-0.059	-0.043	-0.041
Major relationship	0.153**	0.025	0.035	0.037
X		0.694***	0.662***	0.681***
N2			0.135**	0.128**
X_N2				0.122**
R-square	0.116	0.544	0.56	0.575
Adjusted R-square	0.096	0.532	0.547	0.561
F	5.773***	45.711***	43.327***	41.205***

As shown in model 2 and model 3 in Tab. 5 above, the entrepreneurial orientation and the hostility of entrepreneurial environment significantly affect the entrepreneurial learning of college students. As shown in model 4, the interaction item X\_N2 of the entrepreneurial orientation and the hostility of entrepreneurial environment has significant positive influence on the entrepreneurial learning ( $\beta=0.122$ ,  $p<0.001$ ), which indicates that the hostility of entrepreneurial environment plays a positive moderating role in the entrepreneurial learning of college students and the hypothesis H2b is true.

## 5.Conclusion

### 5.1 Discussion

Analysis on influence of the entrepreneurial orientation on the entrepreneurial learning of college students .The analysis of relationship between the entrepreneurial orientation and entrepreneurial learning. The empirical results show that the hypothesis H1 is verified and there is positive influence relationship between the entrepreneurial orientation and the entrepreneurial learning of college students, which is the same as conclusions of many other studies (Hamel & Prahalad, 1994; Zahra & George, 2002; Jantunenetal.2005 etc.). The innovation, risk and proactiveness nature of the entrepreneurial orientation promote the college entrepreneurs to conduct more about the entrepreneurial learning to get more resources and information so that they can obtain better enterprise development and performance.

The moderating role of entrepreneurial environment between the entrepreneurial orientation and entrepreneurial learning of college students .The entrepreneurial environment plays a moderating role between the entrepreneurial orientation and entrepreneurial learning of college students, which is true and indicates that the environmental change will promote the enterprises to take the entrepreneurial orientation strategy characterized by innovation, risk and proactiveness. When the enterprises are faced with complicated dynamic economic environment in the market, they will actively seek the operating resources mostly matching the external environment. Therefore, the entrepreneurial learning is strengthened in the operation. The college entrepreneurs will also strengthen the entrepreneurial learning by collecting the market related information and effective communication with the professionals in the field.

The moderating role of entrepreneurial environment dimension between the entrepreneurial orientation and entrepreneurial learning of college students .Assume H2a and H2b are true, indicating that two dimensions of the entrepreneurial environment, i.e. dynamics and hostility play the moderating role in entrepreneurial orientation and entrepreneurial learning of college students. It is not difficult to understand practically that when the hostility of the entrepreneurial environment is higher, the pressure that the college entrepreneurs feel about the competitors is higher and the competition of local market is fiercer, so the college entrepreneurs have to get more entrepreneurial information through learning and win some preferential opportunities only by paying attention to the experience accumulation. Similarly, when the dynamics of external environment faced by the college student enterprises is higher, which indicates that the competitors are adjusting strategies frequently in the market competition, so the college entrepreneurs have to get rapidly the market information or refer to and learn the behaviors of model enterprises in the filed so as to adjust rapidly their own strategies if they want to make rapid reaction.

### 5.2 Limitations

This article carried out an in-depth analysis of the relationships between entrepreneurial orientation, entrepreneurial learning of college students and entrepreneurial environment, in order to further enrich theories regarding college students starting a business. However, for the studies of

entrepreneurs, especially the studies of a special group of entrepreneurs-college students, are still at its infancy and has not formed a systematic study theory yet. This study is also at a stage of exploration and still has drawbacks in many aspects, so future study should conduct a more in-depth study.

At first, the source of sample data has some regional limitations. Sample collection of this study was restricted by objective conditions, for main sample data were from student entrepreneurs from universities in Guangxi, China. So, the question whether research results are universal to all Chinese college student entrepreneurs is to be further studied and verified. In addition, eastern and western China are largely different in economic development, so are their entrepreneurial environment. The background of this study was based on college students starting a business in western China, but did not involve college student entrepreneurs in eastern China. Therefore, future study needs to increase study samples from different provinces (cities) and verify them, thus enhancing the generalizability of conclusions of this study.

Secondly, there are still some limitations in dimensions divided in the entrepreneurial learning scale. In the study conducted by this article, the entrepreneurial learning scale has not formed a scientific and reasonable division method yet, because there are only a few documents in relation to entrepreneurial learning among existing studies, and scholars' studies in this field are not enough in depth. Future study will further study and analyze the deconstruction of college student entrepreneurial learning paradigm and create a more scientific and reasonable entrepreneurial learning scale for college students according to the actual situation of college students.

### 5.3 Future study

Based on the limitations of this study, the author of this article argues that future study may conduct an in-depth study and discussion in the following aspects. First, Strengthen the validity of the study of the relationships between entrepreneurial orientation, entrepreneurial learning for college students and entrepreneurial environment. On the one hand, it is necessary to increase samples to collect, collect data on start-ups in different regions and different industries, and compare whether entrepreneurial environment of different regions exert the same influence on the relationship between entrepreneurial orientation and entrepreneurial learning. Second, Build a study model more scientifically and reasonably. The model built in this study only chose three dimensions to measure entrepreneurial orientation, however, to estimate the influence of entrepreneurial orientation on entrepreneurial learning of college students more scientifically and comprehensively, two dimensions proposed by scholars nowadays-autonomy and active competition-should also be added, to make conclusions drawn from the model study more universal. Finally, This study mainly studied entrepreneurs at the individual level of entrepreneurial learning of college students without studying group learning of core entrepreneur team. Moreover, the question whether entrepreneurial learning of college student entrepreneur teams has the similar relationship is to be verified.

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