



# Reflections on Entrepreneurship Education in The Context of Information Technology: How Entrepreneurship Tutors Affect the Identification of Entrepreneurship Opportunities for College Students

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## Abstract:

With the rapid development of new technologies such as artificial intelligence and big data, the way in which higher education and entrepreneurship education are carried out has changed. As an indispensable part of entrepreneurship education, entrepreneurial mentors face an important task how to continuously stimulate the entrepreneurial vitality of college students in the context of rapid changes. Based on this, this study builds a theoretical model of the recognition of entrepreneurial opportunities for college students by entrepreneurial mentor support behavior based on the theory of social identity. Data show that entrepreneurial mentor support behavior has a significant positive impact on college students' identification of entrepreneurial opportunities; entrepreneurial identity plays a mediating role between the two. The results of this paper are helpful for colleges and universities to improve the entrepreneurial mentor system in a timely manner, and use emerging information technology to continuously enhance the entrepreneurial vitality of college students.

**Keywords:** *Information technology; entrepreneurial mentor support behavior; entrepreneurial identity; entrepreneurial opportunity identification*

## 1 INTRODUCTION

The rapid development of information technology has continuously promoted the reform and development of entrepreneurial education, and brought many challenges to entrepreneurial mentors. College students, as the source of fresh vitality of entrepreneurial activities and the most potential entrepreneurial group, have become the focus of attention from all walks of life <sup>[1]</sup>. Although they have a wealth of knowledge and creativity, but because they have not set foot in the market, lack of practical experience and corresponding entrepreneurial ability, the failure rate of entrepreneurship is as high as 95%. How to use advanced information technology to improve the success rate of college students' entrepreneurship needs to be solved urgently.

Entrepreneurial opportunity identification is the starting point of entrepreneurial activities, and its identification level is the key to affecting the entrepreneurial rate of college students. As an important and professional external support, entrepreneurial

mentors can use various new technologies, entrepreneurial experience, etc. to provide entrepreneurs with professional and psychological support, and change the entrepreneur's cognitive and psychological state to improve the recognition rate of entrepreneurial opportunities <sup>[2]</sup>. However, the research on entrepreneurial mentors in the context of external entrepreneurial support for entrepreneurs in domestic and foreign literatures is relatively short. Most of the existing research focuses on the macro level of entrepreneurial mentoring system exploration, focusing on entrepreneurial mentors' guidance methods, guidance effects and their evaluation. The influence of entrepreneurial mentors is less concerned with the internal mechanism of entrepreneurial mentors' role in identifying entrepreneurial opportunities and entrepreneurial effects, that is, how entrepreneurial mentors change the entrepreneurial process by affecting the cognitive and psychological aspects of start-ups. In addition, social identity theory points out that individuals always have a positive self-concept and are eager to be

recognized by the outside world. When individuals feel psychological and material support and encouragement from the outside world, they will show a higher sense of identity. Promote their positive behavior and improve the efficiency of information acquisition, improve work performance. Based on this, this paper introduces entrepreneurial identity as an intermediary variable between entrepreneurial mentors' helping behavior and entrepreneurial opportunity identification, and explores how entrepreneurial mentors help college students identify entrepreneurial opportunities by influencing their cognitive identity. To enrich the relevant theories of entrepreneurial mentors, activate the entrepreneurial vitality of college students

## 2 THEORETICAL BASIS AND ASSUMPTIONS

### *2.1 Entrepreneurial mentor support behavior and entrepreneurial opportunity identification*

Entrepreneurial opportunity identification refers to the cognitive process in which entrepreneurs use their existing resources to discover or construct entrepreneurial opportunities. It lies in the ability of entrepreneurs to collect and process information. Entrepreneurial mentor support behavior refers to the affirmative behavior that entrepreneurial guidance experts give entrepreneurs professional, emotional and psychological help in the process of providing entrepreneurial-related guidance services to entrepreneurs. As an important part of the social support system for college students, entrepreneurial mentors can provide professional career support for first-time entrepreneurs, help entrepreneurs better collect and process entrepreneurial information [2], and improve entrepreneurial ability through continuous entrepreneurial learning. It is an important helper for start-ups to obtain and process entrepreneurial information and capture entrepreneurial opportunities. Therefore, it is reasonable to believe that entrepreneurial mentor support behavior positively affects the identification of entrepreneurial opportunities for college students.

On the one hand, as a member of the social network of college students, the career support provided by entrepreneurial mentors can effectively expand the college students' own entrepreneurial resources and information, thereby increasing the probability of successfully identifying entrepreneurial opportunities. Entrepreneurial mentors are mostly seniors with entrepreneurial knowledge or rich experience, and their own resources and experience are lacking for college students who are initially exposed to entrepreneurship. This can lay the foundation for college students to accumulate business information. To a certain extent, avoid entrepreneurial traps and confusion, and help

college students analyze market dynamics and seize entrepreneurial opportunities. On the other hand, as a mentor and friend in the entrepreneurial process, the emotional support provided by entrepreneurial mentors can create a supportive environment for entrepreneurs to maintain a high level of self-efficacy and self-confidence in a risky entrepreneurial environment, the identification efficiency of entrepreneurial opportunities will also increase in a positive emotional state. Existing research also shows that entrepreneurial mentors can help entrepreneurs build entrepreneurial confidence through continuous encouragement and humanistic care, so as to reduce the impact of entrepreneurial risks and uncertainties on college students' entrepreneurship, and promote the identification of entrepreneurial opportunities. Based on this, this paper proposes:

H1: Entrepreneurial mentor support behavior positively affects college students' identification of entrepreneurial opportunities

### *2.2 Entrepreneurial mentor support behavior, entrepreneurial identity and entrepreneurial identity*

Entrepreneur identity means that individuals regard themselves as entrepreneurs, and integrate this role into the self-cognition model, so as to show behaviors consistent with the identity of entrepreneurs, which is the basis and judgment basis for their entrepreneurial activities [3]. For college student entrepreneurs with multiple identities, their self-identity is constantly changing and developing under the influence of external factors. Therefore, the construction and identification of the entrepreneur's identity is particularly sensitive and important [4]. Existing research points out that positive evaluation of individuals from the outside world can enhance their entrepreneurial confidence. To improve entrepreneurial identity. Therefore, entrepreneurial mentor support behavior will significantly enhance entrepreneurial identity.

Specifically, on the one hand, entrepreneurial mentors have more entrepreneurial experience and entrepreneurial knowledge, and can rationally treat and analyze entrepreneurial risks. When college students feel at a loss in the complex and changing entrepreneurial environment, entrepreneurial mentors can interact through intimate interactions and give subjective support to ease the entrepreneurial pressure of college students who are initially exposed to entrepreneurship. While constructing self-identity, an individual is also a process of self-recognition and psychological suggestion [5]. Entrepreneurial mentors enhance the entrepreneurial identity of entrepreneurs through this psychological protection. On the other hand, while imparting entrepreneurial skills and knowledge, entrepreneurial mentors can help college students analyze market development trends in a complex and changeable

entrepreneurial environment, clarify their own entrepreneurial advantages, and help entrepreneurs to better conduct business by building contacts and collecting resources [6]. The abundance of resources and the growth of entrepreneurial ability will undoubtedly make entrepreneurs full of expectations for the future, and they will be more identified with the identity of entrepreneurs. Based on this, this paper proposes:

H2: Entrepreneurial mentor support behavior positively affects college students' entrepreneurial identity

The degree of entrepreneurial identity recognition not only represents the degree of recognition of the entrepreneur's own identity, but also shows the degree of investment in energy and resources in entrepreneurial activities. Existing studies have pointed out that the higher the entrepreneurial identity, the more willing individuals are to put in more entrepreneurial efforts, invest more time and money, and have a firmer entrepreneurial determination. In addition, Leavitt (2012) also pointed out that entrepreneurial identity affects entrepreneurs' resource acquisition and opportunity identification behaviors in a predictable and meaningful way[3].

As a positive self-cognition, identity can make people have strong entrepreneurial passion and motivation, and by stimulating individual entrepreneurial confidence and entrepreneurial self-efficacy, and then positively affect their entrepreneurial behavior, and ultimately improve the efficiency of entrepreneurial opportunity identification. When an individual integrates the identity of an entrepreneur into his self-concept, he will also require himself to be a qualified entrepreneur as soon as possible with the behavioral standards that conform to his identity as an entrepreneur. Individuals with a high level of entrepreneurial identity are more willing to invest a lot of time and energy in searching and analyzing entrepreneurial information in order to tap business opportunities that others have not discovered. In addition, compared with individuals with low entrepreneurial identity, individuals with high entrepreneurial identity are better at facilitating entrepreneurial networks. Through external resources and entrepreneurial guidance, they seek the entrepreneurial confidence they need, build entrepreneurial opportunities, and promote innovative entrepreneurship[7]. Identification of opportunities. Based on this, this paper proposes:

H3: Entrepreneurial identity positively affects the identification of entrepreneurial opportunities

To sum up, when they feel the psychological and professional support from entrepreneurial mentors, college students can improve their entrepreneurial capabilities through continuous entrepreneurial learning, and expand their social networks and entrepreneurial resources with the help of entrepreneurial mentors to

improve entrepreneurial opportunities. identification efficiency. Based on this, this paper proposes:

H4: Entrepreneurial identity plays a mediating role between entrepreneurial mentor support behavior and entrepreneurial opportunity identification

Based on this, the research model of this paper is constructed as shown in Figure 1:

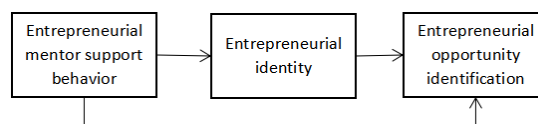


Figure1 Theoretical Model

### 3 STUDY DESIGN

#### 3.1 Samples and data

This research adopts the questionnaire survey method, and uses the Questionnaire Star platform to distribute to college students in Shaanxi, Henan and other places. A total of 180 questionnaires are distributed, excluding regular questionnaires, there are 149 valid questionnaires, and the effective rate is 82.8%. Demographic information is shown in Table 1.

Table1 Basic statistical characteristics of samples

Variables	Category	Sample size	Proportion
Gender	Male	64	43.0%
	Female	85	57.0%
Age	Under 20 years old	46	30.9%
	20-25	98	65.8%
	26-30	4	2.7%
	Over 30 years old	1	0.7%
Major	Engineering major	64	43.0%
	Management major	41	27.5%
	Art major	37	24.8%
	Other major	7	4.7%
Entrepreneurial experience	Yes	90	60.4%
	No	59	39.6%

### 3.2 Variable Measurement

This research is based on the mature scales at home and abroad, and revised according to the research content of this paper. Variables were measured using a Likert 5-scale scale, with "1-5" representing "completely disagree-completely agree".

Entrepreneurial mentor support behavior: Using Yang Bin (2018) and other scales revised from the social support scale and the perception social support scale. The Cronbach's alpha coefficient is 0.985.

Entrepreneur identity: Adopt the entrepreneur identity scale summarized by Xie Yaping (2016) according to Callero and other scholars, combined with interviews, The Cronbach's alpha coefficient for this scale was 0.886.

Entrepreneurial opportunity identification: This study draws on the scale designed by Baron (2004) to measure profitability and feasibility. The Cronbach's alpha coefficient of this scale is 0.940.

In addition, this paper uses the gender, age, major and entrepreneurial experience as control variables.

## 4 DATA ANALYSIS AND RESULTS

### 4.1 Confirmatory factor analysis

This paper uses AMOS24.0 to conduct confirmatory factor analysis on entrepreneurial mentor support behavior, entrepreneur identity, and entrepreneurial opportunity identification. After fitting, it is found that the fitting effect of the three-factor model, that is, the model in this paper, is significantly better than other models ( $\chi^2/df= 2.386$ ;  $GFI=0.745$ ;  $TLI=0.913$ ;  $CFI=0.921$ ;  $RMSEA=0.097$ ), indicating that there is a certain distinction among the three variables in this study.

### 4.2 Descriptive statistical analysis

The mean, standard deviation and correlation coefficient of each variable are shown in Table 2. The social support of entrepreneurial mentors is positively correlated with the identity of the entrepreneur ( $r=0.355$ ,  $p<0.01$ ) and the identification of entrepreneurial opportunities ( $r=-0.485$ ,  $p<0.01$ ), and the identity of the entrepreneur is positively correlated with the identification of entrepreneurial opportunities ( $r=0.385$ ,  $p<0.01$ ). The pairwise correlation between variables lays the foundation for subsequent hypothesis testing.

**Table2** Descriptive statistics and correlation coefficient matrix

Variable	M	SD	1	2	3
1	3.338	0.843	1		
2	2.870	0.786	0.355**	1	
3	3.168	0.818	0.485**	0.385**	1

Note:1Entrepreneurial mentor support behavior;2Entrepreneurial identity;3Entrepreneurial opportunity; \*\* $p<0.010$ , \* $p<0.050$ .

### 4.3 Hypothesis testing

This study draws on previous research and uses the Process program and Bootstrap to test multiple mediation hypotheses. The independent variable (entrepreneurial mentor support behavior), the mediator variable (entrepreneur's identity), the dependent variable (entrepreneurial opportunity identification) and the control variable are put into the Process at the same time., the path coefficient results and indirect effect results between variables are obtained at one time. The path analysis results are shown in Table 3.

From Table 3, it can be seen that entrepreneurial mentor support behavior is positively correlated with entrepreneurial identity ( $\beta=0.344$ ,  $p<0.01$ ), hypothesis 1 is verified; entrepreneurial mentor support behavior is positively correlated with entrepreneurial identity ( $\beta=0.321$ ,  $p<0.01$ ), entrepreneurial identity is positively correlated with entrepreneurial opportunity recognition ( $\beta=0.259$ ,  $p<0.01$ ), and from Table 3, the indirect effect of entrepreneurial mentor support behavior on

entrepreneurial opportunity recognition through entrepreneurial identity is 0.083 , and the 95% confidence interval does not contain 0, so the role of entrepreneurial identity between entrepreneurial mentor support behavior and entrepreneurial opportunity identification is significant. Hypotheses 2, 3, and 4 are verified.

**Table 3** Path coefficient and mediation effect test results

Path	Path Coefficient	Standar d Error	95% Confidence Interval
1→2	0.321**	0.073	[0.177,0.465]
1→3	0.344**	0.076	[0.195,0.494]
2→3	0.259**	0.082	[0.098,0.421]
1→2→3	0.083	0.046	[0.007,0.183]

Note:1Entrepreneurial mentor support behavior;2Entrepreneurial identity;3Entrepreneurial opportunity; \*\* $p<0.010$ , \* $p<0.050$ .

## 5 DISCUSSION AND CONCLUSION

In order to further promote the integration and innovation of information technology and entrepreneurship education, based on the theory of social identity and from the perspective of college students' perception, this paper discusses how entrepreneurial mentors can improve the recognition rate of entrepreneurial opportunities by influencing the identity of college students as entrepreneurs. The effective expansion of chemical research will help colleges and universities to use big data and other information technologies, adjust the operation of the entrepreneurial mentor system in a timely manner, formulate entrepreneurship education courses that conform to the current situation of college students, and strengthen the role of the entrepreneurial mentor system in promoting the innovation and entrepreneurship development of college students in my country effect<sup>[8,9]</sup>. In addition, the data in this study has certain limitations. Future research can use a multi-stage method to collect data to reduce common method bias.

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