
The Effect of Entrepreneurial Mentoring and its Determinants in the Chinese Context

Abstract

Purpose: This study seeks to build a conceptual framework and use empirical analysis to explore the mentoring effect and its determinants, especially in the Chinese context.

Design/methodology/approach: The paper uses data from 172 young entrepreneurs who have been supported by Youth Business China, Mianyang Office since 2008. The factor analysis and structural equation model have been applied to analyze the quantitative relationship and path of the mentoring effect of entrepreneurship with mentor's factors, mentee's factors and their interrelationship.

Findings: The mentor's factors, especially his (her) mentoring intention, has the biggest effect on the mentoring effect, significantly bigger than the mentor's quality and ability. However, the mentor's mentoring intention is not strong as expected. The interactive relationship between the mentor and the mentee also has a significant positive effect on mentoring effect. The study has also discovered the mentee's factors have comparatively smaller effect on both the interactive relationship and the mentoring effect. Furthermore, it is found that the absorptive capability and learning intention of the young entrepreneur is relatively weak.

Originality/Value: This paper probes into the mentoring system in the context of China from a new perspective and proposes an original conceptual model to study the entrepreneurship mentoring effect and its determinant.

Limitation: Self-serving bias may exist as this research measures the mentoring effect by the feedback on the mentor's perception, using surveys completed by the mentees to measure both the mentee's traits and the mentor's qualities.

Keywords: Entrepreneurial mentor, Mentee, Interaction, Mentoring effect, Determinants

Paper type: Research paper.

Introduction

In China, since 2014, “public entrepreneurship and mass innovation” has been a national strategy and the government had made great effort to promote entrepreneurial activities. The Guidelines of the State Council on Promoting Public Entrepreneurship and Mass Innovation issued by the State Council in 2015 emphasized improving the system of mentoring, including the establishment of mentoring teams and the development of long-term effective mentoring mechanism to provide entrepreneurial mentoring services for young entrepreneurs.

This policy initiative was driven by the finding that entrepreneurial successes are largely influenced by entrepreneurial mentoring (Waters et al., 2002), which has been adopted by many countries, such as the Business Link-PBA (Professional Business Advisor) in UK, the Mentor Eget Företag in Sweden and the SCORE (Service Corps of Retired Executives) program in the United States.

The mentoring system in the Chinese environment has its distinctive features and faces many problems (Cai and Shan, 2013). First, due to the lack of a culture for volunteer services and mechanisms for sustainable development, the entrepreneurial mentor programs are mostly operated by government or government-authorized organizations, rather than by social organizations. The second feature is the heterogeneity of mentors in China. Most of the first generation of entrepreneurs have not yet retired, thus, it is hard for them to dedicate enough time and effort to the mentoring service. Mentors in China usually include entrepreneurs, government officials, and scholars from research institutions, each having different participation motivation, mentoring approach, mentoring capabilities. Third, young entrepreneurs have relatively low education degree, lacking entrepreneurship education, just as

mentioned in the Global Entrepreneurship Monitor (GEM) report of 2015.

Due to above characteristics of mentoring system, it is successful in European and American countries but complicated in the Chinese context. The main challenges of mentoring system also include the issues of poor quality of mentors, arbitrary supervision, unavailability of incentive mechanism and so on. So, the determinants of the effect of entrepreneurial mentoring should be comprehended for optimum utilization of the mentor's role and improvement of mentoring performance. However, the mentoring effect and the dominant factors are quite difficult to generalize and measure (St-Jean and Audet, 2012).

The current related literature has focused on evaluating the determinant of mentoring relationship from the angle of the mentor, the mentee or the organization itself (Allen, 2004), but little attention has been given to the dyadic relationship (Robert et al., 2011). The mentoring effect has mainly focused on "top-down" approach by constructing the indexes based on the success rate of entrepreneurship, evaluation by experts, or self-evaluation by the mentors (Liu and Song, 2014), rather than feedback from mentees. However, as the direct beneficiary, the mentees are most suitable to speak whether the entrepreneurial mentoring is valid or not.

Therefore, in this paper, we attempt to fill this gap by constructing a "bottom-up" conceptual model of the mentoring process and the dyadic influencing factors of the mentoring effect from the mentee's perspective. The paper then describes the methodology and why the methodology is chosen, presents and discusses the findings, and provides a summary of the principal contributions. This framework could explore the influence mechanism of the subject, the object, and their coupling interactions. In addition, the Chinese samples analysis could enrich the cross-cultural study in this field of research. The empirical findings of the present study can be applied to business incubators, entrepreneurship educational institutions as well as for the improvement and promotion of entrepreneurial mentoring system in China.

literature review

The entrepreneurial mentoring system was started in the 1970s in Europe and the United States, Its success have attracted much attention of academic researchers since 1980s (Ensher et al., 2000; St-Jean and Audet, 2013). In China, however, it was first introduced by Wu'han New Technology Entrepreneurs Service Center in 1987 to support small and medium-sized high-tech enterprises, and the theoretical research on entrepreneurial mentorship in China has just begun (Liu and Xiong, 2016).

Generally the scholars have introduced the incubator business mentor and college entrepreneurial tutor, the contents of their studies has mainly focused on the function and role of tutors, but very few studies have focused to explore the social entrepreneurship mentor, there is also lack of in-depth quantitative study on the mentor's behavior and mentoring effect.

Measure the effect of Entrepreneurial mentoring

At present, most of the evaluation of the effect of entrepreneurial mentoring are *ad hoc* qualitative description (Ensher et al., 2000), while others used the index of entrepreneurial success rate or expert assessment (Liu and Song, 2014), or refer to the relevant concept of "entrepreneurial performance" which includes the financial performance indicators of sales growth, market share (Kurtulmus and Warner, 2015) and non-financial indicators such as customer satisfaction and employee satisfaction (Antoncic and Hisrich, 2003; Wang and Liu, 2005). However, in practice, it is difficult to measure the mentoring effect quantitatively, veritably and objectively.

The entrepreneurs, as the direct beneficiary, can provide useful insights about the entrepreneurial mentoring effects. Thus the improvement of their capabilities and the development of their enterprises began to be valued (Georgia, 1997) and the perception of entrepreneurs has become an important dimension in evaluating the entrepreneurial effect (Miri et al., 1997). Considering the aforementioned literature, in this paper we have constructed the research dimensions of the mentoring effects based on the perceptual perspective, including the evaluation index of experience level

(measured by the satisfactory degree on both the process and the result) and the utility level (measured by personal growth and business growth).

Determinants of the entrepreneurial mentoring effect

From the perspective of the mentoring process, the transfer of knowledge, information and resources depends crucially on not only the characteristics of the substance, but also on the context in which such transfer takes place (Szulanski, 1996). Therefore, in this paper we have considered subject (mentors), object (mentees) and the context (interactions) in determining the effects of entrepreneurial mentoring.

(1) Entrepreneurial mentoring subject - entrepreneurial mentor's factor: Deakins et al. (1998), who was the first to study entrepreneurial mentorship, pointed out that young entrepreneurs are usually grateful to obtain guidance from the mentor but also complain that their mentors sometimes lack specialized expertise and mentoring experience. Therefore, in order to guide the mentee more effectively, mentors should strengthen the training (Ann-Louise et al., 2015) to improve entrepreneurial knowledge, experience and skills (Baron and Ensley, 2006; Baron, 2009). In addition, the more the mentor know about the mentoring object, mentoring tasks and mentoring content, the better the result is likely to emerge (Campion and Goldfinch, 1983).

Some scholars focused on the personal characteristics and proposed that the mentors' requirement of internal control, accomplishment, emotion, rights demand and altruism can facilitate their mentoring behavior (Fagenson, 1992; Aryeet et al., 1996). Cabrera and Collins (2006), Matzler et al. (2008) considered initiative and openness was a reflection of one's curiosity and originality and these features would prompt individuals with higher intrinsic motivation. Other scholars emphasized that a good mentor should be a good listener, and his/her sympathetic characteristic is important to provide appropriate mentoring services (Sullivan, 2000; Simon and Kumar, 2001).

Thenceforth, some scholars think that in the mentoring relationship, if the mentor has higher internal demand and motivation, they may be more willing to maintain

knowledge exchanges with mentees (Cabrera et al., 2006). Matzler et al. (2008) declared that people with high conscientiousness usually have the characteristics of dependable, studious, achievement orientation, they might have a stronger sense of mission and responsibility in the mentoring process. Those characteristics, especially the mentor's initiative are very helpful to carry out entrepreneurial mentoring (Costa and McCrae, 1992; Fairlie and Holleran, 2012).

In sum, all of the mentor's personality, temperament, knowledge, resources, motivation, and mentoring enthusiasm will affect entrepreneurial mentoring behaviors. These factors could be classified into three categories: mentor's quality, mentoring ability and mentoring intention. This reasoning leads to the following hypotheses:

H1. The comprehensive factors of entrepreneurial mentoring subject (mentor's factor) have significantly positive impact on entrepreneurial mentoring effect.

H1a. The personal qualities of the mentors will affect mentor entrepreneurial mentoring behavior.

H1b. The mentoring ability of the mentors will affect mentor entrepreneurial mentoring behavior.

H1c. The mentoring intention of the mentors will affect mentor entrepreneurial mentoring behavior.

(2) Entrepreneurial mentoring object - mentee's factors: from the chronological order, Kram (1985) suggested to pay more attention to the mentees who have strong expectation on learning and growing. Allen et al. (2000) compared the impact of mentee's ability and learning intention to the selection behavior and the mentoring effect, normally, a mentor prefers to instruct a mentee who has strong learning intention, therefore, the stronger the mentee's learning intention, the more the mentor will focus to instruct the mentee (Chen et al., 2015).

In addition, Turban and Dougherty (1994) pointed out that mentee's characteristic of locus of control, self-esteem, negative emotion and self-monitoring would affect the mentoring relationship. Audet and Couteret (2012) proved this viewpoint by comparing with six entrepreneurship training institutions, they suggest the most essential factor which influencing the effect of mentoring relationships is the

mentee's openness to change. Mohammad et al. (2014) demonstrated that internal locus of control as a well-established entrepreneurial personality trait at team level impacts team performance strongly in Austria. Rauch and Frese (2007), Fairlie and Holleran (2012) also noticed the mentees who are high internal locus of control tend to attribute their success or failure to personal factors, rather than environmental factor (Caliendo et al., 2014), moreover, they are more beneficial from the mentoring.

More, Bisk (2002) observed that social and demographic variables such as level of education will determine how much they benefit from mentoring relationship. Ronstadt and Shuman (1988) observed that mentee's entrepreneurship capability to a certain extent affects entrepreneurial mentoring performance. Szulanski (1996) and Chen (2015) demonstrated that the learning ability and absorptive capacity of the mentee are the key elements for successful mentoring by empirical study.

To sum up, the mentee's character, attitude, learning motivation, achievement orientation, learning abilities and absorptive capacity will affect whether he or she benefits from entrepreneurial mentoring or not. The above factors could be classified into three categories: mentee's trait, mentee's learning intention and mentee's absorptive capacity. Thus the following hypotheses are proposed:

H2. The comprehensive factors of entrepreneurial mentoring object (mentee's factor) have significantly positive impact on mentoring effect.

H2a. The mentee's trait will affect his/her benefit from mentoring.

H2b. The mentee's learning intention will affect his/her benefit from mentoring.

H2c. The mentee's absorptive capacity will affect his/her benefit from mentoring.

(3) Entrepreneurial mentoring context- the mentoring interaction dimension: An inappropriate match with the dyad due to different values, interests and work style have a negative impact on the mentor-mentee relationship (Hamlin and Sage, 2011). Therefore, mentors and mentee can interact better based on mutual interests and values (Jamshed et al., 2014). In addition, Ensher and Murphy (1997) believed that the mentor and mentee, with high similarity of personality, personal preference, research field, are prone to inspire emotional resonance. Lankau et al. (2005) also pointed out that the similarity is considered as the most crucial factor influencing the

interpersonal attraction between mentor and mentee. Byrne's similar-to-me theory (1997) seems to be verified in the mentoring relationship.

Hendriks (1999) pointed out that the process of information sharing is a process of communication. When engaged in dyadic mentoring relationship, mentors elaborate and convey supportive messages depicted as "specific lines of communicative behavior enacted by helping another" (Burleson et al., 2002). In this perspective, mentors need to constantly adjust their communication style and content to meet the needs of their mentee (Lefebvre and Collot, 2013).

With regard to knowledge transfer process, Andrews and Delahaye (2000) highlighted the trust between the knowledge transfer and knowledge demanders is conducive to sharing and disseminating the knowledge and experience, in-order to reduce the risk and cost of interaction. During the mentoring process, once the close interaction and friendship between mentor and mentee established, the mentoring effect will appear a multiplier effect (Chun and Wang, 2010). Ozgen and Baron (2007) ascertained the significant positive correlation between the closeness of contact with mentors and promotion of entrepreneurship capability by empirical research. In particular, China is a traditional "Guanxi"-oriented society, relationship plays very important role in Chinese social life.

In conclusion, mentors and mentees' personality, preference similarity, communication and mutual trust, friendship, contact degree will impact the interaction between the two parties and then affect the mentoring effect. The determinant factors of their interaction in two levels are summarized as follows: the matching degree of the two sides, the two sides communication efficiency and the status of the intimate relations between them. Thus the following hypotheses are proposed:

H3. Entrepreneurial mentoring interaction has significantly positive impact on mentoring effect.

H3a. The matching degree of the two parties affects the interaction of entrepreneurial mentoring relationship.

H3b. The communication efficiency of the two parties affects entrepreneurial mentoring interaction.

H3c. The intimate relations between the two parties affect the entrepreneurial mentoring interaction.

Besides, mentor and mentee are the participator in the mentoring relationship, both plays an important role in building the interactive relationship. Thus the hypothesis can be proposed:

H4. The comprehensive factors of mentor have significantly positive impact on entrepreneurial mentoring interaction.

H5. The comprehensive factors of mentee have significantly positive impact on entrepreneurial mentoring interaction.

The Conceptual framework and research methodology

Conceptual Framework

The literature review highlighted a number of factors that are likely to affect the mentoring result which includes both experience and utility level. Based on the dynamic process of entrepreneurial mentoring, the key factors can be divided into three categories. The variables related to the mentor's factors include mentor quality, mentoring ability and mentoring intention. The variables related to the mentee's factors include mentee's trait, learning intention and absorption capability. Lastly, the variable of mentoring interaction is composed of how much they match each other, the efficiency they contact each other and the level of their intimacy. In addition, mentor and mentee factors will affect the interaction of entrepreneurial mentoring. In order to further explore the influence of various factors on the mentoring effect, as well as the interaction between the influencing factors, the conceptual framework and model are proposed in Figure 1.

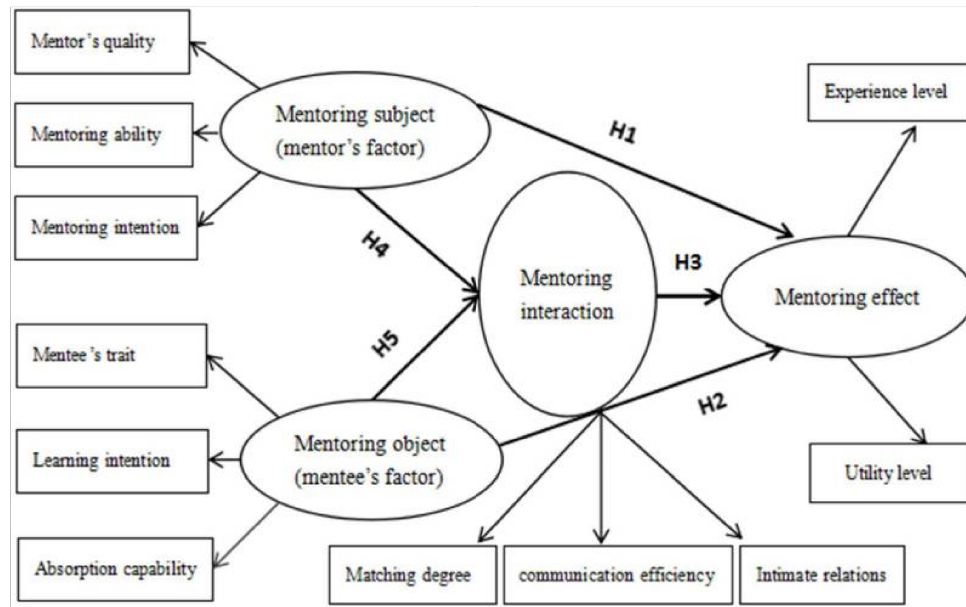


Figure 1 The conceptual model of mentoring effect and its determinants

Research design

Research context

By the end of 2015, the number of Maker Space in China has exceeded 2300, among them, Chinese Youth Business International (YBC) is well-known throughout the country for its mentoring system. It was jointly launched by Central Communist Youth League (CCYL), All-China Youth Federation (ACYF) and five other institutions in November 2003. The focus of YBC is to provide support to young entrepreneurs using an operation mode similar to YBI (Youth Business International). First, it offers “no interest, no mortgage, no guarantee” loans to young entrepreneurs. Second, it provides “one to one” companion mentoring and entrepreneurial training services. Third, it builds a mutual aid business network, providing a communication platform for young entrepreneurs.

YBC had established 64 business offices, 477 stations and 1148 service stations in China by 2015 and had successfully supported 9000 entrepreneurs to start-up their businesses. A total of 12,183 registered volunteer mentors had offered about 973,409 hours of mentoring service to youth entrepreneurs (Liu and Song, 2015).

Mianyang Entrepreneurship Promotion Office, which was established in July 29th, 2008, is the 18th YBC local project office, which located in Mianyang city, Sichuan province. In this area, there are modern city with developed high-tech industry, large number of small towns, vast rural areas and minority areas. Now Mianyang has relatively mature and complete entrepreneurship service system, it is a microcosm of the whole country in entrepreneur mentoring.

Till July 2015, there were more than 300 registered volunteer mentors who have supported more than 170 young entrepreneurs. Most of the mentors are entrepreneurs or corporate executives. Some of them are governmental officials, scholars or social workers. That is the heterogeneity of mentor as mentioned above.

The program has developed a set of tools, guides and rules for mentors and mentees. A mentor and mentee from the same type of industry are usually paired together. An initial meeting is arranged by the office coordinator, at which the two parties are asked to affirm their relationship. After being paired, the mentor is supposed to spend at least 4 hours per month in accompanying young entrepreneurs, to afford technical guidance or emotional support, etc, these relationships normally will last three years.

Sample and data collection

According to the research design, the sample was composed of 172 young entrepreneurs who had been supported by YBC Mianyang Office since 2008. The questionnaire composed of 43 items, and most of the items were measured with a five-point Likert scale, where 1 corresponds to strongly disagree and 5 to strongly agree.

Prior to using the questionnaire for data collection, the content validity of the instrument was established by grounding it in existing literature. Pre-testing of the instrument further validated the items in the questionnaire. A total of 25 randomly selected young entrepreneurs, 10 entrepreneurship mentors who had attended the YBC program, 4 YBC coordinators and 5 researchers in this topic and in the field of statistics applied to social science were involved in this pilot study. These members

were required to review the questionnaire for structure, ambiguity, readability and completeness. Once minor modifications had been made according to the advice from the team of pre-testing interviewees, the field survey has been conducted.

From Oct. 2014, with the support of the Mianyang Municipal Party Committee, Mianyang Entrepreneurship Promotion Association, Mianyang Venture Office. The questionnaires were distributed mainly by face-to-face interviews as much as possible, finally, 134 respondents answered papery questionnaires in interview. 26 out of 38 questionnaires were received through e-mail. After eliminating the questionnaires which were incomplete, incorrect or inconsistent, 152 valid questionnaires were achieved, the response rate of the present study is 88%.

Data analysis

Sample Descriptive Statistics

The summary profile of respondents and the demographic variables are shown in Table □. The sex ratio (male to female) of the respondents is about 5:2, roughly in line with that of entrepreneurs in China. Most of the respondents aged in the range 26-35, accounting for more than half of the total sample (approximately 59.3%).

With respect to the educational background, more than half of the entrepreneurs' do not have a bachelor's degree, with the undergraduate education level and above accounting for only 34.9% of the respondents. Correspondingly, the entrepreneurs' ventures are more concentrated in industries like agriculture, cultivation, aquaculture or services, accounting for 78.76% of the total.

Before, a number of statistical procedures (using SPSS version 19.0), including missing data analysis, tests for normality, outliers, linearity and multicollinearity is utilized to screen the data for multivariate assumptions in-order to avoid bias and invalid results.

Table □ Sample feature summary

variable	classification	Number of samples	percentage (%)	Cumulative Percentage (%)
gender	Male	106	69.7	69.7
	Female	46	30.3	100.0
age	<=25	10	6.6	6.6
	26-35	84	59.3	65.9
	36-45	52	30.2	96.1
	>=46	6	3.9	100.0
education level	Below undergraduate	99	65.1	65.1
	Undergraduate	53	34.9	100.0
	and above			

Exploratory Factor analysis

As a first step in identifying the underlying dimensions of the research constructs, an exploratory factor analysis (EFA) is performed for the 43 items measuring the four key constructs in the hypothesized model. Principal component factor analysis is adopted to using latent root criterion (eigenvalue ≥ 1) and orthogonal rotation (varimax). The items that exhibited high factor loadings (≥ 0.5) are chosen to represent factors. 3 items that don't satisfy these criteria are excluded from the final factor solution.

The Cronbach's Alpha value of the survey instrument is 0.916, and the Cronbach's Alpha values for each four latent factors are distributed ranging from 0.842 to 0.933, indicating that the reliability of the questionnaire is excellent.

It is clear from Table 1-Table 4 that the KMO value of each survey instrument is around 0.8, and the significant probability statistic of each Bartlett's test of sphericity is 0.000 which is less than 0.01, indicating that the data is suitable for factor analysis, the validity of the questionnaire is good.

(1) Factor analysis of the mentoring effect

The factor analysis is conducted to assess the 7 suggested items of the entrepreneurial mentoring effect (see Table 1), from which two common factors are extracted, which could explain 75.068% of the data information. The first factor,

experience level, includes the effect of the satisfaction level of feedback, and the second factor, utility level, includes personal comprehensive ability, entrepreneurship career development, goal achievement and sustainable development capability of venture. These two dimensions conform nicely to the construct of the study, the model is quite acceptable and no modification is needed.

The mean of the experience level is 4.144, and the mean of utility level is 4.278, which suggests that the mentoring effect, neither the experience level nor the utility level, is in a relatively satisfactory stage. The result indicates that the mentoring effect

has room for improvement. Table □ Factor analysis of the mentoring effect

Entrepreneurial mentoring effect Questions	Load factor		Explained variance	Means
	F1 Experience level	F2 Utility level		
Overall satisfaction	0.847		28.254%	4.144
Satisfied with the mentoring process	0.821			
Satisfied with the mentoring results	0.740			
Personal comprehensive ability to grow		0.855	46.814%	4.278
Career development of entrepreneurship		0.812		
The goal of enterprise is gradually achieved		0.799		
Enterprise growth ability to be promoted		0.746		
The cumulative amount of explained variance	75.068%			
KMO	0.797			
Bartlett	Approx. Chi-Square		556.568	
	df		79	
	Sig.		.000	

(2) Factor analysis of the entrepreneurial mentoring subject dimension

The factor analysis is conducted to assess the 15 suggested items of the entrepreneurial mentor (see Table □), from which three common factors are extracted which could explain 79.718% of the data information. The load factor of each item is more than 0.5. These three factors can be named as mentor's quality, mentoring intention, mentoring ability. The mean of mentoring ability, mentor's quality, mentoring intention are 4.378, 4.401, 4.036 respectively, which suggests that the

young entrepreneurs do think highly of the mentor's quality and ability, but the mentor's intention to offer mentoring service is not equally strong.

Table □ Factor analysis of the mentor's factors

Entrepreneurial mentoring subject Questions	Load factor			Explained variance	Means
	F1 Mentoring intention	F2 Mentor's quality	F3 Mentoring ability		
The overall image of the mentor is good		0.879		27.966%	4.401
The moral quality of the mentor is excellent		0.871			
Mentors have a clear tendency to altruism		0.812			
The mentor is enthusiastic and open		0.669			
Mentors are good at listening		0.618			
Mentors have a wealth of entrepreneurial guidance knowledge			0.896	27.587%	4.378
Mentors have rich entrepreneurship experience			0.859		
Mentors have abundant entrepreneurial guidance skills			0.796		
Mentors have a strong entrepreneurial resources reserves			0.743		
Mentor master effective business information			0.633		
Mentor initiative to care about the progress of young entrepreneurs	0.853			24.164%	4.036
Personally demonstrate	0.844				
Due diligence	0.774				
Give advice and suggestions	0.735				
Provide help	0.550				
The cumulative amount of explained variance	79.718%				
KMO	0.895				
Bartlett	Approx. Chi-Square		1017.358		
	df		78		
	Sig.		.000		

(3) Factor analysis of the entrepreneurial mentoring object dimension

The factor analysis is conducted within the 9 suggested items of the mentee, three common factors are extracted (see Table □), which could explain 82.556% of the data information. The load factor of each item is more than 0.5. These three factors can be named as mentee's trait, learning intention and absorption capability. The mean of mentee's trait, learning intention, absorption capability are respectively

4.228, 3.962, 3.857, which indicates that mentees do not intend to learn so intensively. This finding is consistent with the existing theoretical research. Specifically, it may be due to the low degree and inadequate awareness of entrepreneurial youth and also the lack of entrepreneurship education in the long-term, which causes the mentee to fail to effectively adapt to entrepreneurial mentoring.

Table □ Factor analysis of the mentee's factors

Entrepreneurial mentoring object Questions	Load factor			Explained variance	Means
	F1 Mentee's trait	F2 Learning intention	F3 Absorption capability		
Mentee is very outgoing	0.859			35.893%	4.228
Mentee is very open	0.752				
Mentee can self-control	0.707				
Mentee can take the initiative to learn		0.863		26.979%	3.962
Mentees have a strong desire for knowledge		0.858			
Mentees have a strong achievement orientation		0.755			
Mentees have a solid knowledge of basic entrepreneurial skills			0.719	19.684%	3.857
Mentees have a strong ability to understand			0.684		
Mentees can apply what he has learned			0.674		
The cumulative amount of explained variance	82.556%				
KMO	0.823				
Bartlett	Approx. Chi-Square		656.568		
	Df		59		
	Sig.		.000		

(4) Factor analysis of the entrepreneurial mentoring interaction dimension

The factor analysis is conducted to assess the 9 suggested items of the interaction, three common factors are extracted, which could explain 72.991% of the data information. The load factor of each item is more than 0.5 (see Table □). These three factors can be named as communication efficiency, matching degree and intimate relations. The mean of communication efficiency, intimacy degree, matching degree are 4.132, 4.068, 3.291 respectively, which indicates in their interaction, the matching degree of mentors and mentee is relatively low, it need to be adjusted immediately.

Table □ Factor analysis of entrepreneurial mentoring interaction

Entrepreneurial mentoring Interaction Questions	Load factor			Explained variance	Means
	F1 communication efficiency	F2 intimate relations	F3 Matching degree		
The communication mode is appropriate	0.883			34.702%	4.132
The communication content is useful	0.861				
The communication frequency is appropriate	0.725				
The two side trust each other		0.857		28.136%	4.068
The two side get along well		0.822			
Very good personal relationship		0.786			
Industry match			0.780	10.153%	3.291
Personality match			0.743		
Preference similarity			0.645		
The cumulative amount of explained variance	72.991%				
KMO	0.867				
Bartlett	Approx. Chi-Square		731.156		
	Df		66		
	Sig.		.000		

Structural equation model test

On establishing sufficient validity and reliability of the measurement model, structural equation model (SEM) could be used to test the path relationships in the proposed hypothesized model. The value for the improved model indices (GFI = 0.904, NFI = 0.972, TLI = 0.957, RMSEA = 0.051) shows that the model fit the data well and path analysis is suitable.

The results show that the comprehensive factors of entrepreneurial mentors have a significantly positive influence on the mentoring effect ($P < 0.01$), with a path coefficient of 0.760, which means that if the mentors improve their own conditions, the mentoring effect will greatly improve. As a result, H1 is accepted. Based on the measurement model (see Figure 2), the interpretation value of mentor's quality, mentoring ability, mentoring intention to entrepreneurial mentor level are 0.76, 0.88, 0.91 respectively, which means that the mentor's quality, mentoring intention and ability are all affected the mentor's entrepreneurial mentoring, the hypothesis H1a, H1b and H1c are verified, Among them, the mentoring intention best represents the

mentoring variable, Therefore, it is important to enhance the mentoring intention (e.g. initiative to care , personal demonstration, responsibility, etc.).

The latent variables entrepreneurial mentoring object (mentee's factor) has a significantly positive influence on mentoring effect ($P < 0.01$), with a path coefficient of 0.389, H2 is accepted. Based on the measurement model of Figure 2, the interpretation value of mentee's trait and learning intention to mentee's factors variable are 0.64,0.72 respectively, the absorptive capacity of mentees best represents the mentee's factors variable, with a path coefficient of 0.79. Thus H2a, H2b, H2c hypothesis is verified. Therefore, the absorptive capacity becomes the most important index for mentee dimension.

Interaction has a significantly positive impact ($P < 0.01$) on mentoring effect, with a path coefficient of 0.572, indicating that more effectively the two sides interact, better the mentoring effect is, H3 is supported. Based on the measurement model of Figure 2, the interpretation value of matching degree, communication efficiency, intimate relations to interaction level are 0.69, 0.70, 0.66, respectively, suggesting these three have relatively balanced impact on interaction. H3a, H3b, H3c are verified.

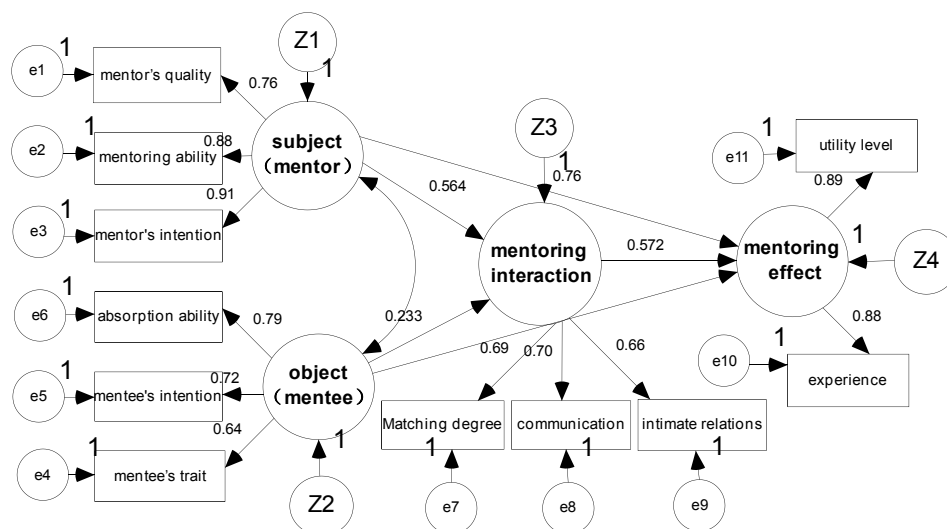


Figure 2 The path coefficient and significant results of correction model

The comprehensive factors of entrepreneurial mentor have a significantly positive impact ($P < 0.01$) on interaction, with a path coefficient of 0.564, indicating

that H4 is supported. Most of the time, mentor with mentoring ability and altruistic tendencies will be willing to spend time and energy to provide services for entrepreneurs, thus the frequency of communication and the quality of interaction will be improved accordingly.

The comprehensive factors of mentee have significantly positive influence on interaction ($P < 0.01$), with a path coefficient of 0.233, the H5 is supported. As mentioned in the interview, a mentee who is achievement-oriented, well targeted and strong desire for knowledge is more willing to participate in mentoring practice, through positive interaction with the mentor, they can learn and grow continuously, thus mentee's factor affecting mutual conditions apparently.

In addition, the explanation value of the experience level and the utility level are not much different, which means that when mentees measure the dimensions of the mentoring effect, they pay attention not only to the emotional experience, but also to the performance output.

Conclusion

This paper constructs a theoretical research framework and index measurement system, composed of 4 latent variables, 11 second-level indicators and 40 measurement items, to examine the effect of entrepreneurial mentoring and its determinants. We have used both experience level and the utility level for measurement of mentoring effect. The entrepreneurship mentoring effect is determined by the coupling interactions of the mentor's factors, the mentee's factors and their interaction relationship. Among them, the comprehensive factors of entrepreneurial mentors have the biggest effect on the mentoring effect with a path coefficient of 0.760. The interaction relationship between the mentor and the mentee also has a significant positive effect on the entrepreneurial mentoring effect with a path coefficient of 0.572. Whereas the mentee's factors effect on the mentoring effect is relatively small at 0.389. In addition, the result shows that the mentor's factors and the mentee's factors have a significantly positive effect on their interactive

relationship, with 0.564 and 0.233 of path coefficient respectively.

Therefore, the key to improving the effect of entrepreneurial mentoring is to promote the comprehensive conditions of the entrepreneurial mentor, which include mentor's quality, mentoring ability, and mentoring intention. From the observation model (see Fig 2), the mentor's mentoring intention is the most important among the above three factors. According to the factor analysis (see Table □), the mean level of the mentors' mentoring intention is lowest, only 4.036. This implies that the young entrepreneurs do think highly of the mentors' trait and mentoring ability, but they feel that the mentor's intention to offer mentoring service is not equally strong although it is of critical importance in improving the effect of entrepreneurial mentoring. Therefore, it is necessary to promote the mentor's mentoring intention (Inc. active care, personal demonstration, responsibility).

The mentee's factors, including their trait, learning intention and absorption capability, also have a significant positive effect on the mentoring interaction and its effect. Specifically, the explanation values of the latter two factors are relatively large, at the levels of 0.78 and 0.79. The factor analysis shows that the means of the mentee's trait, learning intention and absorption capability are 4.228, 3.962, and 3.857 respectively, indicating that improving the mentee's learning intention and capability is most needed to enhance the efficacy of entrepreneurial mentoring.

Moreover, the coupling interaction of the mentor and the mentee has a significant positive influence on the mentoring effect. The interaction is measured by the matching degree, the efficiency of communication and the intimate relations, with the explanation values at 0.69, 0.70 and 0.66 in the observation model. This shows that their impacts on the latent variable are similar. However, from the mean value of factor analysis, the means of communication efficiency, intimacy degree and matching degree are 4.132, 4.068, 3.291 respectively, suggesting that the matching degree in the mentor-mentee relationship is relatively poor and needs to be improved.

Implication

The findings of this paper have some implications. First, the Chinese entrepreneurs

have great expectation in the mentoring system. However, the entrepreneurship mentoring system did not played an effective role sufficiently due to two reasons. One is that there is substantial heterogeneity within the mentor group, as mentors have great difference in their mentoring capabilities and experience, which leads to the variation of the young entrepreneurs' satisfaction for mentoring quality. And the other is that the mentoring system is largely organized by the government or government-authorized agencies, many mentors are not actively participating in the mentoring process, as indicated by the low mentoring intention.

In view of the fact that the mentor's mentoring intention is the most important factor influencing the mentoring effect, for entrepreneurship promotion or education institutions in China, in addition to building a high quality mentor group, it is more important to spur the mentoring enthusiasm of mentors. The organizations can use both spiritual (award or honorary certificate) and material (allowance or bonus reward) motivation to improve the mentors' participation, and to promote the efficiency of entrepreneurship mentoring.

Second, this paper finds that there is a "mentoring maladjustment" phenomenon in which the young entrepreneurs, who have never acquired entrepreneurship education or training, demonstrate a poor absorption capability and a weak learning intention. Therefore, selecting those who have a strong willingness and good capability to learn is very important due to limitation of resources. After selection of entrepreneurs, there is a need to cultivate their learning attitude and enhance their learning willingness through professional education and extended education.

Third, it is important to pair the mentors and the mentees wisely. This paper finds that high matching degree can effectively promote mentoring efficiency. However, for most of the entrepreneurship promotion and education institutions in China, the matching of mentor and mentee is usually inappropriate, without considering their personality, preferences and industry category and other factors. There is a great need to deal with the matching relationship seriously. In addition, various activities should be organized to deepen the interaction, improve the communication frequency and the intimacy degree between the mentor and the mentee. Also, it is strongly suggested

that an evaluation and feedback system should be formulated to monitor the interactive effect.

Finally, it is important to improve the entrepreneurial mentoring service system. The institutions should effectively play intermediary and management roles for enhancement of the entrepreneurial mentoring effect. The corresponding rules should be formulated to strengthen the management of the mentors and mentees. In addition, considering the fact that the limited capacity and resources of mentors and mentees, especially in western China, various resources of the government, market and society can be utilized to carry out various forms of entrepreneurial “teaching and learning”, for the improvement of entrepreneurial mentoring effect.

References

- Allen, T. D., Eby, L.T., Poteet, M. L., Lentz, E., Lima, and L. (2004) ,“Career benefits associated with mentoring for protegee: A meta-analysis”, *Journal of Applied Psychology*, Vol.89 No.1,pp. 127-135.
- Allen, T. D., Poteet, M. L., Russell, and J. E. (2000), “Protege selection by mentors: what makes the difference? ”, *Journal of Organizational Behavior*, Vol.21 No.3, pp. 271-282.
- Andrews, K.M., and Delahaye, B.L. (2000), “Influence on knowledge processes organizational learning: the psychosocial filter”, *Journal of Management Studies*, Vol.37, pp.797-810.
- Ann-Louise, H., Anne, B., and Inge, W. (2015), “Leadership in a changing world: developing managers through a teaching and learning programme”, *Management Decision*, Vol. 53No.5. pp. 1107 - 1124.
- Aryee, S., Chay, Y. W. and Chew, J. (1996), “The motivation to mentor among managerial employees: An interactive approach”, *Group & Organization Management*, Vol.21 No.3, pp. 261-277.
- Audet J. and Couteret P. (2012), “Coaching the entrepreneur: features and success factors”,