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Research on College Students' Entrepreneurial Team Heterogeneity under the Background of Entrepreneurship Education

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ABSTRACT
Entrepreneurial teams play a crucial role in the success of entrepreneurship. But how does the heterogeneity of entrepreneurial teams affect entrepreneurial team decision-making? The role of team communication in the middle has not yet been explored deeply. This paper takes the entrepreneurial team of college students in China as the research object, and empirically explores the relationship among Entrepreneurial Team Heterogeneity, Team Communication, and Entrepreneurial Decision-making. This paper finds: (1) Entrepreneurial team heterogeneity (internal and external heterogeneity) positively influences entrepreneurial decision-making; (2) Entrepreneurial team communication positively influences entrepreneurial decision-making; (3) Entrepreneurial team communication plays an intermediary role in entrepreneurial team heterogeneity (internal and external heterogeneity) and entrepreneurial decision-making process. At the same time, the conclusions of this study have brought us useful practical inspiration: Although all members of the entrepreneurial team had certain differences in gender, age, education and other aspects, and their views on the same issue also had certain differences, the team members were closely related to each other as a whole. In order to enhance mutual understanding of the team members and to promote consensus among them, team members must often communicate. Frequent and effective team communication develops entrepreneurial decision-making. Therefore, members of the entrepreneurial team should communicate in a variety of ways to guide them adequately and effectively.

Keywords: entrepreneurial team heterogeneity, team communication, entrepreneurial decision-making

INTRODUCTION

In the competition environment and Internet economy, "entrepreneurship" has been unable to adapt to new challenges and demands. "Team entrepreneurship" gradually replaced the "individual entrepreneurship" and has

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State of the literature

- China has preferential policies and encouragement for college students to start their own businesses. However, the research on the entrepreneurial team, especially about the relationship between entrepreneurial team heterogeneity and entrepreneurial decision-making still lacks systematic theoretical and empirical analysis.
- Some existing studies have mainly analyzed the relationship between entrepreneurial team heterogeneity and entrepreneurial performance, but the conclusions are also quite different. Some scholars point out that entrepreneurial team heterogeneity forms complementary advantages, so that start-ups have more advantages in competition, and the performance is more obvious. However, there is also another point of view. Some scholars point out that this heterogeneity cannot directly be translated into the competitiveness of enterprises, and this heterogeneity needs to be realized by means of other conditions.
- How does the entrepreneurial team heterogeneity affect the decision-making of the entrepreneurial team, and how the team communication plays an important role in the middle, become problems that need to be solved urgently.

Contribution of this paper to the literature

- Entrepreneurial teams play a crucial role in the success of entrepreneurship. But how does the heterogeneity of entrepreneurial teams affect entrepreneurial team decision-making? The role of team communication in the middle has not yet been explored deeply. This paper takes the entrepreneurial team of college students in China as the research object, and empirically explores the relationship among Entrepreneurial Team Heterogeneity, Team Communication, and Entrepreneurial Decision-making.
- Although all members of the entrepreneurial team had certain differences in gender, age, education and other aspects, and their views on the same issue also had certain differences, team members were closely related to each other as a whole. In order to enhance mutual understanding of the team members and to promote consensus among them, team members must often communicate. Frequent and effective team communication develops entrepreneurial decision-making.

become the mainstream. The research of related scholars also shows that team entrepreneurship has higher success rate and better entrepreneurial performance than individual entrepreneurship (Francis & Sanberg, 2000; Hormiga, Hancock & Jaría, 2017; Cao & Jiang, 2017). Some scholars point out that the entrepreneurial team in the start-up stage is critical to the success of many of the existing excellent enterprises, and the formation of the entrepreneurial team is not just a simple process of personnel stacking (Keerativutisest, & Hanson, 2016; Dufays & Huybrechts, 2017). Ensley & Hmieleski further emphasize whether it can guarantee strong cohesion and better stability among the members of the entrepreneurial team, which is the key to the success of the business (Ensley & Hmieleski, 2005).

Entrepreneurial team is a special team composed of many different individuals, and the diversity of team members may influence strategic decisions of the entrepreneurial team in varying degrees (Khan, 2017; Forsström-Tuominen, Jussila & Goel, 2017). At present, China has preferential policies and encouragement for college students to start their own businesses (Jiang, Xiong & Cao, 2017). However, the research on the entrepreneurial team, especially about the relationship between entrepreneurial team heterogeneity and entrepreneurial decision-making still lacks systematic theoretical and empirical analysis. Some existing studies have mainly analyzed the relationship between entrepreneurial team heterogeneity and entrepreneurial performance, but the conclusions are also quite different. Timmons has investigated several companies and found that the advantages of team entrepreneurship are more prominent. The reason is that different backgrounds, experiences and skills of team members make human capital show heterogeneity. This heterogeneity also forms complementary advantages, so that start-ups have more advantages in competition, and the performance is more obvious. However, there is also another point of view. Pelled believes that this heterogeneity cannot directly be translated into the competitiveness of enterprises, and this heterogeneity needs to be realized by means of other conditions (Pelled, 1996). This implementation mechanism is still a "black box". If we fail to reveal the specific content of the "black box", we may conclude that heterogeneity leads to misunderstanding and conflict among team members, and ultimately reduces entrepreneurial performance. In addition, the entrepreneurship education of college students' entrepreneurial team also challenges the future development and education of university teachers (Cao, Kurbanova & Salikhova, 2017).

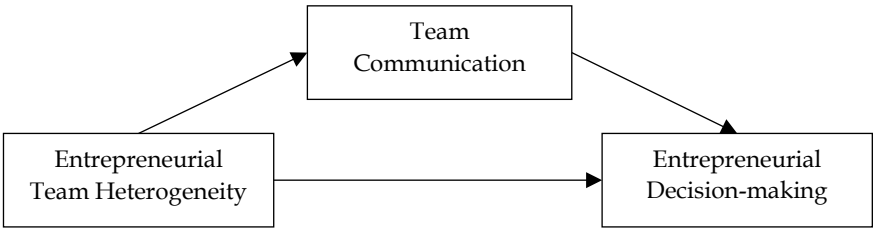

Figure 1. Framework diagram of this study

With the increase of college students' entrepreneurial teams, graduate students have joined the entrepreneurial team (Cao, Kirilova & Grunis, 2017). This research is of great significance for the effective development of college students' entrepreneurship education in China.

Therefore, how does the entrepreneurial team heterogeneity affect decision- making of the entrepreneurial team, and how the team communication plays an important role in the middle, become problems that need to be solved urgently. The author tries to answer these questions in an empirical way. In fact, the effective answers to this series of questions can provide not only a reference for college students with entrepreneurial intention, but also helps the entrepreneurs who have already started their practice and want to improve the efficiency of team entrepreneurship. Based on this, this paper studies the relationship between entrepreneurial team heterogeneity, team communication, and team decision, and to clarify its mechanism, promote the theory of entrepreneurship education. The specific research framework is shown in **Figure 1**.

THEORETICAL BASIS AND RESEARCH HYPOTHESIS

Entrepreneurial Team Heterogeneity and Entrepreneurial Decision-Making

Team heterogeneity generally refers to the difference between the team members' demographic characteristics and important concepts, values and other aspects of their experience (Dufays & Huybrechts, 2016). For entrepreneurial teams, specific attributes such as gender, age, race, education, and entrepreneurial experience are easily observed. Attributes such as cognition, values, preferences, attitudes, and entrepreneurial commitment are not easily observed. Because of the rich connotation of team heterogeneity, scholars have classified the heterogeneity of teams from different perspectives to facilitate research, such as social category heterogeneity, information heterogeneity, and value heterogeneity. Pelled divides team heterogeneity into low work related (gender, age) and high work related heterogeneity (such as education level, tenure, etc.) according to the relationship between individual characteristics and team tasks. Hambrick et al. suggest relational orientation heterogeneity (Relations-Related), including gender, age, ethnicity, etc. within the team members (Hambrick, Cho & Chen, 1996). Ensley et al. propose task oriented heterogeneity (Task-Related) based on work related perspectives, including cultural values, knowledge and skills, hours of work, etc. (Ensley, Carland, & Carland, 1998). Summarizing relevant literature, Jehn et al. argue that age heterogeneity, educational background heterogeneity, functional background heterogeneity (empirical heterogeneity) and value heterogeneity can cover these two levels (Jehn, Northcraft & Neale, 1999).

The research shows that heterogeneous teams are more likely to generate new ideas and concepts and promote team innovation because they have different perspectives and have more knowledge. Many studies have verified this relationship. Eisenhardt and Schoonhoven suggest that entrepreneurial teams with greater skill differentiation can better influence performance of new ventures than teams with similar skills (Eisenhardt & Schoonhoven, 1990). Some scholars point out that heterogeneous teams can provide more technical knowledge and information combination for new ventures. This leads to the improvement of entrepreneurial performance. Cultural differences among team members contribute to innovative ideas of entrepreneurial teams. On the other hand, heterogeneity leads to increased team coordination costs and integration costs, while team members' differences

are also more likely to lead to conflicts, which can also hamper innovation. He analyzed the relationship between entrepreneurial team heterogeneity and entrepreneurial performance.

However, more studies have shown that differences in age and values among entrepreneurial teams create an open, comprehensive exchange and discussion environment that allows members to communicate more sparks and ideas. It also avoids the dependence and limited rationality of entrepreneurial decisions on individuals. The heterogeneity of education and function background can complement each other among team members. It also helps the team members to find their lack of ability, improve their learning awareness, enhance their learning ability, and create an atmosphere of organizational learning within the start-up enterprise. It also helps innovation and enhances performance.

Based on the above analysis, the following hypotheses are inferred:

H1: Entrepreneurial team heterogeneity has a significant positive effect on entrepreneurial decision-making.

H1a: The internal heterogeneity of entrepreneurial team has a significant positive effect on entrepreneurial decision-making.

H1b: The external heterogeneity of entrepreneurial team has a significant positive effect on entrepreneurial decision-making.

Team Communication and Entrepreneurial Decision-Making

Communication is critical to an entrepreneurial team. In the process of college students' entrepreneurship, any stage activities cannot be separated from the cooperation between team members, while good communication is the prerequisite to ensure cooperation. In the process of team strategic decision-making, team members evaluate each team's environment and resources, depending on its own knowledge, experience, and information. Since team members are different in knowledge, experience and acquired information, each member analyzes entrepreneurial strategy from a different perspective. If there is a lack of effective communication, team members would be unable to communicate adequately with entrepreneurial decisions. This may lead members to failure in reaching a consensus on the strategy of entrepreneurship, may further lead the whole team to not being well aware of the risks and opportunities faced in the process of entrepreneurship.

A great deal of research has been done to validate the relationship between team interaction and team innovation performance. Ancona points out that the relationship between the team as a whole and the external environment, and the quality of interaction among members of the team, is crucial for the team to accomplish its tasks successfully and achieve good results (Ancona, 1990). Therefore, controlling and managing the interaction process among members of the team plays a very important role in improving team performance. Tewart & Barrick point out that the most important factor influencing team performance is team process, and the core of team process is interaction behavior among team members (Stewart & Barrick, 2000). Lechler studied 159 entrepreneurial teams in the high-tech field. Through empirical research, it is pointed out that the dimensions of social interaction of team members have significant positive correlation with each index dimension of entrepreneurial performance (Lechler, 2001). As a result, in the process of entrepreneurial decision-making, good communication between team members will also allow team members to fully communicate their opinions. Discussing entrepreneurial decisions from various angles will help smooth the development of entrepreneurial decision-making process, improve the quality of decision-making, and enhance the recognition of decision-making.

The following assumptions are made.

H2: Entrepreneurial team communication has a significant positive effect on entrepreneurial decision-making.

The Mediating Role of Team Communication in Entrepreneurial Team Heterogeneity and Entrepreneurial Decision-making

Differences in team members' knowledge, skills, experience, and values increase the need for team members to communicate with each other. Hoffman & Maier pointed out in the research of top management teams that there are some differences among team members on their special level, which leads to some differences in their cognition of things (Hoffman & Maier, 1961). As a whole, these differences allow teams to obtain information gathered by their members from different sources and different views of team members on related issues. These enrich the knowledge-base of the team as a whole, and guide the members of the team to discuss the related issues actively and in depth, and analyze the opportunities, threats, advantages and disadvantages of the internal and external environment. Team communication emphasizes the exchange of information, feelings, and knowledge and experience among team members. It is an exchange of ideas, opinions, and facts. Environmental factors and structural factors will have a great influence on the smoothness and effectiveness of team communication (Gundry, Ofstein & Monllor, 2016). At the same time, members' personal factors will also affect the efficiency and quality of team communication to a great extent. In the process of team communication, different attitudes and opinions of different members will influence the effective communication among team members. In the process of making strategic decisions in an entrepreneurial team, frequent and smooth team communication will help team members communicate adequately about the risks faced by the team in the process of entrepreneurship. By integrating the opinions and insights of different team members, the team will be able to conduct a comprehensive analysis of its internal and external environment and make optimal strategic decisions (Hormiga Pérez, Hancock & Jaría Chacón, 2017).

The following assumptions are made.

H3: Entrepreneurial team communication plays an intermediary role between entrepreneurial team heterogeneity and entrepreneurial decision-making

H3a: Entrepreneurial team communication plays an intermediary role between entrepreneurial team internal heterogeneity and entrepreneurial decision-making

H3b: Entrepreneurial team communication plays an intermediary role between entrepreneurial team external heterogeneity and entrepreneurial decision-making

EVALUATED MEASUREMENTS

Data Collection

On the basis of literature study and interview, this paper designed the preliminary results. In order to check whether the item meaning is clear and accurate, the authors conducted a small-scale sample test. According to test results, the questionnaire was revised many times. This paper ultimately determines the measurement items of the questionnaire.

The author investigated through field questionnaires, e-mail questionnaires and so on. The subjects of the questionnaire are mainly college students, and entrepreneurial team members. The questionnaire used 5 subscales, of which 1 indicated complete non-consent; 2 indicated non-agreement; 3 indicated neutrality; 4 indicated agreement; 5 indicated complete agreement. The author sent 250 questionnaires to 50 universities and collected 223 copies, with a recovery rate of 89.2%. Among them, 183 were valid, and the effective rate was 82.06%.

Reliability and Validity

In this paper, SPSS data analysis software is used to test the reliability and validity of each variable measurement scale. In the empirical study, the internal consistency reliability is the most commonly used reliability test, while the Cronbach's alpha coefficient is the most commonly used measure in the internal consistency

Table 1. Results of reliability and validity (n=183)

Variable	Item	Cronbach's alpha	KMO	Bartlett sphere test Sig	Factor loading	
Entrepreneurial Team Heterogeneity	ETH1	0.790	0.806	0.000	0.463	0.746
	ETH2				0.481	0.746
	ETH3				0.503	0.741
	ETH4				0.437	0.561
	ETH5				0.782	-0.389
	ETH6				0.745	-0.524
	ETH7				0.799	-0.427
	ETH8				0.771	-0.372
Team Communication	TC1	0.830	0.795	0.000	0.707	
	TC2				0.715	
	TC3				0.796	
	TC4				0.787	
	TC5				0.849	
Entrepreneurial Decision	ED1	0.792	0.786	0.000	0.792	
	ED2				0.819	
	ED3				0.717	
	ED4				0.813	

reliability test. Generally speaking, if the Cronbach's alpha coefficient is greater than 0.7, then it is considered to be an ideal level of reliability.

In this study, the measurement scales of each variable are revised on the basis of drawing on the mature scale of scholars both at home and abroad. Therefore, it can be considered that the content validity of the variables used in this paper is acceptable. For the test of construct validity, the KMO value measure, Bartlett sphericity test and factor load are used to measure the construct validity. The KMO value is used to determine the correlation between the items in the scale. The main purpose of the Bartleet sphericity test is to analyze whether or not there is a high degree of correlation between scale items. In general, the KMO value should be greater than 0.7, while the Bartlett sphericity test should be below the significant level of 0.01 or 0.05. At the same time, the factor load value of each item usually requires more than 0.5.

In this study, the reliability and validity of the questionnaire were tested by using SPSS data analysis software, and the results are shown in **Table 1**. The Cronbach's alpha values of all variables in this study were above 0.7. It shows that the questionnaire has good reliability. The KMO values are all above 0.7, and the results of Bartlett sphericity test are all lower than 0.01. The factor loadings of each item in their corresponding common factors are all greater than 0.5, which means that the questionnaire also has good construct validity. Among them, the "ETH1" to "ETH4" items were extracted out of a factor, named "Entrepreneurial Team External Heterogeneity", "ETH5" to "ETH8" titles were extracted out of another factor, named "Entrepreneurial Team Internal Heterogeneity".

Descriptive Statistical Analysis of Variables

First, the mean and standard deviations of each variable are calculated. Then, the correlation between the variables is analyzed. The results are shown in **Table 2**. Among them, entrepreneurial team internal heterogeneity and team communication ($r = 0.24$, $P < 0.01$), entrepreneurial decision-making ($r = 0.21$, $P < 0.01$) showed a significant positive correlation. At the same time, entrepreneurial team external heterogeneity and team communication ($r = 0.30$, $P < 0.01$), entrepreneurial decision-making ($r = 0.20$, $P < 0.01$) showed significant positive correlation. There was a positive correlation between team communication and entrepreneurial decision-making ($r = 0.26$, $P < 0.01$). Additionally, the entrepreneurial team external heterogeneity and age ($r = 0.10$), gender ($r = 0.12$)

Table 2. The mean, variance and correlation of the major variables (n=183)

Variable	Mean	Standard deviation	1	2	3	4	5	6	7	8
1. Age	27.77	16.29	1.00							
2. Gender	0.38	0.49	0.11	1.00						
3. Major	2.02	0.78	0.02	0.07	1.00					
4. Degree	1.99	0.79	0.06	0.00	0.01	1.00				
5. Internal heterogeneity	3.41	0.71	0.01	0.06	0.10	0.11	1.00			
6. External heterogeneity	3.50	0.68	0.10	0.12	0.09	0.05	0.09	1.00		
7. Team communication	3.35	0.63	0.06	0.04	0.05	0.08	0.24**	0.30**	1.00	
8. Entrepreneurial decision-making	3.27	0.68	0.04	0.08	0.05	0.12	0.21**	0.20**	0.26**	1.00

Note: n = 183; ** p < 0.01 * p < 0.05
Sex: (0) Male, (1) female;
Major: (1) science, (2) Engineering, (3) Humanities and Social Sciences
Education: (1) Master's degree or above, (2) Undergraduate, (3) Junior and below

Table 3. Hypothesis test results (n=183)

	Team communication			Entrepreneurial decision-making			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Control variable							
Age	0.07	0.05	0.06	0.04	0.04	0.02	0.01
Gender	0.06	0.01	0.06	0.07	0.08	0.06	0.06
Major	0.05	0.06	0.05	0.04	0.04	0.06	0.05
Degree	0.08	0.01	0.08	0.11	0.12	0.13	0.13
Independent variable							
Internal heterogeneity		0.33**			0.20**		0.15*
External heterogeneity			0.24**			0.21**	0.18*
Mediator variable							
Team communication							0.17*
ΔR2	0.02	0.53	0.22	0.17	0.02	0.04	0.01
ΔF	0.69	6.18	7.31	3.30	5.86	7.78	2.52

Note: n = 183; ** p < 0.01, * p < 0.05

has a significant correlation; entrepreneurial team internal heterogeneity (r = 0.10) and professional education (r = 0.11) have significant correlation to some extent. It also verifies the differences and connotations between entrepreneurial team internal heterogeneity and team external heterogeneity.

Hypothesis Validation

Hypothesis 1 suggests that entrepreneurial team heterogeneity has a significant positive impact on entrepreneurial decision-making. To test this hypothesis, we first make entrepreneurial decision a dependent variable. Secondly, we add control variables (gender, age, profession, and educational background), and finally put independent variable (entrepreneurial team heterogeneity) into regression equation. The results of hierarchical regression are listed in **Table 3**. From **Table 3**, we can see that entrepreneurial team internal heterogeneity has a significant positive impact on entrepreneurial decision-making (M5, $\beta = 0.20$, $P < 0.01$). The entrepreneurial team external heterogeneity also has a significant positive impact on entrepreneurial decision-making (M6, $\beta = 0.21$, $P < 0.01$). As a result, H1, H1a, and H1b are supported by data.

Based on the analysis steps proposed by Baron and Kenny (1986), we use hierarchical regression to test the mediating role of entrepreneurial team communication in entrepreneurial team heterogeneity and entrepreneurial decision-making. The results of hierarchical regression are listed in **Table 3**.

Table 4. Mediating effects of entrepreneurial team heterogeneity, team communication and entrepreneurial decision-making

Serial number	Causal path relationship	c	a	b	c′
1	Internal heterogeneity → Entrepreneurial decision-making	0.20			
2	Internal heterogeneity → Team communication		0.33		
3	Internal heterogeneity → Team communication → Entrepreneurial decision-making			0.17	0.15
4	External heterogeneity → Entrepreneurial decision-making	0.21			
5	External heterogeneity → Team communication		0.24		
6	External heterogeneity → Team communication → Entrepreneurial decision-making			0.17	0.18

We can see **Table 3** that the entrepreneurial team internal heterogeneity has significant positive influence on entrepreneurial decision-making (M5, $\beta = 0.20$, $P < 0.01$). Entrepreneurial teams internal heterogeneity also has a significant impact on entrepreneurial team communication (M2, $\beta = 0.33$, $P < 0.01$), and H2 is supported. At the same time, entrepreneurial team communication has a significant positive impact on entrepreneurial decision-making (M7, $\beta = 0.17$, $P < 0.05$). In model 7, the coefficient of entrepreneurial team internal heterogeneity and entrepreneurial decision-making was 0.15, also has significant influence. Therefore, according to the judgment principle of Baron and Kenny, team communication has an intermediary effect between entrepreneurial team internal heterogeneity and entrepreneurial decision-making. Similarly, team communication also plays a mediating role between entrepreneurial team external heterogeneity and entrepreneurial decision-making. Thus, H3, H3a, and H3b are validated.

Next, we calculated the proportion of intermediary effects in the total effect as shown in **Table 4**.

Table 4 shows that the mediating effects of entrepreneurial team internal heterogeneity, team communication, and entrepreneurial decision-making ($c = 0.20$, $a = 0.33$, $b = 0.17$ and $c' = 0.15$) were significant. Therefore, team communication has partial mediating effect between the three variable. H3a is established, and the proportion of mediator effect and total effect is $ab/c = 0.33*0.17/0.20=0.28$.

Table 4 shows that the mediating effects of entrepreneurial team external heterogeneity, team communication, and entrepreneurial decision-making ($c = 0.21$, $a = 0.24$, $b = 0.17$ and $c' = 0.18$) were significant. Therefore, team communication has partial mediating effect between the three variable. H3b is established, and the proportion of mediator effect and total effect is $ab/c = 0.24*0.17/0.21=0.19$.

In conclusion, the mediating effect has been tested again. Through this test, the mediating effect of team communication on entrepreneurial team heterogeneity and entrepreneurial decision-making was clarified, and the results of the previous analysis were further strengthened.

Through the above empirical analysis, our theoretical hypothesis has been verified and supported. Entrepreneurial team heterogeneity (including team internal heterogeneity and external heterogeneity) and entrepreneurial team communication positively influence entrepreneurial decision-making. This is consistent with the conclusions of some scholars. The quality of entrepreneurial decision-making is closely related to the internal and external diversification of entrepreneurial teams. The difference of age, value, and educational background of an entrepreneurial team creates an open communication environment, which can stimulate the team's inspiration and awareness of innovation, and ensure the quality of entrepreneurial decision-making. Additionally, the entrepreneurial activities cannot be separated from the depth of communication, and the communication effect of the entrepreneurial team determines the entrepreneurial decision-making, which has also been fully reflected in this article. Finally, the results of the empirical study also show the relationship between entrepreneurial team heterogeneity, team communication and entrepreneurial decision-making, and clarify the internal mechanism between the three.

CONCLUSION AND RECOMMENDATION

This paper takes the entrepreneurial team of college students in China as the research object, and empirically explores the relationship among Entrepreneurial Team Heterogeneity, Team Communication, and Entrepreneurial Decision-making. This paper finds: (1) Entrepreneurial team heterogeneity (internal and external heterogeneity) positively influences entrepreneurial decision-making; (2) Entrepreneurial team communication positively influences entrepreneurial decision-making; (3) Entrepreneurial team communication plays an intermediary role in entrepreneurial team heterogeneity (internal and external heterogeneity) and entrepreneurial decision-making process. At the same time, the conclusions of this study have brought us useful practical inspiration: Although all members of the entrepreneurial team had certain differences in gender, age, education and other aspects, and their views on the same issue also had certain differences, the team members were closely related to each other as a whole. In order to enhance the mutual understanding of the team members and to promote consensus among them, team members must communicate often. Frequent and effective team communication develops entrepreneurial decision-making. Therefore, the members of the entrepreneurial team should communicate in a variety of ways to guide them adequately and effectively.

As an exploratory empirical research, there are still some limitations of this study: Firstly, this paper discusses the relationship and mechanism between entrepreneurial team heterogeneity, team communication, and business decisions, but other variables such as the influence of team conflict and team knowledge integration on entrepreneurial decision-making needs further study. Secondly, due to the limitation of time, energy and cost, the cross-sectional data used in this study cannot reflect the dynamics of entrepreneurial decision-making. As a result, further longitudinal tests can be made through follow-up studies in order to make the conclusions better.

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REFERENCES

Ancona, D. G. (1990). Outward bound: strategic for team survival in an organization. *Academy of Management Journal*, *33*(2), 334-365. doi:10.2307/256328

Cao, Y., & Jiang, H. (2017). An Empirical Study on the Quality of Entrepreneurship Education based on Performance Excellence Management. *Eurasia Journal of Mathematics, Science & Technology Education, 13*(8), 5663-5763. doi:10.12973/eurasia.2017.01020a

Cao, Y., Kirilova, G. I., & Grunis, M. L. (2017). Cooperative Research Projects of Master's Students (Education Programs) in the Open Informational Educational Environment. *Eurasia Journal of Mathematics, Science & Technology Education*, *13*(7), 2859-2868. doi:10.12973/eurasia.2017.00722a

Cao, Y., Kurbanova, A. T., & Salikhova, N. R. (2017). Development of Classification Thinking in Future Teachers: Technologies of Reflective Discussion. *Eurasia Journal of Mathematics, Science & Technology Education*, *13*(6), 1865-1879. doi:10.12973/ eurasia.2017.01205a

Dufays, F., & Huybrechts, B. (2016). Where do hybrids come from? Entrepreneurial team heterogeneity as an avenue for the emergence of hybrid organizations. *International Small Business Journal*, *34*(6), 777-796. doi:10.1177/0266242615585152

Dufays, F., & Huybrechts, B. (2017). Entrepreneurial teams in social entrepreneurship: When team heterogeneity facilitates organizational hybridity. *Research handbook on entrepreneurial teams: Theory and practice*, 273-287. doi:10.4337/9781784713263. 00021

Eisenhardt, K. M., & Schoonhoven, C. B. (1990). Organizational growth: Linking founding team, strategy, environment, and growth among US semiconductor ventures, 1978-1988. *Administrative science quarterly*, 504-529. doi:10.2307/2393315

Ensley, M. D., & Hmieleski, K. M. (2005). A comparative study of new venture top management team composition, dynamics and performance between university-based and independent start-ups. *Research policy*, *34*(7), 1091-1105. doi:10.1016/j.respol.2005.05.008

Ensley, M. D., Carland, J. W., & Carland, J. C. (1998). The effect of entrepreneurial team skill heterogeneity and functional diversity on new venture performance. *Journal of Business and Entrepreneurship*, *10*(1), 1-14.

Forsström-Tuominen, H., Jussila, I., & Goel, S. (2017). The Start of Team Start-Ups: Collective Dynamics of Initiation and Formation of Entrepreneurial Teams. *Journal of Enterprising Culture*, *25*(1), 31-66.

Francis, D. H., & Sandberg, W. R. (2000). Friendship within entrepreneurial teams and its association with team and venture performance. *Entrepreneurship: Theory and Practice*, *25*(2), 5-5.

Gundry, L. K., Ofstein, L. F., & Monllor, J. (2016). Entrepreneurial Team Creativity: Driving Innovation from Ideation to Implementation. *Journal of Enterprising Culture*, *24*(1), 55-77. doi:10.1142/S0218495816500035

Hambrick, D. C., Cho, T. S., & Chen, M. J. (1996). The influence of top management team heterogeneity on firms' competitive moves. *Administrative science quarterly*, 659-684. doi:10.2307/2393871

Hoffman, L. R., & Maier, N. R. (1961). Quality and acceptance of problem solutions by members of homogeneous and heterogeneous groups. *The Journal of Abnormal and Social Psychology*, *62*(2), 401. doi:10.1037/h0044025

Hormiga Pérez, E., Hancock, C., & Jaría Chacón, N. (2017). Going it Alone or Working as Part of a Team: The Impact of Human Capital on Entrepreneurial Decision Making. *Journal of Evolutionary Studies in Business*, *2*(1), 201-231.

Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why differences make a difference: A field study of diversity, conflict and performance in workgroups. *Administrative science quarterly*, *44*(4), 741-763.

Jiang, H., Xiong, W., & Cao, Y. (2017). Research on the Mechanism of Entrepreneurial Education Quality, Entrepreneurial Self-efficacy and Entrepreneurial Intention in Social Sciences, Engineering and Science Education. *Eurasia Journal of Mathematics, Science & Technology Education*, *13*(7), 3709-3721. doi:10.12973/eurasia.2017.00754a

Keerativutisest, V., & Hanson, B. (2016). Beyond the Task and Maintenance Functions in Groups: Developing External Functions in a High-performing Entrepreneurial Team in Thailand. *South Asian Journal of Business and Management Cases*, *5*(1), 30-42. doi:10.1177/2277977916634232

Khan, M. S. (2017). Entrepreneurial Team Troika: A Call on Integrative Research of Trust, Conflict and Diversity. *Journal on Innovation and Sustainability*, *8*(1), 18-31.

Lechler, T. (2001). Social interaction: A determinant of entrepreneurial team venture success. *Small Business Economics*, *16*(4), 263-278. doi:10.1007/978-3-322-81895-9_6

Pelled, L. H. (1996). Demographic diversity, conflict, and work group outcomes: An intervening process theory. *Organization science*, *7*(6), 615-631. doi:10.1287/orsc.7.6.615

Stewart, G. L., & Barrick, M. R. (2000). Team structure and performance: Assessing the mediating role of intrateam process and the moderating role of task type. *Academy of management Journal*, *43*(2), 135-148. doi:10.2307/1556372