



Multiple Paths in Promoting the Performance of Entrepreneurial Team under the Interaction of Team Heterogeneity and Autonomous Learning Based on Fuzzy-Set Qualitative Comparative Analysis

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Abstract

At present, the research on the performance management of the enterprise team is a hot topic among the scholars both at home and abroad. This paper explores the influence of the varied interactive effects between team heterogeneity, leadership style, autonomous learning and other variables on the performance of the entrepreneurial team, and proposes a new matching model of the factors relating to the performance improvement of the entrepreneurial team, and then attempts to reveal the mechanism for the performance improvement of the entrepreneurial team under the interaction of varied factors. On this basis, this paper takes the task performance and innovative performance of the entrepreneurial team as the dependent variables, and takes 63 entrepreneurial teams as the objects of research and then carries out an empirical verification through the Fuzzy-Set Qualitative Comparative Analysis. The results show that there is no single variable composition in the path of performance improvement of the entrepreneurial team and that the homogeneity of team values, and the heterogeneity of team gender and autonomous learning all contribute to the improvement of the task performance and the innovative performance of the entrepreneurial team. Moreover, the combination of different leadership styles and other variables is conducive to improving the performance of the entrepreneurial team, which also gives an explanation to the controversy about the impact of diversity of team leadership style on team performance in the existing research. The research conclusion of this paper greatly enriches and develops the performance manage-

ment theory of the entrepreneurial team, and also provides significant guidance for the practical activities of the entrepreneurial team.

Subject Areas

Entrepreneurship

Keywords

Team Heterogeneity, Autonomous Learning, Leadership Style, Entrepreneurial Team Performance, fsQCA

1. Introduction

From the perspective of China and the world at present, entrepreneurial activities have significantly advanced the technological change and business model innovation and enhanced the vitality and power of economic development [1]. In recent years, team entrepreneurship has become the popular option of the relevant researchers, while researchers have gradually shifted the focus of entrepreneurship research from single entrepreneurship research to team entrepreneurship research [2], especially the research on the relationship between the structure of the entrepreneurial team and the performance of entrepreneurial ventures, which has become a hot research field in recent years [3]. The success of the entrepreneurial team has resulted in tremendous economic benefits and posed a widespread social impact [4]. However, most of the enterprise practices tend to fail [5]. The attribute of the entrepreneurial team has become an important factor that affects the performance of entrepreneurial ventures [6], and thus the research on the mechanism of the influence of the entrepreneurial team on the performance of entrepreneurial ventures has aroused the interest of numerous scholars. Many of the existing studies are focused on the relationship between team leadership style, team learning, team heterogeneity and team performance [7] [8]. In the empirical research based on the linear causality, the correlation between single variable and dependent variable is explored, and the influence of multiple concurrency of multi-variable interaction on performance improvement of the entrepreneurial team is neglected, while the qualitative comparative analysis method (QCA) combines the advantages of quantitative research and case study, complements the deficiencies of the two methods, and provides new research ideas and methods for the study of the problems in the management of complex causality in terms of equivalence, asymmetry, concurrent causality and other fields [9]. In this paper, team leadership style, team autonomous learning, and team heterogeneity are regarded as explanatory variables and team performance is regarded as the explained variable to identify a variety of equivalent configuration schemes that affect the performance improvement of the entrepreneurial team and to analyze that the core variables and promotion path are of significant value for research.

2. Literature Review

2.1. Leadership Style and Team Performance

Leadership style is one of the important factors that affect team performance. Ouchi *et al.* (1975) classified leadership style into Laissez-faire leadership style, transformational leadership style and transactional leadership style and so forth [10] [11]. H.-D. Zhao *et al.* found that the servant leadership style was an insignificant positive correlation with team performance, and that the exchange of team members and leadership members plays a complete mediating effect in the relationship between leadership style and team performance [12]. J.-Y. Duan *et al.* found that the transformational leadership style was an insignificant positive correlation with team performance, and that the team voice climate played the mediating effect between the two [13]. J. Zhong *et al.* found that under the mediating effect and cross-level mediating effect of team knowledge sharing, and inclusive leadership style was an insignificant positive correlation with the innovative performance of employees and team performance [14].

2.2. Autonomous Learning and Team Performance

P. M. Senge first proposed the definition of corporate team learning, and set the team as the basic unit of organizational learning. G. -Q. Chen *et al.* found that the construction of the psychological atmosphere of team safety was of some help to improve the team learning ability and team performance [15]. J.-Y. Cai *et al.* found that the transactive memory system was an insignificant correlation with team reflexivity and team performance, in which team learning played a moderating effect between the two [16]. W.-Q. Zhang found that the goal orientation of team learning was insignificant positive correlation with the performance of R&D team, in which team reflexivity and team effort are the mediating variables of the two [17]. Based on a case study, B. Cui *et al.* found that team learning helps to team performance, and that team learning is in positive correlation with team efficacy [18].

2.3. Team Heterogeneity and Team Performance

Scholars have carried out a lot of research on the correlation between team member diversity and team performance, but the research results are not the same, and even there are opposite research views. Some scholars support the view that team heterogeneity can improve team performance, and another view holds that team heterogeneity may reduce team performance [19] [20]. As for the reasons for such opposite conclusions, on the one hand, it may be due to the different definitions of team heterogeneity by different researchers, while on the other hand, it may neglect the influence of latent mediating variables on the relationship between the two [21]. G. Zhang *et al.* found that the heterogeneity of the demographic characteristics contributes to the improvement of team performance, and that team heterogeneity in terms of professional background, educational background and professional experience can only help to improve

the team performance under the mediating effect of the transactive memory system [22]. Q.-G. Zheng Jianguo and W.-H. Ding found that the heterogeneity of social attributes can help to improve team performance under the mediating effect of relationship conflict and that the heterogeneity of team information can help to improve team performance under the mediation effect of task conflict, and that the value heterogeneity is insignificant negative correlation with team performance [23]. N. Li and B.-S. Ge found that there is no good or bad in the impact of the cognitive diversity of the entrepreneurial team on the performance of the entrepreneurial team, but the cognitive diversity of the team contributes to the knowledge sharing of the team, while the cognitive diversity of the entrepreneurial team exerts a negative impact on emotional support and knowledge sharing and emotional support play an intermediary effect [24].

2.4. Brief Review

The existing researches usually rely on IPO, CEM, IMOI, and other frameworks to carry out the relevant research on team performance and study the influence of the leadership style, team learning and team heterogeneity of the entrepreneurial team and other factors on team performance, which assumes and neglects the interaction among numerous variables. It can be seen from the research concluded that inclusive leadership, servant leadership, and transformational leadership tend to play a positive role in improving team performance on the premise that other variables play the mediating effect. Furthermore, team learning plays an active role in improving team performance under the influence of mediating variables, such as team reflexivity and learning atmosphere. However, there are some controversies and contradictions in the current research on the impact of team diversity on team performance. To sum up, it can be seen that it is of great research value to explore the path of performance improvement of the entrepreneurial team under the interaction of multiple variables, which will help to perfect the management theories on the performance of the entrepreneurial team and provide a new research perspective for the improvement of the performance of the entrepreneurial team.

3. Theoretical Model Building and Research Methods

3.1. Theoretical Model Building

The existing research framework of the performance of the entrepreneurial team mostly draws on the results of the team performance research, while innovative performance, task performance, and satisfaction and other variables are used to measure team performance, and the improvement of task performance is conducive to the survival of the entrepreneurial ventures [25]. Existing researches have found that it is no good or bad among leadership styles. Applying an appropriate leadership style can contribute more to the improvement of team performance based on the analysis of varied organizational environments and team composition. The entrepreneurial team is composed of individuals with different

attributes such as family environment, education level, and personality and belief. There are different conclusions on the influence of team gender heterogeneity on team performance. Some researchers have found that team gender heterogeneity harms team performance, while the reasons for the opposite research conclusions may be the difference in the distribution of gender samples [26] [27]. The autonomous learning of employees helps to enhance the competitiveness of enterprises, especially for small and medium-sized enterprises, the autonomous learning of employees plays a more significant role, while the autonomous learning and self-efficacy of team members show significant differences, both of which are affected by different factors [28] [29].

Innovative performance determines the core competitiveness and sustainable development of the entrepreneurial team. Taking into account the attributes of the entrepreneurial ventures, it is of greater practical significance to analyze the influence of the interaction among task leadership, employee-oriented leadership and other variables on team performance. In view of this, this paper chooses two important indicators of team heterogeneity, gender and value heterogeneity in the field of team heterogeneity as the index of the diversity of the entrepreneurial team, and tries to explore the path of performance improvement of the entrepreneurial team by analyzing the interaction between the diversity of the entrepreneurial team, team leadership style, team autonomous learning and other variables. The matching model of the factors on performance improvement of the entrepreneurial team is shown in **Figure 1**.

3.2. Research Methods

Based on Boolean algebra principle and set theory, Charles C. Ragin proposed the method of qualitative comparative analysis (QCA), which can be used to explore the mechanism of the influence of different combinations of factors on real complex social phenomena, while the approach integrates the advantages of traditional qualitative research and quantitative research, and constructs a path for the research on mixed orientation [30]. The qualitative comparative analysis

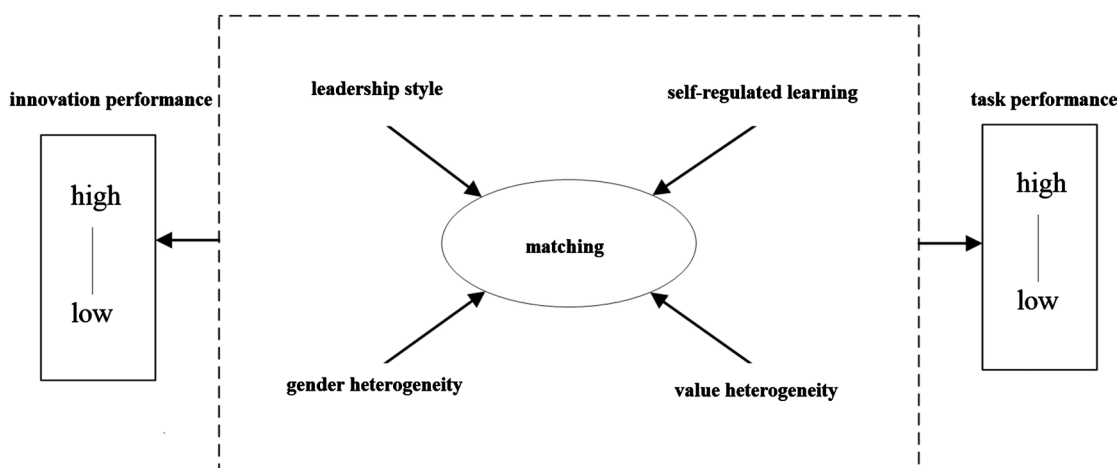


Figure 1. Entrepreneurial team performance improvement factor matching model.

method consists of the crisp-set qualitative comparative analysis (csQCA) and the fuzzy-set qualitative comparative analysis (fsQCA), among which the crisp-set qualitative comparative analysis adopts the binary variables with a value of 1 or 0, but the fuzzy-set qualitative comparative analysis adopts the variables which are valued at a real number between 0 and 1, or calibrated on the variables valued beyond the range of 0 to 1 through the calibration function so as to meet the computing demand of the software. The qualitative comparative analysis method aims to find out the relationship between the combination of variable elements and the result variable from the perspective of systematization and asymmetry, and it is more likely to find a comprehensive combination path for the result variables, thereby resolving the limitations of the hypothesis of the symmetry and independence of the cause variable and the result variable based on the correlation coefficient in the traditional research [31]. Given the advantages of fuzzy-set qualitative comparative analysis and the characteristics of the factors affecting the performance improvement of the entrepreneurial team, this paper adopts fsQCA to study the causal relationship between the configuration of the diversity, leadership style and autonomous learning of the entrepreneurial team with the team performance.

4. Variable Measurement and Data Processing

4.1. Variable Measurement

4.1.1. Gender Heterogeneity

The measurement of gender diversity is based on binary variables, where 1 represents male, and 0 represents female. In this paper, gender heterogeneity is calculated by Blau's index [32], as follows:

$$H = 1 - \sum_1^n p_i^2$$

In the formula, H represents the degree of heterogeneity, i represent the category of the variable, n represents the number of categories of the variable, and p_i represents the proportion of the number of a category to the total number. The value of H is between 0 and 1. The smaller the value of H is, the lower the degree of team heterogeneity will be, while the larger the value of H is, the higher the degree of team heterogeneity will be.

4.1.2. Value Heterogeneity

The diversity of the entrepreneurial team is likely to have a negative impact on the improvement of team communication and cohesion, while the education background, growth environment, social experience, and other factors lead to the disparity in the cognition of the company's business decisions and the value orientation of the members in the entrepreneurial team. In this paper, the author draws lessons from the scales of value heterogeneity research by K. A. Jehn *et al.* [33] and H. Zhang [34]. Related items mainly measure the similarity of the values among the team members, the similarity of work values, the belief in work tasks and the recognition of the consistency in team goals. There are 4 items in

total on the scale. The scale refers to the form of Likert's itemized attitude scale. In the scale, "1" stands for complete in-conformity, "2" stands for comparative in-conformity, "3" stands for uncertainty, "4" stands for comparative conformity, "5" stands for complete conformity. The scale is filled in by team members, and the heterogeneity of team values is represented by the average value of the scores of the measured items. The higher the score is, the higher the degree of value heterogeneity of the entrepreneurial team will be.

4.1.3. Leadership Style

R. Likert from the University of Michigan divides leadership style into two types: work-oriented leadership and employee-oriented leadership. Team leaders in the work-oriented leadership style attach more importance to the results and processes of teamwork, and they are mainly oriented at tasks, and set the work period, results and team performance as management objectives, while the leaders in the employee-oriented leadership style pay less attention to production and tasks, but more attention to the improvement of interpersonal relations in the team, and care about the needs and development of team members [35]. In this paper, the variable of team leadership style is set as an item on the scale, which requires team members to make objective choices on their own based on active discussion. In the scale, "1" represents the work-oriented leadership, and "2" represents the employee-oriented leadership. The average score of the work-oriented leadership selected by team members is set as a, and the average score of the employee-oriented leadership selected by team members is set as b. If a is greater than b, the variable of the team leadership style is valued at 0. Otherwise, the variable of the team leadership style is valued at 1.

4.1.4. Autonomous Learning Behavior

The SPQ (Study Process Questionnaire) Scale, developed by J. B. Biggs, has been adopted by several scholars in China [36]. Since the items of the autonomous learning behavior proposed in this scale has a high overlap rate, the autonomous learning scale in this paper is composed of six questions by referring to the design of autonomous learning scale [30] [37], from the perspectives of the willingness of autonomous learning, the attitude of autonomous learning, the capability of autonomous learning and the behavior of autonomous learning. Referring to the form of Likert's itemized attitude scale, the scale is filled in by team members, and the variable of the autonomous learning of team members is represented by the average value of the scores of the measured items. The larger the value is, the higher the degree of autonomous learning of team members will be.

4.1.5. Task Performance

The task performance scale mainly draws on the research of [38] [39], which is mainly carried out from the aspects of the achievement of task progress, the completion of objectives and the quality of task completion. With a total of 3 items, the scale is based on the form of Likert's itemized attitude scale. Moreover, the scale is filled in by team members, and the variable of the team task per-

formance is represented by the average value of the scores of the measured items. The larger the value is, the higher the degree of team task performance will be.

4.1.6. Innovative Performance

The innovative performance scale mainly draws on the scale adopted [40] [41], which is mainly carried out from the aspects of originality, novelty and innovative achievements of teamwork. With a total of 3 items, the scale is based on the form of Likert's itemized attitude scale. Moreover, the scale is filled in by team members, and the variable of innovative performance of team members is represented by the average value of the scores of the measured items. The larger the value is, the higher the degree of the innovative performance of team members will be.

4.2. Data Collection and Processing

4.2.1. Sample Selection

The sample data acquisition is based on four experiments by the virtual business environment simulation training platform. The virtual business social environment has strong competitiveness and challenge. The trainees compete by joining teams which represent different types of enterprise. This paper conducts a questionnaire survey (the measurement variables and items are shown on 4.1) within experiment trainees, with a total of 760 questionnaires from 67 teams collected. After screening, the invalid questionnaires were eliminated, and 685 valid questionnaires were finally obtained from a total of 63 teams, and the proportion of valid questionnaires accounted for 90.13% of the total questionnaires. In the samples, 33.72% were men, and 66.28% were women. Among the samples, there were 31 manufacturing organizations, 14 industrial and trade organizations and 18 commercial service enterprises.

4.2.2. Reliability and Validity Analysis

This paper used SPSS20.0 and AMOS for reliability analysis and confirmatory factor analysis, and the results are shown in **Table 1** and **Table 2**. Through the confirmatory factor analysis of the scale, the results showed that NC (χ^2/df) = 2.041, RMR = 0.021, GFI = 0.934, NGI = 0.952, RFI = 0.94, IFI = 0.975, TFI = 0.975, CFI = 0.975, RMSEA = 0.066, indicating that all of the above data met the reference conditions and that the model had a good fit.

Table 1. Summary of reliability and validity of the scale.

index	Actual value	Reference	index	Actual value	Reference
NC (χ^2/df)	2.041	1 < NC < 3	RFI	0.94	>0.9
RMR	0.021	<0.05	IFI	0.975	>0.9
GFI	0.934	>0.9	CFI	0.975	>0.9
RMSEA	0.066	<0.08	TLI	0.968	>0.9

Note: The data in the table is calculated by AMOS software.

Table 2. Summary of reliability and validity tests of the scale.

Variable name	Measured item	Standardized factor load	Cronbach's Alpha	CR	AVE
Value heterogeneity (HVAN)	My team members have similar values	0.933			
	My team members have similar values on work	0.953	0.935	0.9313	0.7733
	My team members share the same belief in the tasks	0.829			
	My team members have the same understanding of the objectives	0.792			
Autonomous learning behavior (LSEN)	I find that most of the new tasks fairly interesting and I often need to take extra effort to learn more about them	0.661			
	When a task process is returned or an error occurs, I will carefully check all the errors and try to understand why I made the error	0.719			
	I usually try to read all the materials and contents that is required by the teacher	0.8	0.86	0.8686	0.5268
	After the task is completed, I will read the relevant materials again, sort out the process and business relations to make sure I can understand them better	0.778			
	During the whole experiment, I worked hard and reviewed and summarized carefully after the work every day	0.778			
	I have been trying to finish all the work as soon as possible	0.597			
Task performance (PTAN)	During my work for the team, I am able to get my work done effectively	0.807			
	During my work for the team, I am competent for all kinds of tasks	0.864	0.886	0.8901	0.7299
	During my work for the team, I am able to accomplish all the tasks well	0.89			
Innovative performance (PINN)	Our team has made a number of innovative achievements	0.843			
	Our team always comes up with new ideas for solving problems	0.907	0.9	0.9022	0.7548
	Our team members often come up with novel ideas	0.855			

Notes: The data in the table is calculated through SPSS and AMOS.

In **Table 2**, the Cronbach's alpha coefficients of the four latent variables were between 0.86 and 0.935 (value heterogeneity is 0.935, autonomous learning behavior is 0.86, task performance is 0.886, innovative performance is 0.9), which all exceeded 0.8, indicating excellent reliability. The composite reliability (CR) was between 0.86 and 0.93, and the average variance extracted (AVE) was greater than 0.5, indicating that the scale had better convergence validity.

In **Table 2** and **Table 3**, we can find the AVE value of the four variables was greater than the correlation coefficient between the variables, indicating that the scale has good discrimination validity. For example, the AVE value of value heterogeneity is 0.7733 (**Table 2**), and its square root (0.8794, in **Table 3**) is greater than correlation coefficient with other three variables.

The data in **Table 3** is calculated by AMOS. The data on the diagonal is the AVE value's square root of all variables, and other data is the correlation coefficient between variables.

5. Analysis of Empirical Results

5.1. Correlation Analysis

Based on the sample data of 63 entrepreneurial teams, SPSS20.0 was used in this

paper to carry out correlation analysis of the variables involved in the paper, to determine the interaction and correlation between the variables in the system. The correlation between the six variables is shown in **Table 4**. Except for the weak significant correlation between gender variables and other variables, most of the other variables have a significant correlation with each other, which indicates that the influencing variables of team performance are not independent of each other. In this regard, fuzzy-set qualitative comparative analysis (fsQCA) can be adapted to study the path for performance improvement of the entrepreneurial team.

5.2. fsQCA

5.2.1. Data Calibration

Among the six variables studied in this paper, the leadership style (SEST) is 0 - 1 type variable, where 0 means that the style of the team leaders is work-oriented, and 1 means that the style of the team leaders is employee-oriented, while the other five variables are all calibrated by the method proposed by Ragin, of which 95% are used for full membership, 50% for fuzzy intersection point and 5% are used for non-membership [42]. According to the practice of Lee and Chen, the

Table 3. Analysis results of discriminate validity of team performance.

	value heterogeneity (HVAN)	autonomous learning behavior (LSEN)	task performance (PTAN)	innovative performance (PINN)
value heterogeneity (HVAN)	0.8794			
autonomous learning behavior (LSEN)	0.521	0.7258		
task performance (PTAN)	0.471	0.711	0.8543	
innovative performance (PINN)	0.477	0.565	0.754	0.9022

Table 4. Test table of correlation coefficients of variables.

	Gender heterogeneity (HGEN)	Value heterogeneity (HVAN)	Leadership style (SEST)	autonomous learning (LSEN)	Task performance (PTAN)	Innovative performance (PINN)
Gender heterogeneity (HGEN)	1					
Value heterogeneity (HVAN)	0.017 (0.896)	1				
Leadership style (SEST)	0.076 (0.552)	-0.047 (0.713)	1			
autonomous learning (LSEN)	0.082 (0.523)	-0.592** (0)	-0.125 (0.33)	1		
Task performance (PTAN)	0.152 (0.233)	-0.456** (0)	-0.087 (0.496)	0.685** (0)	1	
Innovative performance (PINN)	0.203 (0.111)	-0.536** (0)	0.056 (0.665)	0.567** (0)	0.671** (0)	1

Notes: The data in the table is calculated by means of SPSS, and the figure in the bracket represents the value of sig.; “***” represents that it is significantly correlated at the level of 0.5.

threshold value of non-full membership and the threshold value of full membership of the data calibrated are set as 5% and 95% of each variable, and the intersection point represents the average value of the variable [43]. In this paper, the description statistics module of SPSS is used to calculate the percentiles of variables, and the anchor point setting for data calibration of variables is completed as shown in **Table 5**, and the data calibration is carried out using the Calibrate module of QCA software [44]. After the data calibration, the truth table is constructed according to the influence of the interaction and combination of variables on the dependent variables. The number of acceptable cases is set as 1, and the consistency threshold is set to 0.8, so as to standardize the truth table.

5.2.2. Analysis of Task Performance

According to the calculation results of the path for the improvement of the task performance of the entrepreneurial team based on the fsQCA software, there are four paths for the improvement of the task performance of the entrepreneurial team, including C1, C2, C3, and C4, as shown in **Table 6**. In the table, ● or ⊗ represents the core condition, ● or ⊗ represents the auxiliary condition. The

Table 5. Anchor setting for data calibration of variables.

Anchor variable	Threshold value of full membership	Threshold value of intersection	Threshold value of non-membership
Gender heterogeneity (HGEN)	0.5	0.3705	0
Value heterogeneity (HVAN)	2.622	1.8949	1.316
autonomous learning behavior (LSEN)	4.428	4.1417	3.83
Task performance (PTAN)	4.658	4.1924	3.67
Innovative performance (PINN)	4.436	3.9827	3.298

Note: the data in the **Table 5** is calculated by fsqca software.

Table 6. Results of the condition combination of task performance.

	Increase of task performance (PTAN)			
	C1	C2	C3	C4
Gender heterogeneity (HGEN)			●	●
Value heterogeneity (HVAN)	⊗			⊗
Leadership style (SEST)		⊗		⊗
autonomous learning (LSEN)	●	●	●	
Consistency	0.721	0.4389	0.5914	0.2724
Raw coverage	0.09	0.0565	0.0334	0.0137
Unique coverage)	0.887	0.8178	0.9325	0.9447
Solution coverage)			0.85	
Solution consistency			0.8442	

Note: The data in **Table 6** is calculated by fsqca software.

solution coverage of the path for the improvement of task performance of the entrepreneurial team exceeded 0.85, and the solution consistency exceeded 0.84.

Based on the analysis of the path for the improvement of task performance of the entrepreneurial team, it is found that the single variable is unable to realize the improvement of task performance of the entrepreneurial team, but in the path of the variable combinations, C1 (~ HVAN*LSEN), C2 (~ SEST * LSEN) and C3 (HGEN * LSEN) have the same core variable of LSEN, C4 (~SEST * HGEN * ~HVAN has a core variable of ~SEST* ~HVAN, where the consistency coefficients of the paths C1, C2, and C3 were 0.721, 0.4389 and 0.5914, respectively, and the consistency coefficient of the path C4 was 0.2724, reflecting that autonomous learning is of great significance to improve the task performance of the team.

5.2.3. Analysis of Innovative Performance

Based on the analysis of the path for the improvement of the innovative performance of the entrepreneurial team, it is found that there are five paths for the improvement of the innovative performance of the entrepreneurial team, including M1, M2, M3, M4, and M5, as shown in Table 7. In the table, ● or ⊗ represents the core condition, ● or ⊗ represents the auxiliary condition. The solution coverage of the path for the improvement of the innovative performance of the entrepreneurial team exceeded 0.8335, and the solution consistency exceeded 0.7967.

Based on the analysis of the path for the improvement of innovative performance of the entrepreneurial team, it is found that the single variable is unable to realize the improvement of innovative performance of the entrepreneurial team, but in the path of the variable combinations, M1 (SEST * ~HVAN), M2 (HGEN * ~HVAN) and M3 (~HVAN * LSEN) have the same core variable of ~HVAN, M4 (SEST * HGEN) has a core variable of SEST*HGEN, and M5

Table 7. Configuration table of analysis conditions for innovative performance.

Increase in innovative performance (PINN)					
	M1	M2	M3	M4	M5
Gender heterogeneity (HGEN)		●		●	●
Value heterogeneity (HVAN)	⊗	⊗	⊗		
Leadership style (SEST)	●			●	
autonomous learning (LSEN)			●		●
Consistency	0.4239	0.5447	0.6671	0.3693	0.5293
Raw coverage	0.0305	0.011	0.1069	0.0241	0.0174
Unique coverage)	0.7929	0.8799	0.8824	0.8542	0.8975
Solution coverage)			0.8335		
Solution consistency			0.7967		

Note: The data in the Table 7 is calculated by fsqca software.

(HGEN * LSEN) has a core variable of HGEN * LSEN, where the consistency coefficients of the paths M1, M2 and M3 were 0.4239, 0.5447 and 0.6671, respectively, and the consistency coefficient of the path M4 was 0.3693, and the consistency coefficient of the path M5 was 0.3693, reflecting that value homogeneity is of great significance to improve the task performance of the team.

5.2.4. Comparative Analysis of the Path for Performance Improvement of the Entrepreneurial Team

The improvement of task performance and innovative performance plays an important role in the development and core competitiveness of the entrepreneurial team, and there are four paths for the improvement of task performance of the entrepreneurial team and five paths for the improvement of innovative performance of the entrepreneurial team, it can be seen in **Figure 2**. Among which the two paths of “~value homogeneity * autonomous learning” and “gender heterogeneity * autonomous learning” can improve the task performance and innovative performance of the entrepreneurial team simultaneously. Therefore, in the construction of the entrepreneurial team, the focus may be laid on the autonomous learning, value homogeneity, gender heterogeneity, and other factors, which will contribute to the growth and sustainable development of the entrepreneurial ventures.

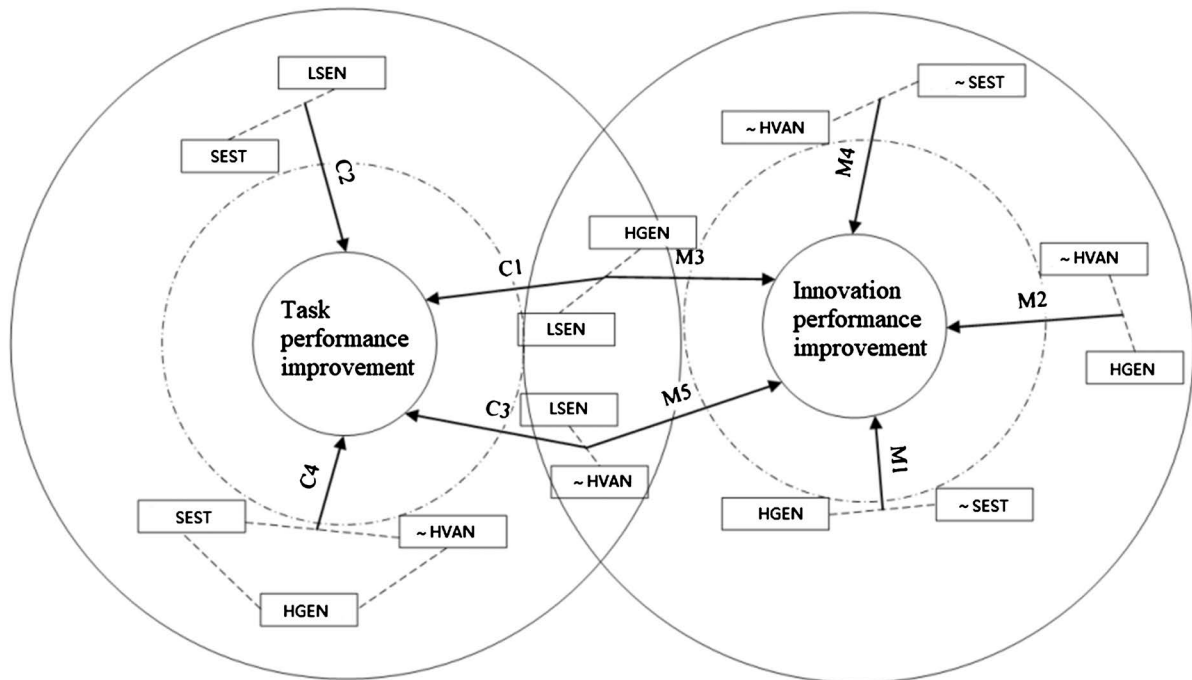


Figure 2. Entrepreneurial team performance improvement path combination.

6. Conclusions

Based on team theory, construction theory and performance theory, this paper takes the entrepreneurial team as the object of research, and adopts the fuzzy-set qualitative comparative analysis (fsQCA) to study the causal relationship

between the interaction and matching of team heterogeneity, team autonomous learning, leadership style and other factors with the improvement of team performance. The results show that there are four paths for the improvement of task performance of the entrepreneurial team, including: firstly, the team values are homogeneous and the team is autonomous learning; secondly, the team leadership type is employee-oriented and the team is autonomous learning; thirdly, the gender of team is heterogeneous and the team is autonomous learning; fourthly, the team leadership type is employee-oriented, the team values are homogeneous and the gender of team is heterogeneous, among which the autonomous learning is the core variable in three paths, which respond to the importance of existing research conclusions of learning organization. Moreover, among the four paths for the improvement of task performance of the entrepreneurial team, there is no path composed of single variables, which highlights the difference between the configuration thinking adopted in this paper and the traditional empirical research of task performance, and is conducive to enhancing the team performance genes at the time of building the entrepreneurial team. There are five paths for the improvement of innovative performance of the entrepreneurial team, including: firstly, the team leadership type is task-oriented and the team values are homogeneous; secondly, the gender of team is heterogeneous and the team values are heterogeneous; thirdly, the team values are homogeneous and the team is autonomous learning; fourthly, the team leadership type is employee-oriented and the gender of team is heterogeneous; fifthly, the team leadership type is task-oriented, the gender of team is heterogeneous and the team is autonomous learning, among which the core variable of three paths is value homogeneity. Furthermore, it can be seen that value homogeneity is of great significance to improve the innovative performance of the entrepreneurial team, which also responds to the truth that “Triumph Comes When Leaders and Followers Share the Same Goal”. The combination of task leadership and value heterogeneity and the combination of employee-oriented leadership and gender heterogeneity can improve the innovative performance of the entrepreneurial team. Moreover, it can be seen that there is no good or bad between the leadership styles of the team, which also coincides with the existing research on leadership theory. The improvement of task performance and the improvement of innovative performance are of equal importance to the entrepreneurial team. Through data analysis, it is found that there are two identical paths for the improvement of the task performance of the entrepreneurial team and the improvement of the innovative performance of the entrepreneurial team, that are: firstly, the team values are homogeneous and the team is autonomous learning; secondly, the gender of team is heterogeneous and the team is autonomous learning. These two paths provide an important reference for the building and perfection of the entrepreneurial team. Thus, the overall performance of the team can be advanced by building autonomous learning organizations and the teams with similar values and gender heterogeneity. So the organization needs to

establish a corporate culture of autonomous learning and strengthen it through training, recruit employees with the same value, and build task teams with gender heterogeneity.

This paper used experimental method to build a virtual commercial social environment for data collection. So there are some deficiencies which will fix up in further researches. First, the experiment focuses on the start-up stage of entrepreneurial team, and does not concern the post start-up period. Second, the participants in the experiment are the fourth-grade management college students which have little heterogeneous, and most of them do not have the entrepreneurial experience. Expanding sample range will be the further research goals. Third, this research uses the team member's subjective feeling to measure the entrepreneurial team's performance. The further research should adopt the public entrepreneurship to examine the consistence of research.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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