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Research on the Relationship between Shared Leadership and Individual Creativity—Qualitative Comparative Analysis on the Basis of Clear Set

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Abstract: Creativity is the key to obtaining and maintaining competitiveness of modern organizations, and it has attracted much attention from academic circles and management practices. Shared leadership is believed to effectively influence team output. However, research on the impact of individual creativity is still in its infancy. This study adopts the qualitative comparative analysis method, taking 1584 individuals as the research objects, underpinned by a questionnaire-based survey. It investigates the influence of the team's shared leadership network elements and organizational environmental factors on the individual creativity. We have found that there are six combination of conditions of shared leadership and organizational environmental factors constituting sufficient combination of conditions to increase or decrease individual creativity. Moreover, we have noticed that the low network density of shared leadership is a sufficient and necessary condition of reducing individual creativity. Our results also provide management suggestions for practical activities during the team management.

Keywords: shared leadership; individual creativity; organizational environmental factors; csQCA



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1. Introduction

In the era of globalization, innovation becomes the cornerstone for organizations to seize and grasp opportunities, and teams play an important and innovative role in organizations due to the faster, more flexible and stronger information processing capability [1]. The improvement of individual creativity of team members is crucial for the team to realize innovative practice and the organization to gain competitive advantages and maintain sustainable development. Therefore, the issue of individual creativity improvement has drawn the attention of the academic circle and management practitioners [2]. The individual creativity of team members is defined as a related process in which group members develop novel and useful ideas in work [3]. Team leadership is the key to the sustainable development of the team and an important factor affecting individual creativity in the team [4]. Recent research on leadership science finds that traditional vertical leadership exposes various disadvantages in team work during the fulfilment of innovative work [5], while decentralized leadership enables individuals with key information knowledge or outstanding abilities to play their strengths in innovation, and better accomplish innovative activities in the era full of changes and ambiguities [6]. The leadership pattern with horizontal influence on team members is defined as shared leadership. In practice, shared leadership is now being applied by more and more teams, as a new management mode, for instance, Huawei's team rotary management mode, which has already paid attention to and adopted the horizontal collective leadership pattern.

At present, research on shared leadership and individual creativity is still in the initial stage. Compared to traditional vertical leadership, shared leadership has a more complicated operation process. Theoretical analysis regarding the impact of shared leadership

on individual creativity is still insufficient. Currently, research on the impact of shared leadership on individual creativity mostly focuses on multiple regression analysis (paying attention to the independent net effect of shared leadership), but ignores the impact of interactions between leadership and other factors on individual creativity [7]. Innovative activities can be deemed as a complicated system, of which the system thought believes that innovation output relies on the interactions between various factors, as the result of multiple concurrent factors. The production of creativity is a complicated process of interactions that may be impacted by various factors, and it needs to consider the output of creativity under the impact of various factors. Meanwhile, scholars have proposed that reasons for differences in the creativity of individuals lie in the impact of leadership and other internal factors, as well as the subtle impact of organizational environmental factors on team members [8]. Moreover, there is a high correlation between team leaders and organizational environmental factors that may co-impact the individual creativity [9]. Therefore, it is necessary to look into the way how the output of individual creativity is impacted under the interactions between shared leadership and organizational environmental factors.

This study aims to reveal shared leadership and organizational environmental factors, a variety of complex factors working together, and the impact on the team in individual creativity. Through the research on the configuration matching between shared leadership and organizational environmental factors, the combination of individual creativity elements that can be promoted or replaced are identified, reveals the impact mechanism of shared leadership on individual creativity, provides new thoughts and modes for management practice, and promotes the creativity of employees.

This research first constructs a research model on the basis of literature review and theoretical analysis, and then conducts configuration analysis of the data collected with csQCA (crisp-set qualitative comparative analysis) research method introduced by Charles Ragin and Kriss Drass (Rihoux and Meur (2009)) [10]. Finally, it discusses and analyzes the research results, and puts forward corresponding management recommendations.

2. Literature Review, Model Building and Research Method

2.1. Literature Review and Model Building

According to the leadership continuum theory, there is a constant mutual impact between the leadership model and organizational environmental factors as the organization flattening trend becomes more obvious, and it is necessary to make timely adjustment to find an appropriate leadership model in a specific environment and condition for maximizing the organizational performance. This research concentrates on observing two important factors in organizational environment proposed by Chinese scholar Jiang Qinfeng, namely, uncertainty of organizational culture and external environmental factors of the organization [11], as well as the impact of the joint effect of two organizational environmental factors and shared leadership network on teams and individual creativity.

According to Pearce's view, shared leadership is defined as a process of mutual impact, in which team members are willing to share team leadership while attaining the team goals, but if a team member has the key knowledge and skills to solve a specific innovation problem, he might be able to be the team leader for the moment [12]. Research finds that the team with a high level of shared leadership may enable team members to gain certain decision-making power and a sense of satisfaction [13], and it is easier to create a positive emotional atmosphere to help improve the individual creativity [14] by improving the fairness perception of team members. According to the social network theory, shared leadership can be deemed as a phenomenon of horizontal mutual impact among team members [15]. This research mainly describes and interprets the special leadership network developed inside the team with Carson's social network analysis method, and measures the state of shared leadership network using network characteristic indexes [16]. Previous studies mainly reflect the shared leadership network with network density and network centralization [17]. Specifically, network density is an index of measuring the closeness of relationship between team members, while network centralization is used to measure

the degree of dependence on other members. This research insists that shared leadership reflects the distribution of leadership in teams, as well as the closeness of relationship between team members and degree of dependence on team members. Moreover, impacts of shared leadership on team performance and other outputs of the team may not be completely positive in previous studies on shared leadership [18]. Therefore, network faction indexes (network clustering coefficients) that can reflect the negative effect of shared leadership can be added [19], and indexes ignored in previous studies can be added to comprehensively reflect the characteristics of shared leadership. Network faction indexes describe the overall level of different kinds of communication among members of a given social network, and such connection is called clustering attribute, and faction analysis can be used to measure whether the “small group” phenomenon in a network is serious, and reflect the state of shared leadership much more comprehensively.

Organizational culture refers to the common value orientation and thoughts developed subtly in the long-term production and operation practice of enterprises [20]. Organizational culture would impact both the behaviors of group members and the core competitiveness of the organization and teams in the organization. Ott proposed that organizational culture could support or restrain some behavioral patterns informally [21]. Zain et al. found in research that organizational culture has a significant promoting effect on the team competition, and competitions in the team would significantly impact the team innovation performance [22]. Sun Rui et al. pointed out that different kinds of organizational culture have a distinct impact on individual creativity. Research shows that organizational support, innovative atmosphere, and other cultural factors have a positive impact on staff creativity, and employees would conduct creative activities much more positively in the organizational culture that is conducive to innovation [23].

Environmental uncertainty, one of the important situations faced by the team, means that the external environment perceived by the team is in a state of continuous changes and unrest, and the team is full of unknowns of the impact on the team and organization [24]. Wang and other scholars argued that environmental uncertainty is an unavoidable environmental factor for innovative organization [25]. According to the uncertainty reduction theory, people may take a series of actions to reduce their feelings of uncertainty. They may strengthen internal team communication, or share the information and knowledge they grasp when they perceive the turbulent external environment [26]. Moreover, it has been proved that communication and knowledge sharing with team members would improve the individual creativity of team members effectively [27].

Overall, although most of the existing studies support the overall positive correlation between shared leadership and team output [28], there are also some studies that do not support this prediction [29]. Additionally, the existing research mostly focuses on team information mechanism (knowledge sharing, information processing, etc.) [30,31] and team cognitive mechanism (interactive memory system, shared mental model, etc.) [4,32] to test the impact of shared leadership on creativity influences. At the same time, few studies have focused on the impact of shared leadership on individual level creativity, and the mechanism that affects individual creativity output is unclear. At the same time, few studies have focused on the impact of shared leadership on individual creativity, Affect the individual creative output mechanism is not clear. Organizational environment has been shown to influence team members [33], and between leadership and organizational environmental factors, there is a high correlation between the combined effect of creativity [9]. Therefore, it is extremely important to explore the impact of shared leadership, organizational culture, and environmental uncertainty on the individual creativity of team members.

Innovative work usually confronts complicated management situations, and individual creativity would be interactively impacted by various factors. According to Venkatraman’s matching logic, different permutations and combinations of factors in a certain situation may have important impacts on the results [34]. Shared leadership can provide team members with more resources, impact team members interactively with the organizational culture, improve the collective vision of team members, and make team members

more confident to take environmental uncertainties as development opportunities [35]. Based on social network theory, under the interaction of shared leadership and organizational environment, the special leadership network formed among team members can continuously improve the individual's reputation and confidence, continuously improve the internal communication channels of the team, and increase the transfer of knowledge and information between team members, thereby sustainably improving individual creativity [36]. Based on the above theoretical analysis, this research insists that the individual creativity of team members would be impacted by the different matching results of shared leadership and external organizational culture, as well as environmental factors, forming a post-matching systematic phenomenon. When network factors of shared leadership match the organizational culture and environmental uncertainties, innovative teams can enhance the individual creativity of members effectively. Based on the logic matching and architectural theory, this research constructs a factor matching model for the improvement of individual creativity, as shown in Figure 1.

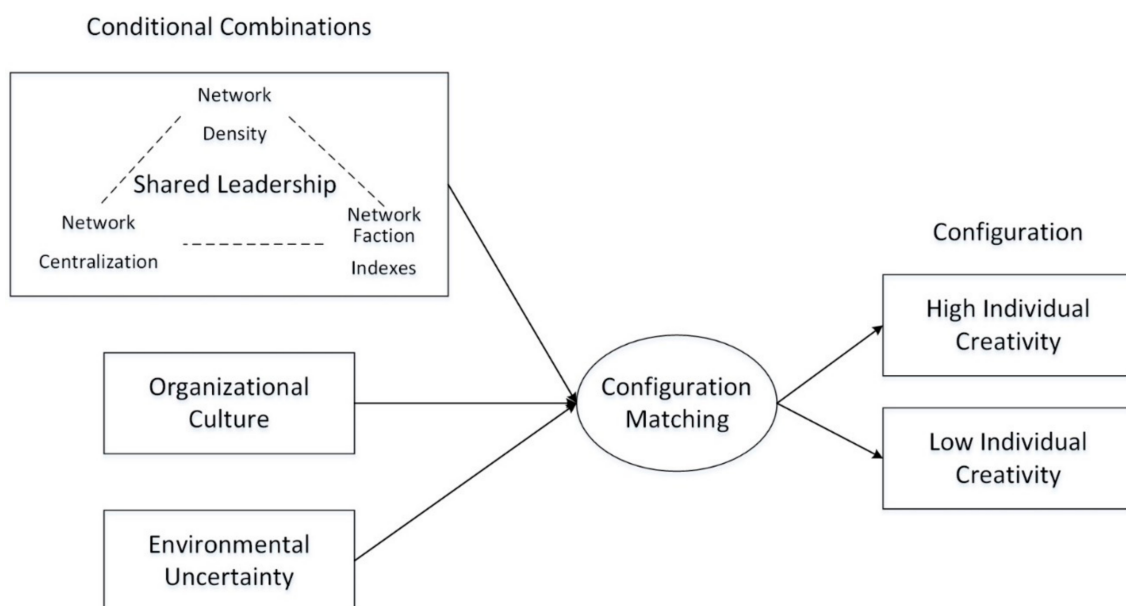


Figure 1. Impact model of the joint effect of shared leadership and organizational situational factors on individual creativity.

2.2. Qualitative Comparative Analysis Method

QCA (qualitative comparative analysis), proposed and developed by Ragin, is a new method surpassing the qualitative and quantitative analysis on the basis of “configuration comparison” and “set theory” [37]. Shared leadership and organizational environment factors are not necessarily independent linear relationships when they have an impact on individual creativity. The iterative nature of csQCA can realize the systematic comparison of complex cases, and can more deeply analyze the influence of the linkage between multiple factors under different combinations of conditions on individual creativity. Therefore, csQCA is suitable for studying the joint effect of shared leadership, organizational culture, and environmental uncertainty on individual creativity.

csQCA is the logical analysis established on the set theory and Boolean algebra. The specific steps are as follows: first, make a binary data sheet, to process the conditional variables and outcome variables. Second, make a truth table, and synthesize the data with Tosmana software. Third, deal with contradictory configuration. Fourth, Boolean minimization, to get the most concise Boolean expression. Finally, make corresponding analysis according to the results (Figure 2).

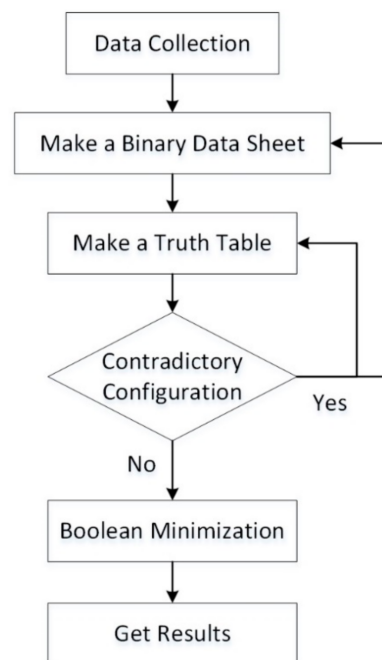


Figure 2. csQCA research method.

3. Data Collection, Measurement and Analysis

3.1. Data Collection and Measurement

This research collects the data through questionnaire survey. The survey started on 3 August 2020 and ended on 30 August 2020. It took 128 teams (including 1668 members) in Nanjing, Suzhou, Shanghai, Shandong, Chengdu, Hong Kong and other places of China as the respondents, and covers numerous industries, such as education, construction, IT, biology, and material. Among the 128 teams, 88 teams were given questionnaires on the spot, while the rest 40 teams were given questionnaires via Sojump, email or WeChat, and other online platforms. The survey recovered 1638 questionnaires from 122 teams, and the recovery rate was 97.04%. By eliminating invalid questionnaires featuring serious lack of information and remarkable regularity in answers, it had 1584 questionnaires from 116 teams, with an effective questionnaire rate of 96.07%. Concerning the measurement of shared leadership, this research selects network density, point degree central potential and network faction as the reflection indexes. Network indexes of shared leadership are all calculated with Ucinet 6.0 software.

Regarding the measurement of organizational culture, environmental uncertainties, team creativity and individual creativity, this research mainly refers to relatively mature measurement scales, and adopts Likert 7-point rating method, in which 1 means strongly disagree and 7 means strongly agree. The measurement of organizational culture adopts the OCAI measurement scale improved on the basis of Camoron and Quinn's CVF-based organizational culture measurement scale, which has been used and verified by many scholars, with good reliability and validity [38]. Previously, Chinese scholars have tended to use hierarchical organizational culture to measure Chinese organizations, but this research studies innovation-oriented teams, and team members are all knowledge workers emphasizing on independence. Therefore, it is more appropriate to apply the active organizational culture measurement scale in OCAI scale. Concerning the environmental uncertainty, the measurement scale for observing the environmental uncertainty in the context of cooperative innovation developed by Lu and other scholars [39]. The measurement scale of individual creativity uses the one developed by Guo and Tang, which has six questions [40].

3.2. Data Reliability and Validity Test

Single-index variable calculated with the formula in the social network analysis method is applied to measure the network density, point degree central potential and network faction indexes of shared leadership. Therefore, it is unable to carry out a reliability test. However, social network analysis, as a relatively mature method, has been adopted and recognized in many domestic and foreign studies. Reliability and validity analysis is conducted for the organizational culture scale, environmental uncertainty scale and individual creativity scale with SPSS 22.0 and Amos 17.0 software.

Exploratory factor analysis (EFA) was used to test the validity of the measurement scale. Cronbach's Alpha and CITC (corrected item-total correlation, used to measure the correlation coefficient between measurement items of the construct) are usually used to test the reliability of the measurement scale [41]. The test results are shown in Table 1, the Cronbach's Alpha of each variables and instrument total Cronbach's Alpha are all greater than 0.7 and are all significant, and the CITC values of all items are greater than 0.5. This shows that the three measurement scales all have a good level of reliability. All three measurement scales satisfy that KMO is greater than 0.6, CFV is greater than 0.4, and the total variance explained is 77.280%, 87.955% and 81.005%, indicating that the questionnaire has good structural validity.

Table 1. Test of reliability and instrument validity.

Variables	Items	CITC	Rotation Matrix		Cronbach's Alpha	Cumulative (%)	KMO
			Factor				
Organizational Culture (OC)	OC1	0.660	0.703		0.909	77.280	0.783
	OC2	0.831	0.937				
	OC3	0.894	0.946				
	OC4	0.726	0.782				
	OC5	0.634	0.679				
	OC6	0.865	0.904				
Environmental Uncertainties (EU)	MU1	0.707	0.733		0.859	87.955	0.755
	MU2	0.579	0.906				
	MU3	0.698	0.813				
	MU4	0.655	0.857				
	TU1	0.645		0.631			
	TU2	0.686		0.632			
	TU3	0.732		0.804			
	TU4	0.716		0.751			
Team Individual Creativity (TIC)	TIC1	0.722	0.804		0.833	81.005	0.869
	TIC2	0.835	0.761				
	TIC3	0.771	0.902				
	TIC4	0.828	0.761				
	TIC5	0.782	0.866				
	TIC6	0.849	0.846				

Instrument Total Cronbach's Alpha →0.783

Note: Items details for each construct: OC1. The organization is full of vitality, team members are motivated and willing to take risks. OC2. Organizational leaders are willing to change and are willing to take risks. OC3. Organizational cohesion comes from the organization's pursuit of innovation and development. OC4. The management characteristics of the organization are change, freedom and uniqueness. OC5. The key to organizational success is to have leading technology and products. OC6. The organization encourages exploration and attaches importance to the acquisition of new resources or new things. MU1. Customer needs change very quickly. MU2. Changes in customer preferences are difficult to predict. MU3. Competitor activities will have a greater impact on our team. MU4. Competitor's strategy and changes to competing products are difficult to predict. TU1. Industry technology is widely used in a short time. TU2. The breakthrough of industry technology can always promote the mass production of new products. TU3. The related technologies of the industry are always changing very fast. TU4. Changes in industry-related technologies are always difficult to predict. TIC1. Members of our team often come up with creative ideas. TIC2. The members of our team have shown originality in their work. TIC3. A member of our team came up with a new idea. TIC4. Members of our team will use existing new ideas or adopt a new way of working. TIC5. Members of our team are good at improving their own ideas. TIC6. Members of our team are good at improving existing working methods, processes and technologies.

Table 2 shows the test results of convergent validity and discriminant validity. According to the analysis of confirmatory factors, the fitting indexes of all measurement constructs is within the critical standard, while the normalized factor load is over 0.5 and significant, and AVE is over 0.5. It shows that the convergent validity is good. The discriminant validity of measurement scale is determined by calculating and comparing the arithmetic square root of AVE of all variables and correlation coefficients after the standardization of all factors. According to the result of calculation, the arithmetic square root of AVE of all variables is greater than the correlation coefficients of all dimensions, so the discriminant validity is verified.

Table 2. Test of convergent validity and discriminant validity.

	CR	AVE	MSV	Max r	OC	MU	TIC
Organizational Culture (OC)	0.917	0.652	0.454	0.674	0.807		
Environmental Uncertainties (MU)	0.879	0.556	0.446	0.668	0.668	0.745	
Team Individual Creativity (TIC)	0.931	0.694	0.454	0.674	0.674	0.534	0.833

Note: CR > 0.7; AVE > 0.5; MSV < AVE; $\sqrt{\text{AVE}} > \text{Max}$; $\sqrt{\text{AVE}}$ is bold face diagonal.

The fitting indexes of the overall measurement model of latent variables are: $\chi^2/\text{df} = 1.713$, NFI = 0.907, CFI = 0.924, IFI = 0.927, TLI = 0.920, RMSEA = 0.051, indicating that the overall measurement model and data fitting are good.

4. QCA Comparative Analysis

4.1. Data Calibration

According to csQCA research method, conditional variables of this research include network characteristics of shared leadership, organizational culture and environmental uncertainties, while individual creativity is the interpreted result variable. Boolean algebra-based binary data sheet is constructed, for the binary processing of original data of all conditional variables and result variable. This research adopts the “mean anchor point method” for the binary processing of original data to calculate the mean value of all variables. According to the results, binary assignment of all variables is shown in Table 3.

Table 3. Setting of Conditional Variables and Result Variable.

Variables	Type of Variables	Explanation
Conditional variables	Network density of shared leadership (ND)	Mean value is 0.482, if the single sample datum is equal or greater than the mean value, the coding is “1”, or it is “0”
	Point degree central potential of shared network (PDCP)	Mean value is 0.401, if the single sample datum is equal or greater than the mean value, the coding is “1”, or it is “0”
	Network faction of shared network (NF)	Mean value is 2.9, if the single sample datum is equal or greater than the mean value, the coding is “1”, or it is “0”
	Organizational culture (OC)	Mean value is 6.000, if the single sample datum is equal or greater than the mean value, the coding is “1”, or it is “0”
	Environmental uncertainty (EU)	Mean value is 4.867, if the single sample datum is equal or greater than the mean value, the coding is “1”, or it is “0”
Result variable	Individual creativity (TIC)	Mean value is 5.379, if the single sample datum is equal or greater than the mean value, the coding is “1”, or it is “0”

4.2. Constructing a Truth Table

A truth table is produced with Tosmana software according to the binary data of variables. The truth table shall include all factor combinations that may impact the results. The research includes three network characteristic factors, organizational culture, and environmental uncertainty, a total of 32 factor combinations ($2^5 = 32$). However, in practical surveys, some factor combinations did not occur. Upon calculation, the truth table with individual creativity as the result variable includes 15 configurations, as shown in Table 4.

Table 4. Individual creativity is the truth table of result variable.

Sample	OC	EU	ND	PDCP	NF	TIC
T24, T25, T26, T40, T41, T60, T67, T89, T104, T111	0	0	0	1	0	0
T20, T59	0	0	1	0	0	0
T27, T29, T30, T39, T69, T71, T80, T113	0	0	1	0	1	1
T16, T44, T49, T53, T57, T75, T84, T93, T98, T105	0	0	1	1	0	1
T28, T66	0	0	1	1	1	1
T5, T51, T56, T61, T92, T112	0	1	0	0	1	0
T12, T22, T23, T47, T82, T97, T103, T107	0	1	1	0	1	1
T3, T6, T14, T35, T72, T108, T109, T114	0	1	1	1	0	0
T32, T33, T77, T116	0	1	1	1	1	1
T4, T62	1	0	0	1	1	0
T2, T101	1	0	1	1	1	1
T17, T18, T19, T36, T37, T46, T48, T54, T55, T58, T63, T65, T78, T81, T85, T86, T87, T88, T91, T96	1	1	0	0	1	0
T21, T45, T50, T73, T74, T194	1	1	1	0	1	1
T1, T10, T13, T15, T31, T34, T42, T64, T76, T79, T90, T95, T106, T110	1	1	1	1	0	1
T7, T8, T9, T11, T38, T43, T52, T68, T70, T83, T99, T100, T102, T115	1	1	1	1	1	1

Note: OC is organizational culture, EU is environmental uncertainty, ND is network density, PDCP is point degree central potential, NF is network faction, TIC is individual creativity.

According to Table 4, the truth table with individual creativity as the result variable has no contradictory configurations, so Boolean minimization can be conducted directly.

4.3. Configuration Analysis

Specific results are produced under specific conditional combinations, namely, when the corresponding conditions do not exist, corresponding results would not occur, and such conditions are the necessary conditions of the results. Individual creativity of members in an innovative team is the specific result of this research, so conditional combinations that can produce this result shall be found out. According to the truth table, combination and simplification of different variables are conducted, and Boolean minimization is conducted with Tosmana, to find the simplest conditional combination.

The output of individual creativity in an innovative team is set to be "1", and logical remainders are included. The conditional combination contributing to high individual creativity in an innovative team is shown in Table 5 and Figure 3.

Table 5. Conditional combination contributing to high individual creativity in an innovative team.

Conditional Combination	Number of Cases	Proportion %
ND*NF	44	37.93%
OC*ND	36	31.03%
eu*ND*PDCP	14	12.07%

Note: capital form means the condition occurs, while the ordinary form means the condition does not occur, * means and.

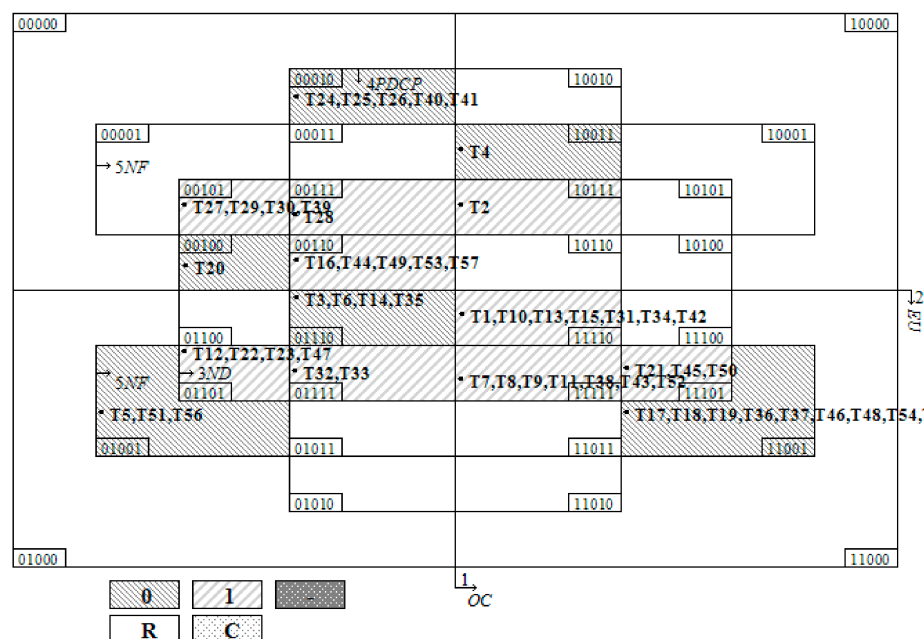


Figure 3. Venn Diagram of conditional combinations that would impact the individual creativity.

As shown in Table 5 and Figure 3, there are three conditional combinations that can enhance the individual creativity of an innovative team. The highest coverage rate of conditional combination is 37.93%, including 22 cases, and even the lowest conditional combination covers seven cases. The three conditional combinations that can improve the individual creativity are high ND and high NF; high OC and high ND; low EU, high ND and low PDCP. High ND of shared leadership occurs three times, suggesting that high ND is an important factor for improving the individual creativity.

The output of individual creativity is set to be “0”, and logical remainders are included. The conditional combination resulting in low individual creativity in an innovative team is shown in Table 6.

Table 6. Conditional combination resulting in low individual creativity in an innovative team.

Conditional Combination	Number of Cases	Proportion %
nd	38	32.76%
oc*EU*pdcp	8	6.90%
pdcp*Nf	2	1.72%

Note: OC is organizational culture, EU is environmental uncertainty, ND is network density, PDCP is point degree central potential, NF is network faction, capital form means the condition occurs, while the ordinary form means the condition does not occur, * means and.

According to Table 6, there are three conditional combinations resulting in low individual creativity of an innovative team. The highest coverage rate is 32.76%, including 19 cases, and the lowest coverage rate is 1.72%, including only one case, indicating that many cases have already been covered by other conditions. The three conditional combinations are: low ND; low OC, high EU and high PDCP, or high PDCP and high NF. In which PDCP occurs twice, suggesting that it is a key factor the prevents the improvement of individual creativity.

5. Results and Discussion

5.1. Discussion of the Configuration Results That Can Impact the Individual Creativity

5.1.1. Discussion of the Configuration Results That Can Improve the Individual Creativity

According to csQCA research results, the conditional combinations that can improve the individual creativity of members in an innovative team are simplified to be three. High ND emerges in three conditional combinations, but it cannot improve the individual creativity independently and, instead, it shall be combined with other conditions. Therefore, high ND is one of the sufficient conditions for improving the individual creativity. The first conditional combination is high ND and high NF of shared leadership, suggesting that high ND and high NF are sufficient and necessary conditions for the improvement of individual creativity. The co-occurrence of high ND and NF reflects that shared leadership leads to many small groups in the team, and members of the small groups communicate closely and develop a strong relationship based on mutual trust, which will not only enhance the knowledge communication between team members, but also reinforce the development of relationship among team members. It is the same as Luo's and Haq, Davies's research result, namely, when the information communication path and knowledge sharing among factions increases, it is favorable for the improvement of creativity performance [42,43]. In the second conditional combination, when the organizational culture tends to be flexible and the network density of shared leadership is relatively high (OC*ND), flexible organizational culture can guarantee the diversified information seeking, and team members can learn from each other through various channels and share resources, in order to realize the innovation goals. Previous studies also prove that team learning is conducive to the information exchange inside the team, thus to enhance the creativity. In addition, studies also propose that the increase in network density can improve the shared mental model and interactive memory system of team members, and team members can make sensitive responses and find the differentiated knowledge under the impact of highly flexible organizational culture, thus improving their creativity [44]. Affected by China's traditional culture, Chinese employees have always been regarded as a group with a higher degree of acceptance of rights distance. However, with the development of China's market economy and the improvement of per capita education level, especially knowledge workers engaged in innovative work, their acceptance of the right distance in the organization has decreased, and they are required to express their own views, fight for and safeguard their own interests. With some of the same study, a flexible organizational culture and shared leadership model allows team members to get some of the decision-making autonomy and psychological satisfaction [11]. When the environmental uncertainty is relatively low, the network density of shared leadership is relatively high, and the point degree central potential is relatively low (EU*ND*PDCP), individual creativity can be improved. Shared leadership is a collective leadership. On one hand, most members can give full play to their specialties in their respective fields when the communication between team members increases; on the other hand, team members are relatively equal, instead of being marginalized, and it can make team members optimistic, confident and brave to innovate. It is also consistent with the research findings of some scholars, namely, in a context of low uncertainty, environmental sensitivity of team leaders and members may decrease, but they would grasp the information better to make the optimal judgment, thus having the least negative impact on the team [45].

5.1.2. Discussion of the Configuration Results That Can Decrease the Individual Creativity

There are three conditional combinations that may reduce the individual creativity of members in an innovative team. First, low network density of shared leadership is a sufficient and necessary condition. Specifically, when the network density is relatively low, individual creativity of team members is relatively low. Each member in an innovative team is a node of the shared leadership network, so when the network density is relatively low, there are few communication channels between team members. Accordingly, the knowledge of skilled field of each member cannot be communicated and shared suffi-

ciently, which would directly impact the improvement of individual creativity. Research points out that shared leadership is an important resource of individual yield, and the independent internalization of work may directly influence the attention to work, and such internalization of power would better improve the kinetic energy of individuals than external pressure [46]. Therefore, when the network density of shared leadership in the team is relatively low, it directly reflects the low shared leadership, impacted work power and reduced creativity of individuals. High network point degree central potential emerges in the second and third conditional combinations as a conditional factor, as the sufficient but unessential condition. When the organizational culture is less flexible, the environment is highly uncertain and the point degree central potential is high, (OC*EU*PDCP), the individual creativity is relatively low, showing that when the organizational culture tends to be less flexible, it may decrease the communication and cooperation, and team members may be too conservative and content with the existing state. Moreover, information and resources in the network are grasped by some individual team members, featuring high concentration of power. In addition, the interpersonal distribution is evidently uneven, and it is difficult to inspire the active participation of other members adverse to the effective innovation. Environments of high uncertainty mean that team members are faced with drastic changes in external environment, for instance, fast-changing market, customers with constantly changing preferences, and stronger competitors. A small mistake may result in a huge loss, and all these would impact the creativity of team members who are conservative and lack of resources and information. In another situation, when the point degree central potential is high and there are many network factions, the individual creativity may decrease (PDCP*NF), since members of an innovative team are usually from different fields with their skilled knowledge, and when the resources concentrate on individuals, which prevents the sufficient integration and scattering of information and knowledge within the team. Furthermore, multiple factions in the team may also result in the concentration of resources, and it is easier to develop a knowledge island inside the team, which would decrease in individual creativity of other members. Knowledge workers in contemporary China have a higher demand for fairness perception. Some studies are the same. Over-concentrated resources will reduce the individual fairness perception of team members. It is difficult to create a positive emotional atmosphere in the team, which is not conducive to produce individual creativity [46].

5.2. Research Contribution and Management Implications

This research compares and analyzes the configurations of high and low individual creativity through discussing the shared leadership of an innovative team and organizational environmental factors, and its theoretical contributions are as follows:

First, it provides a new perspective and method for the study on the relationship between shared leadership and individual creativity. Correlational studies on shared leadership are still in the exploratory stage, and existing studies on shared leadership and team creativity ignore the coupling effect of various factors in realistic management situations. Relying on innovative teams, this research mainly observes the impact of shared leadership, organizational culture and environmental uncertainty on the individual creativity. The conclusion obtained with csQCA research method further demonstrates the importance of shared leadership in the improvement of individual creativity [36,47], enriches related research achievements of shared leadership and individual creativity, and provides a new methodology for subsequent research on shared leadership.

In addition, it enriches the impact mechanism of shared leadership on individual creativity, and supplements the research on the impact of the relevance between shared leadership and organizational environmental factors on team creativity. The impact of shared leadership on individual creativity has always been insufficiently revealed. Some scholars appeal for an exploration into the relationship between shared leadership and individual creativity [48]. This research looks into the impact of shared leadership on individual creativity under the joint impact of multiple factors. Existing studies mostly

concentrate on the discussion of the important impacts of shared leadership on individual creativity, but there are few studies on the relation with external organizational factors [49]. The research finds that organizational environmental factors and shared leadership have a joint impact on individual creativity, and multiple influencing factors would interact with each other, instead of being independent from each other, and have different influence mechanisms on individuality creativity. The complementarity of configurations further supplements the influence mechanism of shared leadership on individual creativity in a traditional linear regression method, and develops a theoretical explanation perspective for studying the impact of shared leadership on individual creativity, and further expands the research space.

Management inspirations of this research are as follows: first, pay attention to the importance of shared leadership, and adopt the shared leadership model actively. In terms of realistic team management, we can encourage the application of shared leadership models in the process of team management, increase the interactive communication channels for team members, and enhance the interactions among team members through collective learning and team building, etc. In addition, more emotional and information communication among members would be conducive to the improvement of individual creativity. Second, focus on the impact of flexible organizational culture on individual creativity. Flexible organizational culture can provide team members with sufficient autonomy, and play an interactive role with high network density of shared leadership. Moreover, it can inspire team members to finish challenging work, and conduct more creative activities. When external organizational culture is highly flexible, teams are encouraged to use the shared leadership mode, to give team members more autonomy to improve the work enthusiasm and individual output. Third, joint effects of various factors shall not be ignored. Different configurations can help improve the individual creativity, and it explains that a team may not be able to realize high creativity when only one factor is met. Therefore, we need to consider the marginal effect of a single factor, such as shared leadership, external environment and organizational culture, as well as the collective influence of different factor combinations during the process of team management, and apply the configuration thought in management practice thoroughly.

5.3. Research Limitation and Prospect

This research observes the impact of shared leadership on individual creativity with qualitative comparison method. Despite certain innovative points and guiding significance, it also has some limitations. (1) Though the research illustrates the relevance between shared leadership and organizational environmental factors and impact of organizational environmental factors on individual creativity, other conditions might be ignored in the screening of antecedents. (2) The case samples may not cover all possible conditions, so future studies may consider enlarging the sample size or further exploring samples that have not appeared before to supplement the research. (3) Shared leadership is a construct proposed in the Western management context, and future research can be combined with Chinese cultural background to carry out further in-depth research.

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