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A Sustainable Development Perspective on Cooperative Culture, Knowledge Flow, and Innovation Network Governance Performance

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Abstract: The contemporary sustainable development imperative sees enterprises seeking competitive advantages in innovation networks, the distinguishing features of which are continuous interaction and knowledge flow between participants. As an informal governance mechanism, cooperative culture influences the stability and durability of the members' interactions. Knowledge flow is a core network activity that is highly dependent on the cultural environment. The purpose of this paper is to explore whether innovation governance performance is affected by cooperative culture and knowledge flow. How do they play an influential role? We use structural equation modeling (SEM) to analyze the linear relationships among the three variables: cooperative culture, knowledge flow, and governance performance. The results suggest that knowledge flow has a mediating effect on the relationship between cooperative culture and governance performance. We also use fuzzy set qualitative comparative analysis (fsQCA) to explore how cooperative culture and knowledge flow combined can influence governance performance. The results indicate that different combinations of cooperative culture and knowledge flow lead to different levels of governance performance, with two paths leading to high governance performance, which are fit creation-oriented and compatible sharing-oriented paths. These findings have significant implications for improving innovation governance performance and their sustainable development.

Keywords: cooperative culture; knowledge flow; innovative network governance; governance performance; fsQCA

1. Introduction

As sustainable development becomes a contemporary imperative, innovation requirements are becoming progressively more demanding, and the iteration speed is accelerating. Enterprises that rely on their own innovation capabilities can no longer meet the needs of social and economic development or the demands of market competition. Cooperation among organizations or individuals to achieve innovation is inevitable, and thus, enterprise innovation networks have come into being. Imai and Baba first proposed the concept of enterprise innovation networks in 1989. They believe that an enterprise innovation network is a basic institutional arrangement designed to deal with systemic innovation. In innovation networks, members can innovate through strategic, knowledge, and organizational collaboration to obtain sustainable competitive advantages [1]. Therefore, the innovation cooperation relationships among enterprises are the main connection of the network structure [2]. A firm's main purpose in establishing or joining an innovation network is to establish a cooperative relationship to acquire important resources and knowledge that it is currently lacking [3].

Network environments and innovation activities are both characterized by high uncertainty and complexity. Therefore, collaborative innovation inevitably faces risks, such as opportunistic behavior, information asymmetry, and insufficient knowledge sharing, which directly affects the relationship between members and subsequently affect innovation network performance [4]. Thus, membership coordination is the key to the sustainable development of innovation networks. Studies have shown that rather than formal governance mechanisms such as laws, regulations, and contracts [5], cooperative culture as an informal governance mechanism can create a good atmosphere of communication and interaction in the network, which is a precondition for establishing cooperative relationships among members [6,7]. Cooperative culture is the soft environment shared by groups, and it plays a binding role in the formulation of economic strategies and goals. It is also the premise and foundation of the existence of relationship capital, which is conducive to promoting cooperation and exchange among members and coordinating the interests of multiple subjects to achieve synergy [8]. This indicates that cooperative culture plays a governance role in innovation networks.

How does cooperative culture play a role in governance? James believes that cooperative culture exerts governance effects by forming an identity among members, constraining their behavior, and promoting communication and learning among them [9]. Asheim (2002) [10] points out that cooperative culture can create a good learning atmosphere within the network. Park (2017) [11] identifies three primary elements of organizational culture that directly affect behavior of network members: values, norms, and practices. In other words, a sharing culture can promote improvements in innovation network performance by influencing members' cooperative behavior. This indicates that organizational behavior is an important means by which cooperative culture plays a governance role. The theory of triadic reciprocal determinism regards environmental factors, individuals, and behaviors as relatively independent, but it also holds that they simultaneously interact with and influence one another [12]. Based on triadic reciprocal determinism, some scholars point out that knowledge flow, as a behavior at the network level, is closely related to the cultural environment and individual cognition within the network [13,14]. Therefore, in the process of cooperative culture governance, the network should pay attention to the role of knowledge flow. Wang (2012) [15] points out that the turbulence in innovation networks highlights the importance of knowledge as a source of competitive advantage. Knowledge transfer across organizational boundaries is an important advantage of innovation networks [16]. Knowledge flow can promote innovation development within the entire network by promoting an incremental innovation of the network's members [17]. Frenz (2009) [18] believes that organizations can increase the innovation potential of their enterprises through interactions between external knowledge and their own knowledge creation. This shows that knowledge flow has a certain governance effect within innovation networks.

Do cooperative culture and knowledge flow interact with one another in the governance process? If so, how? As a behavioral manifestation of the cooperative relationship among members, knowledge flow is essentially the process of knowledge diffusion and transfer among cooperative innovation members [19], and it is highly dependent on the culture and environment [20,21]. Schilling and Fang (2014) [22] find that the four SECI knowledge flow modes (socialization, externalization, combination and internalization) are robustly influenced by cultural context. Through knowledge flow, knowledge and culture resources in the network can be rationally transferred and effectively shared, and a synergistic innovation situation with complementary advantages and mutual benefits will be achieved. Smooth knowledge flow can effectively promote cultural exchange and integration among members, and it can further promote cooperative culture to better exert a governance effect [23,24] and improve innovation network governance performance.

The studies mentioned above reveal the governance role of cooperative culture and the interaction between cooperative culture and knowledge flow in the governance process. Examining the governance role of cooperative culture and improving innovation network governance performance are of great significance to the sustainability of innovation networks and the improvement in corporate competitiveness. However, the existing research still has some gaps. First, there is a lack of empirical

testing of the relationships among cooperative culture, knowledge flow, and innovation network governance performance. Not much discussion has taken place on cooperative culture in the network environment, resulting in only a few studies that examine the governance effect of cooperative culture from a governance performance perspective. In addition, the role of knowledge flow in the process of cooperative culture governance still needs to be verified. Second, to the best of our knowledge, no study explores how cooperative culture and knowledge flow work together and how they influence innovation network governance performance. The specific path remains to be discovered. Based on triadic reciprocal determinism theory, this study constructs a relationship model of cooperative culture, knowledge flow, and governance performance. This is accomplished using structural equation modeling (SEM) and a questionnaire survey to empirically test the relationships among cooperative culture, knowledge flow, and governance performance in innovation networks. Subsequently, fuzzy set qualitative comparative analysis (fsQCA) is used to explore the effect of different combinations of cooperative culture and knowledge flow on governance performance and to identify the paths through which such effects are realized. These findings provide some new ideas and management implications for improving governance performance in innovation networks to achieve sustainable development.

2. Literature and Hypotheses

2.1. The Influence of Cooperative Culture on Governance Performance and Knowledge Flow

Governance performance in innovation networks refers to the guidance, encouragement, and regulation of network members through network governance mechanisms to achieve an effective allocation of network elements and resources, which is embodied in the improvement in network competitiveness and innovation capability [25]. As an informal governance mechanism, cooperative culture is, in essence, an informal norm with a social contractual nature, and it is not only a shared set of values (including beliefs, language, etc.), but also a mechanism for expressing and sharing those ideas among members [26]. A cooperative culture can provide the network with the power to continue its innovation and cooperation by improving the relationships between members. On the one hand, a cooperative culture enables network members to form identities and facilitate the exchange of learning among themselves. Chen (2010) [27] and Flanagan (2010) [28] point out that a stable, beneficial, and progressive culture can effectively mitigate conflicts of interest among members and improve governance performance. On the other hand, a cooperative culture promotes a high level of trust and cooperation between members and reduces transaction costs and opportunistic behaviors. In his study on the relationship between governance mechanisms and governance capacity, Sun (2015) [29] points out that a good cooperative culture mechanism can promote the integration of resources within the network, reduce transaction costs, and generate new technologies. Therefore, this study holds that cooperative culture can effectively promote the improvement in innovation network governance performance.

Knockaert (2011) [30] points out that the essence of the innovation network is to improve the innovation ability of the entire network and to gain competitive advantages by sharing the unique knowledge of members, especially tacit and core knowledge. Knowledge flow in innovation networks refers to a series of knowledge spillover, diffusion, transfer, and absorption activities among innovative enterprises [31]. The division of knowledge flow has not yet been agreed upon. No (2015) [32] analyzes and evaluates the effect of knowledge flow in networks from two dimensions: knowledge dissemination and transmission rates. Lin (2006) [33] uses the network knowledge map to divide knowledge flow into knowledge acquisition, externalization, storage, sharing, and innovation. Tranfield (2004) [34] divides it into knowledge creation, diffusion, selection, and application. Based on Zarraga's (2003) study [35], we divided knowledge flow into knowledge sharing and knowledge creation. Knowledge sharing refers to the spillover and transfer of knowledge between organizations, while knowledge creation refers to the absorption and reuse of external knowledge by network individuals. Li [36] points out that knowledge sharing is the process of knowledge interaction and dissemination among

network members. In the research on the relationship between the process of knowledge creation and technological innovation ability, Yu [37] thinks that knowledge creation is a process in which enterprises create new knowledge through acquired heterogeneous knowledge. In this study, we analyzed the role of knowledge flow in the network governance of cooperative culture from the two dimensions of knowledge sharing and knowledge creation.

As a perceptual tool, culture can guide and shape the cognition of individual knowledge sharing and creation, and the organizational behaviors affected by this cognition are the source of knowledge flow [38]. Previous studies show that the smooth flow of knowledge within a network largely depends on the cultural atmosphere among members [39–41]. Sullivan and Nonaka (1986) [42] suggest that the socialization, externalization, and combination and internalization of knowledge in innovation networks are highly dependent on the culture and the supporting environment. Next, we analyzed the influence of a cooperative culture on knowledge flow from two dimensions of knowledge sharing and knowledge creation. On the one hand, a cooperative culture offers a mutual system of learning in which network members can share and exchange knowledge and experiences [36]. Messica (2011) [43] analyzes the innovation networks from the perspective of information flow and believes that cultural heterogeneity among members may inhibit knowledge sharing, while a good cultural atmosphere between organizations will enhance the sense of identity among individuals, promote commitments, and benefit knowledge sharing among members [44]. On the other hand, Kim (2016) [45] believes that the key to knowledge flow lies in knowledge creation—that is, how to absorb, accumulate, and recreate the knowledge that is essential to the innovation process, which is closely related to repeated communication between members, and a good cooperative culture mechanism is beneficial for establishing and maintaining this kind of communication relationship. Abel (2015) [46] indicates that knowledge creation can be influenced by the culture and environmental information of the innovation network. Therefore, cooperative culture as a soft constraint significantly promotes knowledge flow. Based on the analysis above, we propose the following hypotheses:

Hypothesis 1 (H1). *Collaborative culture has a significant positive effect on network governance performance.*

Hypothesis 2 (H2). *Collaborative culture has a significant positive effect on knowledge flow.*

Hypothesis 2a (H2a). *Collaborative culture has a significant positive effect on knowledge creation.*

Hypothesis 2b (H2b). *Collaborative culture has a significant positive effect on knowledge sharing.*

2.2. The Effect of Knowledge Flow on Governance Performance

Knowledge is the most important resource of an innovation network. Previous researchers identify knowledge flow as the core of regional innovation network development [47,48]. Amid the accelerated development of the knowledge economy, innovation networks must constantly update their knowledge to improve their innovation performance and maintain a competitive advantage [49,50]. Hsiao (2017) [51] finds that the knowledge flow is beneficial to the acquisition of tacit and adaptive knowledge for network members, and it further improve organizational innovation ability and performance. Bandyopadhyay (2007) [52] points out that the flow of knowledge in innovation networks can achieve complementary advantages among members, enhance the innovative ability of enterprises, and promote the improvement in network performance. This paper analyzes the influence of knowledge flow on governance performance from two dimensions: knowledge sharing and knowledge creation. On the one hand, due to the existence of knowledge gaps among members, through knowledge sharing, the members with rich knowledge resources can disseminate and diffuse knowledge, while the members with relatively low knowledge resources can acquire and absorb knowledge [53]. This can also improve the diversity of members' knowledge. Therefore, appropriate knowledge sharing can effectively shorten the innovation process and improve innovation performance [54]. On the other

hand, the tacit and diverse knowledge obtained through knowledge sharing is beneficial to network members in creating new knowledge [47]. Knowledge creation can enhance the absorptive capacity of members and directly promote improvement in organizational innovation performance [55]. Therefore, this study argues that knowledge flow can improve the knowledge structure of the network and enhance members' innovation capabilities. From the perspective of network governance, knowledge flow, as the main behavior in the network, has a positive effect on network governance performance. Based on the analysis above, we propose Hypothesis 3:

Hypothesis 3 (H3). *Knowledge flow has a significant positive effect on innovation network governance performance.*

Hypothesis 3a (H3a). *Knowledge creation has a significant positive effect on innovation network governance performance.*

Hypothesis 3b (H3b). *Knowledge sharing has a significant positive effect on innovation network governance performance.*

2.3. The Mediating Role of Knowledge Flow

Previous studies find that knowledge flow plays a mediating role in the relationship between innovation network governance mechanisms and governance performance. In a study on the influencing factors of knowledge management in networks, Zheng [56] points out that knowledge flow plays a mediating role in the process of organizational culture to improve corporate performance. In a study on the influence of technological alliance on enterprise performance, Xiaodi Z [57] finds that inter-organizational knowledge creation ability plays a mediating role in the relationship between organizational culture and innovation performance. Cheng [58] believes that knowledge creation plays an intermediary role in the relationship between the governance mechanisms and organizational cooperation performance of the knowledge chain. Moon [59] believes that knowledge sharing plays a mediating role in the effect of trust, collaboration, and learning on the innovation ability of enterprises. Based on the research on the social networks of small and medium-sized enterprises, Soto-Acosta [60] points out that knowledge sharing plays a mediating role in the relationship between human resource management methods and organizational performance. Ostrom (2010) [61] believes that companies with strong knowledge absorption capacity and a high enthusiasm for knowledge integration can more effectively use common values to communicate with other members. Based on the analysis above, this study holds that knowledge flow acts as a bridge between governance mechanisms and governance performance. Therefore, we introduce knowledge flow into the research of cooperative culture and innovation network governance performance, and propose Hypothesis 4:

Hypothesis 4 (H4). *Knowledge flow plays a mediating role between cooperative culture and network governance performance.*

Hypothesis 4a (H4a). *Knowledge creation plays a mediating role between cooperative culture and network governance performance.*

Hypothesis 4b (H4b). *Knowledge sharing plays a mediating role between cooperative culture and network governance performance.*

In summary, this study explores the effect of cooperative culture and knowledge flow on innovation network governance performance. The theoretical framework model is shown in Figure 1.

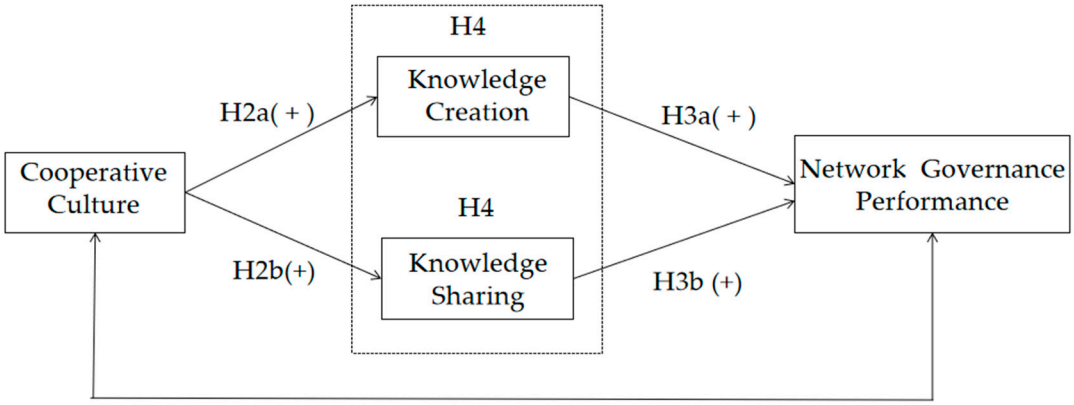

Figure 1. Conceptual model.

3. Research Methods

3.1. Data Collection and Samples

The target samples are enterprises in innovation networks that participate in innovation cooperation. A pre-test of Master of Business Administration (MBA) students at Sichuan University preceded the formal survey. They are from various companies and belong to the sampling group that adheres to the requirements of this study. We removed companies that were not part of innovation networks or that had no knowledge of them. Of the 155 pre-test questionnaires issued, 80 valid questionnaires were collected. Based on an analysis of the valid questionnaires, we refined the items to finalize the formal questionnaire. The formal survey collected 325 questionnaires. We used the same screening principle and removed companies that were not part of innovation networks or that had no knowledge of them. Through a screening of the integrity and validity of the collected questionnaires, those with incomplete data or obvious tendencies were eliminated and 227 valid questionnaires were retained, with an effective response rate of 69.8%.

3.2. Scales

The formal questionnaire included three variables: cooperative culture, knowledge flow, and innovation network governance performance. Most of the items on the questionnaire were based on existing research and were revised according to real innovation network situations. The questionnaire applied a seven-point Likert scale ranging from 1 = 'strongly disagree' to 7 = 'strongly agree'.

This study measured cooperative culture from the three dimensions of cultural fit, cultural compatibility, and reciprocity. The cultural fit items, which measure the degree of consistency in cultural ideas and cooperative goals among network members [62], refer to Marsden's (1990) [63] research. The cultural compatibility items, which reflect the degree of adoption of, identification with, and respect and tolerance for one another's values, ideas, and behaviors [64], are inspired by Oliver's (1990) [65] research. The reciprocity items, which measure the degree of mutually benefits reflected by culture [66], are derived from Li's (2007) [67] research.

Innovation network governance performance refers to the achievements of certain governance behaviors. Combined with Duhaime's (2002) [68] and Sun's (2015) [29] research, innovation network governance performance is measured from two constructs: process performance and result performance. Process performance, in turn, is measured from two aspects: opportunity equity and capability improvement. The opportunity equity items are based on Semret's (1999) [69] research, and the capability improvement items are based on Fan's (2006) [70] research. Meanwhile, the resulting performance is measured from two aspects: innovation performance and sustainable development. The innovation performance items are derived from research by Hagedoom (2003) [71], Laursen and

Salter (2006) [72], and Han and Li (2015) [73], while the sustainable development items are taken from Ageron's (2012) [74] research.

This study measured knowledge flow through two constructs: knowledge sharing and knowledge creation. The knowledge-sharing items, which measure the willingness of network members to share knowledge and the degree of knowledge exchange and diffusion, are based on research by Jae-Nam Lee (2001) [75] and Hooff (2004) [76]. The knowledge creation items, which measure network members' capacity to absorb knowledge and their ability to create new knowledge, refer to Cho's (2004) [77] and Thornhill's (2006) [78] research.

3.3. Method Choice

This study used SEM to analyze and validate the conceptual model presented in Figure 1. When compared with the statistical methods for researching the relationships among the research variables, such as correlation analysis and linear regression, on the one hand, SEM can establish the causal relationship between the variables under the premise of considering the error of variable measurement, and it replaces the single explicit variable in path analysis with potential variables, so as to more accurately test the hypothesis relationship between the variables [79]. On the other hand, SEM can estimate the degree of fit of the models and data [80]. Therefore, this study used SEM rather than hierarchical regression methods to verify the linear relationships among cooperative culture, knowledge flow, and governance performance.

However, SEM can only test the linear relationships among cooperative culture, knowledge flow, and governance performance; it cannot effectively explain the causal relationship formed by multiple condition combinations. Therefore, to understand the improvement path of innovation network governance performance in more detail, we used fsQCA to explore the effect of different combinations of cooperative culture and knowledge flow on governance performance. Qualitative comparative analysis (QCA) is a case-oriented method first proposed by Charles Ragin [81]. fsQCA is a research method that introduces fuzzy mathematics into QCA, which can identify the sufficiency and necessity of a particular result using Boolean algebra rules [82]. Furthermore, it focuses on combinatorial effects, reacting to the combination of conditional variables rather than the influence of individual conditional variables on the resulting variables [83]. This study examines the effect of different configurations of cooperative culture and knowledge flow on improving the performance of innovation network governance, and fsQCA suits this well. Therefore, this study combines the SEM and fsQCA methods: first, we used SEM to verify the linear model hypothesis in the conceptual model; then, we used fsQCA to explore the type of governance performance that will result from different combinations of cooperative culture and knowledge flow, effectively identifying paths that generate high governance performance.

4. Results

4.1. Measurement Model

The study utilized SPSS 22.0 and Amos 21.0 to examine the reliability and validity of the conceptual model. The measurement results are shown in Table 1. First, all items' scores for Cronbach's alpha are higher than 0.70, and those for the composite reliability (CR) are higher than 0.8, showing that the scale has good internal consistency and reliability. Second, the analysis of variance (AVE) revealed convergent validity (>0.5), and the factor load values of all indexes are above 0.6. These indicators are within acceptable limits, indicating that each latent variable has discriminant validity [84].

Table 1. Evaluation of the measurement model.

Construct	Cronbach's Alpha	CR	AVE	Factorial Loads
Cooperative culture	0.849	0.889	0.572	0.703–0.803
Knowledge creation	0.82	0.894	0.738	0.819–0.883
Knowledge sharing	0.764	0.867	0.685	0.788–0.869
Innovation network governance performance	0.923	0.94	0.529	0.603–0.811

Note: CR = composite reliability and AVE = average variance extracted.

This study used Amos 21.0 to evaluate the fit of the models. The measurement results are shown in Table 2. Both the goodness-of-fit (GFI) and comparative fit index (CFI) are greater than 0.7, λ2/df <5, and the root mean square error of approximation (RMSEA) is close to 0.1. All indicators are within acceptable limits. Overall, the fit of the model is acceptable [85].

Table 2. Goodness of fit and model comparison. CFI: comparative fit index, GFI: goodness of fit, RMSEA: root mean square error of approximation.

Models	λ2/df	CFI	GFI	RMSEA
Model 1	4.065	0.799	0.742	0.116
Model 2	3.411	0.814	0.751	0.103
Model 3	3.453	0.809	0.743	0.104

NOTE: Model 1 demonstrates the effect of cooperative culture on network governance performance; Model 2 is a mediation model in which the effect of cooperative culture on network governance performance is mediated by knowledge creation; Model 3 is a mediation model in which the effect of cooperative culture on network governance performance is mediated by knowledge sharing.

4.2. Hypothesis Testing

The hypothesis test results are shown in Table 3. Cooperative culture had a significant positive effect on governance performance, and the effect coefficient is 0.543. Thus, H1 is supported. Cooperative culture had a significant positive effect on knowledge creation and knowledge sharing, and the effect coefficients are 0.623 and 0.514, respectively; thus, H2a and H2b are supported. Knowledge creation and knowledge sharing also had a significant positive effect on innovation network governance performance; the effect coefficients are 0.169 and 0.43, respectively. Thus, H3a and H3b are supported.

Table 3. Structural model path coefficient and hypothesis test results.

Structural Path	Estimate	S.E	*p* Values	Hypothesis Testing
Cooperative culture -> Governance performance	0.543	0.079	***	H1 supported
Cooperative culture -> Knowledge creation	0.623	0.08	***	H2 supported
Cooperative culture -> Knowledge sharing	0.514	0.078	***	
Knowledge creation -> Governance performance	0.169	0.061	0.006 **	H3 supported
Knowledge sharing -> Governance performance	0.43	0.087	***	

NOTE: ** $p < 0.01$, *** $p < 0.001$.

In the SEM mediation effect test, if the intervention of a variable can clearly explain the relationship between the independent and dependent variables, it may be a mediator variable. Therefore, we must first verify the relationship between the independent and dependent variables. If there is a high correlation and if the correlation or regression coefficient of the independent and dependent variables is significantly reduced (reducing to 0 implies a complete mediating effect) when the mediator variable

is added, then a mediating effect is apparent. That is, the mediator variable can effectively explain the relationship between the independent and dependent variables [86].

Table 3 shows that cooperative culture had a significant positive effect on knowledge flow and governance performance, and knowledge flow had a significant positive effect on governance performance. It is assumed that knowledge creation and knowledge sharing had a mediating effect on the influence of cooperative culture on governance performance. When knowledge creation was added to cooperative culture and governance performance, cooperative culture still had a positive effect on governance performance; the effect coefficient of influence was reduced from 0.543 to 0.436. This means that knowledge creation had a mediating effect on the process of cooperative culture in governance performance. Similarly, when knowledge sharing was added to cooperative culture and governance performance, cooperative culture still had a positive effect on governance performance; the effect coefficient was reduced from 0.543 to 0.33, which indicates that knowledge sharing had a mediating effect on the process of cooperative culture in governance performance. Thus, H4a and H4b are also supported. The results are shown in Table 4.

Table 4. The mediating role of knowledge creation and knowledge sharing between cooperative culture and governance performance. S.E: standard error of estimate

Structural Path	Mediator Variable	Effect	Estimate	S.E	*p* Values	Hypothesis Testing
Cooperative culture -> Governance performance	–	Direct	0.543	0.079	***	H4 supported
	Knowledge creation	Indirect	0.436	0.078	***	
	Knowledge sharing	Indirect	0.33	0.066	***	

NOTE: *** $p < 0.001$.

Based on the analysis above, Hypotheses 1–4 are supported. Cooperative culture had a significant positive effect on network governance performance and knowledge flow, and knowledge flow had a mediating effect on the relationship between cooperative culture and governance performance. The results are shown in Figure 2.

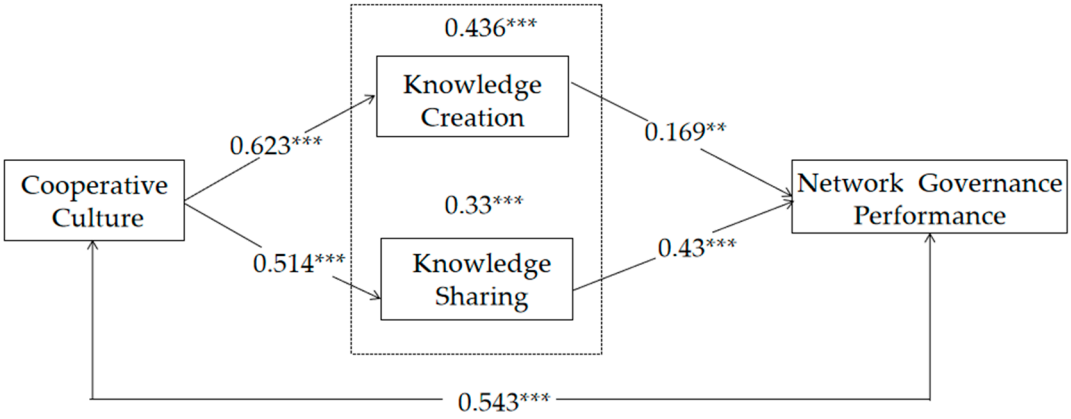

Figure 2. The results of the conceptual model. NOTE: ** $p < 0.01$, *** $p < 0.001$.

4.3. fsQCA Results

4.3.1. Calibration

Calibration converts conventional measurements into a fuzzy set. To convert the Likert scale scores into fuzzy set membership scores, it is necessary to calibrate the aforementioned variables [87]. This study converted the Likert scale into a fuzzy set by calculating the factor score for each latent variable. Following related research (Fiss, 2011 [82]; Ali et al. [88], 2016; Cheng J. [89], 2019), this study

combined the characteristics of the sample data distribution to set the upper and lower quartiles of each condition and their mean values as qualitative anchor points.

4.3.2. Analysis of Necessary Conditions

Before specific path analysis, it is often useful to check the necessary conditions [90]. In the analysis of the necessary conditions for fsQCA, the consistency coefficient of a condition is used to measure the extent to which the result variable is a subset of the condition variable. It is generally accepted that if the consistency coefficient is higher than 0.9, then the conditional variable or its negative variable can be considered as a necessary condition for the result [91]. Table 5 shows the analysis results of the necessary conditions. The consistency coefficients of all the conditions are less than 0.9, indicating that the conditions above are not necessary for high or non-high innovation network governance performance.

Table 5. Analysis of necessary conditions.

Construct	Outcome Variable	
	High Governance Performance	Non-High Governance Performance
	Consistency	Consistency
Cooperative Culture		
Cultural Fit	0.69	0.393
~Cultural Fit	0.393	0.693
Cultural Compatibility	0.807	0.522
~Cultural Compatibility	0.289	0.546
Reciprocity	0.715	0.391
~Reciprocity	0.384	0.711
Knowledge Flow		
Knowledge Creation	0.75	0.421
~Knowledge Creation	0.369	0.702
Knowledge Sharing	0.792	0.398
~Knowledge Sharing	0.317	0.715

4.3.3. The fsQCA Solution

This study used fsQCA 3.0 software for analysis. Following the recommendations of Fiss (2011), this study set the consistency and proportional reduction in consistency (PRI) thresholds to 0.8 and 0.7, respectively. As shown in Table 6, we obtained two solutions leading to high governance performance and four solutions leading to non-high governance performance.

(1) Solutions leading to high governance performance

Solution P1 indicates a fit creation-oriented configuration, with culture fit and knowledge creation, and knowledge sharing as the core conditions. This sort of path shows that in the culture fit-oriented network cultural atmosphere, knowledge flow is key to achieving high governance performance. In other words, in the process wherein cooperative culture plays a governance role, network members pay more attention to the consistency in values. In this condition, the network should focus on establishing a smooth flow of knowledge to promote the sharing, transfer, and absorption of knowledge among members. This will lead to high governance performance.

Solution P2 is a compatible sharing-oriented configuration, with cultural fit, cultural compatibility, and knowledge sharing as the core conditions for high performance and reciprocity as the peripheral condition. This indicates that irrespective of what the conditions and capabilities of network members' knowledge creation are, as long as their cultural ideas and cooperative goals are highly consistent, they can understand, respect, and tolerate one another's values and behaviors, and knowledge can effectively spread and be transferred within the network, resulting in high governance performance.

Table 6. Solutions leading to different governance performance levels.

Construct	High Governance Performance		Non-High Governance Performance			
	P1	**P2**	**M1a**	**M1b**	**M2a**	**M2b**
Cooperative Culture						
Cultural Fit	●	●		⊗	⊗	⊗
Cultural Compatibility		●	⊗	⊗	⊗	
Reciprocity		•	⊗	⊗	⊗	⊗
Knowledge Flow						
Knowledge Creation	●		⊗		⊗	⊗
Knowledge Sharing	●	●	⊗	⊗		⊗
Consistency	0.868	0.875	0.91	0.915	0.906	0.89
Raw Coverage	0.494	0.45	0.356	0.338	0.361	0.416
Unique Coverage	0.101	0.057	0.045	0.026	0.05	0.105
Solution Consistency	0.857		0.858			
Solution Coverage	0.551		0.536			

Note: ● = core casual condition (present). • = peripheral casual condition (present). ⊗ = core casual condition (absent). ⊗ = peripheral casual condition (absent). Blank spaces indicate 'don't care'.

(2) Solutions leading to non-high governance performance

To fully explore the relationships among cooperative culture, knowledge flow, and innovation network governance performance, we further analyzed the four solutions leading to non-high governance performance.

Solutions M1a and b have the same core conditions, reflecting the features of cultural incompatibility and less knowledge sharing. M1a indicates irrespective of whether the culture fit, as long as members cannot understand or embrace one another's values, lack the concept of mutual benefits, or cannot carry out effective knowledge flow, high governance performance will not be achieved. M1b shows that when the cultural ideas among members are inconsistent, no common goal regarding interests exists, and members cannot adapt to one another's behaviors and do not pursue mutual benefits, knowledge cannot be effectively spread and transferred among organizations; no degree of knowledge creation can lead to high governance performance. Comparing solutions M1a and b, we found a mutual substitution effect between cultural fit and knowledge creation. Bouncken (2016) [92] points out that a network with cultural synergies is seen as a source of creativity and innovation, and the understanding and inclusion of members' values by one another is crucial for network governance. Knowledge sharing is also an important method of cultural communication between organizations. In a network with cultural conflicts, various heterogeneous values will exacerbate conflicts of interest among members and fail to form a consistent goal. Additionally, if at the time, smooth cultural communication cannot be carried out, a common goal regarding interests will not be formed, and the combination of cooperative culture and knowledge flow will not fully exert a governance effect. This shows that in a network with an incompatible culture, less knowledge sharing, and no mutual benefits, as long as the cultural fit is low or the knowledge creation ability is insufficient, it is impossible to achieve high governance performance.

Solutions M2a and M2b have the same core conditions, reflecting the features of not promoting mutual benefits and a low degree of knowledge creation. M2a indicates that irrespective of whether knowledge sharing occurs, when the cooperative culture atmosphere in the network is weak and the knowledge creation is low, it cannot lead to high governance performance. M2b shows that irrespective of whether the network members can accommodate one another's conceptual differences, when the cultural ideas are different, there is no mutually beneficial relationship, and the knowledge flow channels are blocked, especially when the knowledge cannot be absorbed or re-innovated, and it cannot result in high governance performance. Comparing solutions M2a and M2b, we found a mutual substitution effect between cultural compatibility and knowledge sharing. Kathan (2015) [93] believes

that the reciprocal relationship between members is the main driving force to promote cooperation, and the new knowledge created by enterprises in the process of cooperation is an important source for improvement in innovation performance. When the cultural identity between organizations is low, mutual benefits are not the main value in the network, and the level of absorption and reuse of other knowledge resources by individuals is not high. In this case, as long as there is conflict between the values of the interests among organizations or the level of knowledge sharing is low, it cannot cause high governance performance.

Comparing the solutions of high governance performance and non-high governance performance, we find that cultural fit and knowledge sharing play important roles in the joint governance of cooperative culture and knowledge flow, and both are indispensable conditions in the two solutions, leading to high governance performance.

5. Discussion

5.1. Theoretical Contributions

First, based on the triadic reciprocal determinism theory, this study introduced knowledge flow into the governance process of cooperative culture of enterprise innovation networks as an intermediary variable and constructed a theoretical model of 'cooperative culture—Knowledge flow—Governance performance'. Second, we used a quantitative method (SEM) to verify the relationships among cooperative culture, knowledge flow, and innovation network governance performance. We found a positive effect of cooperative culture on the innovation network governance performance, in which knowledge flow plays an intermediary role. This discovery has a certain innovative value for cooperative culture in exerting governance in the innovation network. Finally, on the basis of the SEM test results, using the fsQCA method, we revealed that different combinations of cooperative culture and knowledge flow will have different effects on innovation network governance performance. Furthermore, we identified two paths to achieve high governance performance and four paths to achieve non-high governance performance from the perspective of cooperative culture and knowledge flow, which is conducive to promoting the sustainable development of innovation networks.

5.2. Implications for Practice

This study offers several useful and practical managerial implications. First, knowledge flow had a mediating effect on the relationship between cooperative culture and innovation network governance performance. Thus, innovation network governance should focus on creating a good knowledge flow environment and a smooth knowledge-sharing channel and on improving the knowledge creation ability of enterprises. On the one hand, we should increase the willingness of cultural exchanges among members, promote exchanges and interactions among members regarding technical experience and knowledge information, and reduce the risks of opportunistic member behavior and information asymmetry through the establishment of knowledge interaction platforms and cross-organizational work groups. On the other hand, by standardizing the intellectual property protection system in the network and providing timely and reliable knowledge information sources that allow cooperative culture to play a governance role, we can improve the stability of the innovation network and promote its sustainable development.

Second, more attention should be paid to cultural collaboration in innovation networks. The fsQCA results indicated that cultural compatibility and reciprocity are crucial to innovation network governance. Cultural differences among members are common in networks, so building a culture that is recognized by all members of the network is not a one-off process. From the perspective of the sustainable development of innovation networks, the premise of realizing innovation network culture collaboration is the recognition of cultural differences among members, and the identification of commonalities rather than the elimination of cultural differences—namely 'seek common ground while reserving differences' and shape the core value. At the same time, advocating win–win ideas

and improving the collective spirit and cohesiveness among network members is crucial. Building a cooperative culture that reflects the common characteristics of network members and taking into account the interests of every member will improve innovation performance and promote the sustainability of innovation networks through cultural synergy.

Finally, cooperative culture and knowledge flow are guarantees for the sustainable development of innovation networks. The combination of cooperative culture and knowledge flow elements can form multiple paths for efficient governance networks, which is conducive to the sustainable development of the innovation network. In order to give full play to their roles in ensuring the sustainable development of the network, we should build a cultural orientation atmosphere that is suitable for a specific network based on the characteristics of knowledge flow in the network and its members' abilities, in order to allow cultural soft constraints to better play a role in governance. A good collaborative atmosphere formed by cooperative culture is conducive to promoting knowledge exchange among members. In this case, the combination of cooperative culture and knowledge flow can achieve effective governance in the innovation network, which can undoubtedly promote the sustainable development of the network.

5.3. Limitations and Future Research

This study has the following limitations. First, it divided cooperative culture into three dimensions, namely cultural fit, cultural compatibility, and reciprocity, based on the deductions of various relevant domestic and foreign literature. However, there may be more factors that influence cooperative culture, so this division may not be comprehensive enough; therefore, further research should enrich the connotation of cooperative culture. Second, culture is a highly contextual variable with certain geographical and national characteristics. The sample of this study comes mainly from the mainland of China, and therefore, generalization to the international applicability of the study's conclusions needs further verification due to differences between Eastern and Western cultures. Future researchers must be cautious when applying our findings in other contexts.

6. Conclusions

Based on the sample data of 227 enterprises in innovation networks, and combined SEM and fsQCA methods, this study explored the relationships among cooperative culture, knowledge flow, and innovation network governance performance. This paper draws the following conclusions. First, empirical (SEM) results validate all the research hypotheses, indicating that cooperative culture has a significant positive effect on network governance performance and knowledge flow, and knowledge flow has a mediating effect on the relationship between cooperative culture and governance performance. Second, the fsQCA method is used to derive two paths combined with the three dimensions of cooperative culture and the two dimensions of knowledge flow for achieving high innovation network governance performance. Furthermore, they exhibit different characteristics, which are the fit creation-oriented and compatible sharing-oriented paths; four paths that lead to non-high governance performance are obtained as well. These findings provide new ideas for governance innovation networks through cooperative culture and knowledge flow and for the further promotion of the sustainable development of innovation networks.

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References

1. Jones, C.; Hesterly, W.S.; Borgatti, S.P. A general theory of network governance: Exchange conditions and social mechanisms. *Acad. Manag. Rev.* **1997**, *22*, 911–945. [CrossRef]
2. Imai, K.B.Y. Systemic Innovation and CrossBorder Networks: Transcending Markets and Hierarchies to Create a New Techno-Economies System. In *Conference on Science Technology and Economic Growth*; OECD: Paris, France, 1989.
3. Herstad, S.J.A.; Ebersberger, H.W.B. On industrial knowledge bases, commercial opportunities and global innovation network linkages. *Res. Policy* **2014**, *43*, 495–504. [CrossRef]
4. Xie, X.M.; Fang, L.X.; Zeng, S.X. Collaborative innovation network and knowledge transfer performance: A fsQCA approach. *J. Bus. Res.* **2016**, *69*, 5210–5215. [CrossRef]
5. Vaaland, T.I.; Håkansson, H. Exploring interorganizational conflict in complex projects. *Ind. Mark. Manag.* **2003**, *32*, 127–138. [CrossRef]
6. Moran, P. Structural vs. relational embeddedness: Social capital and managerial performance. *Strateg. Manag. J.* **2005**, *26*, 1129–1151. [CrossRef]
7. Cheng, S.W. Cultural goods creation, cultural capital formation, provision of cultural services and cultural atmosphere accumulation. *J. Cult. Econ.* **2006**, *30*, 263–286. [CrossRef]
8. Capello, R.; Faggian, A. Collective learning and relational capital in local innovation processes. *Reg. Stud.* **2005**, *39*, 75–87. [CrossRef]
9. James, A. Demystifying the role of culture in innovative regional economies. *Reg. Stud.* **2005**, *39*, 1197–1216. [CrossRef]
10. Asheim, B.T.; Isaksen, A. Regional innovation systems: The integration of local 'sticky' and global 'ubiquitous' knowledge. *J. Technol. Transf.* **2002**, *27*, 77–86. [CrossRef]
11. Park, J.; Chae, H.; Choi, J.N. The need for status as a hidden motive of knowledge-sharing behavior: An application of costly signaling theory. *Hum. Perform.* **2017**, *30*, 21–37. [CrossRef]
12. Gao, S. Review of Self-Efficacy Theory. *Psychol. Dev. Educ.* **2000**, *16*, 60–64.
13. Ajmal, M.M.; Koskinen, K.U. Knowledge Transfer in Project-Based Organizations: An Organizational Culture Perspective. *Proj. Manag. J.* **2008**, *39*, 7–15. [CrossRef]
14. Boh, W.F.; Nguyen, T.T.; Xu, Y. Knowledge transfer across dissimilar cultures. *J. Knowl. Manag.* **2013**, *17*, 29–46.
15. Wang, H.H.; Xie, F.J.; Zhou, S.A. Interactive Mechanism of Enterprise's Internal and External Knowledge Networks in Open Innovation. In Proceedings of the International Symposium on Management of Technology (ISMOT), Hangzhou, China, 8 November 2012; pp. 395–399.
16. Goerzen, A.; Beamish, P.W. The effect of alliance network diversity on multinational enterprise performance. *Strateg. Manag. J.* **2005**, *26*, 333–354. [CrossRef]
17. Rupietta, C.; Backes-Gellner, U. Combining knowledge stock and knowledge flow to generate superior incremental innovation performance—Evidence from Swiss manufacturing. *J Bus Res* **2019**, *94*, 209–222. [CrossRef]
18. Frenz, M.; Ietto-Gillies, G. The impact on innovation performance of different sources of knowledge: Evidence from the UK Community Innovation Survey. *Res. Policy* **2009**, *38*, 1125–1135. [CrossRef]
19. Tortoriello, M.; Reagans, R.; McEvily, B. Bridging the Knowledge Gap: The Influence of Strong Ties, Network Cohesion, and Network Range on the Transfer of Knowledge Between Organizational Units. *Organ. Sci.* **2012**, *23*, 1024–1039. [CrossRef]
20. Bhagat, R.S.; Kedia, B.L.; Harveston, P.D.; Triandis, H.C. Cultural variations in the cross-border transfer of organizational knowledge: An integrative framework. *Acad. Manag. Rev.* **2002**, *27*, 204–221. [CrossRef]
21. Abou-Zeid, E.-S. A culturally aware model of inter-organizational knowledge transfer. *Knowl. Manag. Res. Pract.* **2005**, *3*, 146–155. [CrossRef]
22. Schilling, M.A.; Fang, C. When hubs forget, lie, and play favorites: Interpersonal network structure, information distortion, and organizational learning. *Strateg. Manag. J.* **2014**, *35*, 974–994. [CrossRef]
23. Chen, Z.; Huang, S.L.; Liu, C.; Min, M.; Zhou, L.Y. Fit between Organizational Culture and Innovation Strategy: Implications for Innovation Performance. *Sustainability* **2018**, *10*, 3378. [CrossRef]
24. Wei, Y.H.; Miraglia, S. Organizational culture and knowledge transfer in project-based organizations: Theoretical insights from a Chinese construction firm. *Int. J. Proj. Manag.* **2017**, *35*, 571–585. [CrossRef]

25. Thorgren, S.; Wincent, J.; Ortqvist, D. Designing interorganizational networks for innovation: An empirical examination of network configuration, formation and governance. *J. Eng. Technol. Manag.* **2009**, *26*, 148–166. [CrossRef]
26. Chatman, J.A.; Barsade, S.G. Personality, Organizational Culture, And Cooperation—Evidence from a Business Simulation. *Adm. Sci. Q.* **1995**, *40*, 423–443. [CrossRef]
27. Chen, Y.J. Knowledge integration and sharing for collaborative molding product design and process development. *Comput. Ind.* **2010**, *61*, 659–675. [CrossRef]
28. Flanagan, J. Together, Sharing Knowledge. *Int. J. Nurs. Terminol. Classif.* **2010**, *21*, 49.
29. Sun, G. An Empirical Study on the Influence of Network Organizational Governance Mechanism on Governance Capability. *High. Financ. Educ. Res.* **2015**, *18*, 31–49.
30. Knockaert, M.; Ucbasaran, D.; Wright, M.; Clarysse, B. The relationship between knowledge transfer, top management team composition, and performance: The case of science—Based entrepreneurial firms. *Entrep. Theory Pract.* **2011**, *35*, 777–803. [CrossRef]
31. Alkhuraiji, A.; Liu, S.F.; Oderanti, F.O.; Megicks, P. New structured knowledge network for strategic decision-making in IT innovative and implementable projects. *J. Bus. Res.* **2016**, *69*, 1534–1538. [CrossRef]
32. No, H.J.; An, Y.; Park, Y. A structured approach to explore knowledge flows through technology-based business methods by integrating patent citation analysis and text mining. *Technol. Forecast. Soc. Chang.* **2015**, *97*, 181–192. [CrossRef]
33. Lin, Y.C.; Wang, L.C.; Tserng, H.P. Enhancing knowledge exchange through web map-based knowledge management system in construction: Lessons learned in Taiwan. *Autom. Constr.* **2006**, *15*, 693–705. [CrossRef]
34. Tranfield, D.; Denyer, D.; Marcos, J.; Burr, M. Co-producing management knowledge. *Manag. Decis.* **2004**, *42*, 375–386. [CrossRef]
35. Zarraga, C.; Bonache, J. Assessing the team environment for knowledge sharing: An empirical analysis. *Int. J. Hum. Resour. Manag.* **2003**, *14*, 1227–1245. [CrossRef]
36. Li, R.; Du, Y.F.; Tang, H.J.; Boadu, F.; Xue, M. MNEs' subsidiary HRM practices and firm innovative performance: A tacit knowledge approach. *Sustainability* **2019**, *11*, 1388. [CrossRef]
37. Yu, C.; Zhang, Z.; Lin, C.; Wu, Y. Knowledge creation process and sustainable competitive advantage: The role of technological innovation capabilities. *Sustainability* **2017**, *9*, 2280. [CrossRef]
38. Oyemomi, O.; Liu, S.; Neaga, I.; Chen, H.; Nakpodia, F. How cultural impact on knowledge sharing contributes to organizational performance: Using the fsQCA approach. *J. Bus. Res.* **2019**, *94*, 313–319. [CrossRef]
39. Caputo, A.; Ayoko, O.B.; Amoo, N. The moderating role of cultural intelligence in the relationship between cultural orientations and conflict management styles. *J. Bus. Res.* **2018**, *89*, 10–20. [CrossRef]
40. Rai, R.K. Knowledge management and organizational culture: A theoretical integrative framework. *J. Knowl. Manag.* **2011**, *15*, 779–801. [CrossRef]
41. Tong, J.; Mitra, A. Chinese cultural influences on knowledge management practice. *J. Knowl. Manag.* **2009**, *13*, 49–62. [CrossRef]
42. Sullivan, J.J.; Nonaka, I. The application of organizational learning-theory to Japanese and American management. *J. Int. Bus. Stud.* **1986**, *17*, 127–147. [CrossRef]
43. Messica, A. Management of information flow in innovation networks. In Proceedings of the First International Technology Management Conference, San Jose, CA, USA, 27–30 June 2011.
44. Nelson, R.E. Adversity, Organizational Culture and Executive Turnover in a Brazilian Manufacturer. *Organ. Stud.* **2011**, *32*, 407–425. [CrossRef]
45. Kim, S.; Kim, H.; Kim, E. How knowledge flow affects Korean ICT manufacturing firm performance: A focus on open innovation strategy. *Technol. Anal. Strateg. Manag.* **2016**, *28*, 1167–1181. [CrossRef]
46. Able, M.H. Knowledge map-based web platform to facilitate organizational learning return of experiences. *Comput. Hum. Behav.* **2015**, *51*, 960–966. [CrossRef]
47. Asheim, B.T.; Boschma, R.; Cooke, P. Constructing Regional Advantage: Platform Policies Based on Related Variety and Differentiated Knowledge Bases. *Reg. Stud.* **2011**, *45*, 893–904. [CrossRef]
48. Miguelez, E.; Moreno, R. Knowledge flows and the absorptive capacity of regions. *Res. Policy* **2015**, *44*, 833–848. [CrossRef]

49. Blomqvist, K.; Hurmelinna-Laukkanen, P.; Nummela, N.; Saarenketo, S. The role of trust and contracts in the internationalization of technology-intensive Born Globals. *J. Eng. Technol. Manag.* **2008**, *25*, 123–135. [CrossRef]
50. Cook, W.D.; Liang, L.; Zhu, J. Measuring performance of two-stage network structures by DEA: A review and future perspective. *Omega* **2010**, *38*, 423–430. [CrossRef]
51. Hsiao, Y.C.; Chen, C.J.; Choi, Y.R. The innovation and economic consequences of knowledge spillovers: Fit between exploration and exploitation capabilities, knowledge attributes, and transfer mechanisms. *Technol. Anal. Strateg. Manag.* **2017**, *29*, 872–885. [CrossRef]
52. Bandyopadhyay, S.; Pathak, P. Knowledge sharing and cooperation in outsourcing projects—A game theoretic analysis. *Decis. Support Syst.* **2007**, *43*, 349–358. [CrossRef]
53. Kong, D.Z. Research on the Impact of Innovative Network Knowledge Flow on Enterprise Innovation Performance—Based on Network Embeddedness Perspective. *Forecast* **2019**, *38*, 45–51.
54. Akhavan, P.; Hosseini, S.M. Social capital, knowledge sharing, and innovation capability: An empirical study of R&D teams in Iran. *Technol. Anal. Strat.* **2016**, *28*, 96–113. [CrossRef]
55. Forés, B.; Camisón, C. Does incremental and radical innovation performance depend on different types of knowledge accumulation capabilities and organizational size? *J. Bus. Res.* **2016**, *69*, 831–848. [CrossRef]
56. Zheng, W.; Yang, B.Y.; McLean, G.N. Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. *J. Bus. Res.* **2010**, *63*, 763–771. [CrossRef]
57. Zhang, X.; Zheng, Z.; Huang, K.; Wang, P. Organizational culture, inter-organizational learning ability and innovation performance of the technology alliance of small and medium enterprises. In Proceedings of the IEEE International Conference on Industrial Engineering and Engineering Management, Bangkok, Thailand, 10–13 December 2013; pp. 29–33.
58. Cheng, J.H.; Chen, M.C.; Huang, C.M. Assessing inter-organizational innovation performance through relational governance and dynamic capabilities in supply chains. *Supply Chain Manag* **2014**, *19*, 173–186. [CrossRef]
59. Moon, H.; Lee, C. The Mediating Effect of Knowledge-Sharing Processes on Organizational Cultural Factors and Knowledge Management Effectiveness. *Perform. Improv. Q.* **2014**, *26*, 25–52. [CrossRef]
60. Soto-Acosta, P.; Popa, S.; Palacios-Marques, D. Social web knowledge sharing and innovation performance in knowledge-intensive manufacturing SMEs. *J. Technol. Transf.* **2017**, *42*, 425–440. [CrossRef]
61. Ostrom, A.L.; Bitner, M.J.; Brown, S.W.; Burkhard, K.A.; Goul, M.; Smith-Daniels, V.; Demirkan, H.; Rabinovich, E. Moving Forward and Making a Difference: Research Priorities for the Science of Service. *J. Serv. Res.* **2010**, *13*, 4–36. [CrossRef]
62. Peltokorpi, V.; Froese, F. Expatriate personality and cultural fit: The moderating role of host country context on job satisfaction. *Int. Bus. Rev.* **2014**, *23*, 293–302. [CrossRef]
63. Marsden, T. Towards the Political-Economy of Pluriactivity. *J. Rural Stud.* **1990**, *6*, 375–382. [CrossRef]
64. Xu, M. Research on the Relationship between Industry-University-Research Partner Matching, Knowledge Sharing and Cooperation Performance. Ph.D. Thesis, South China University of Technology, Guangzhou, China, 2018.
65. Oliver, N. Work Rewards, Work Values, and Organizational Commitment in an Employee-Owned Firm: Evidence from the U.K. *Hum. Relat.* **1990**, *43*, 513–526. [CrossRef]
66. Owen-Smith, J.; Powell, W.W. Knowledge networks as channels and conduits: The effects of spillovers in the Boston biotechnology community. *Organ. Sci.* **2004**, *15*, 5–21. [CrossRef]
67. Li, Z.; Liang, X.; Zhao, L. Relationship between Industrial Cluster Network Structure and Enterprise Innovation Performance. *Sci. Res.* **2007**, *4*, 777–782.
68. Duhaime, I.M. Determinants of Competitive Advantage in The Network Organization Form: A Pilot Study. *J. Econ. Bus.* **2002**, *35*, 413–440. [CrossRef]
69. Semret, N.; Lazar, A.A. *Market Mechanisms for Network Resource Sharing*; Columbia University: New York, NY, USA, 1999.
70. Fan, J. Research on the Performance of Inter-Firm Network Governance. Shanxi University of Finance and Economics. *China Ind. Econ.* **2006**, *2*, 73–79.
71. Hagedoorn, J.; Cloodt, M. Measuring innovative performance: Is there an advantage in using multiple indicators? *Res. Policy* **2003**, *32*, 1365–1379. [CrossRef]

72. Laursen, K.; Salter, A. Open for innovation: The role of openness in explaining innovation performance among UK manufacturing firms. *Strateg. Manag. J.* **2006**, *27*, 131–150. [CrossRef]
73. Han, Y.Q.; Li, D.Y. Effects of intellectual capital on innovative performance the role of knowledge-based dynamic capability. *Manag. Decis.* **2015**, *53*, 40–56. [CrossRef]
74. Ageron, B.; Gunasekaran, A.; Spalanzani, A. Sustainable supply management: An empirical study. *Int. J. Prod. Econ.* **2012**, *140*, 168–182. [CrossRef]
75. Lee, J.N. The impact of knowledge sharing, organizational capability and partnership quality on IS outsourcing success. *Inf. Manag.* **2001**, *38*, 323–335. [CrossRef]
76. Van Den Hooff, B.; De Ridder, J.A. Knowledge sharing in context: The influence of organizational commitment, communication climate and CMC use on knowledge sharing. *J. Knowl. Manag.* **2004**, *8*, 117–130. [CrossRef]
77. Cho, K.R.; Lee, J. Firm Characteristics and MNC's Intra-Network Knowledge Sharing. *Manag. Int. Rev.* **2004**, *44*, 435–455.
78. Thornhill, S. Knowledge, innovation and firm performance in high- and low-technology regimes. *J. Bus. Ventur.* **2006**, *21*, 687–703. [CrossRef]
79. Steenkamp, J.B.E.; Van Trijp, H.C. The use of LISREL in validating marketing constructs. *Int. J. Res. Mark.* **1991**, *8*, 283–299. [CrossRef]
80. Bollen, K.A.; Long, J.S. *Testing Structural Equation Models*; Sage: Newcastle upon Tyne, UK, 1993.
81. Ragin, C.C. *The Comparative Method: Moving beyond Qualitative and Quantitative Strategies*; University of California Press: Berkeley, CA, USA, 2014.
82. Fiss, P.C. Building Better Causal Theories: A Fuzzy Set Approach to Typologies in Organization Research. *Acad. Manag. J.* **2011**, *54*, 393–420. [CrossRef]
83. Drass, K.; Ragin, C.C. *fs/QCA: Fuzzy Set/Qualitative Comparative Analysis*; Institute for Policy Research, Northwestern University: Evanston, IL, USA, 1999.
84. Fornell, C.; Larcker, D.F. Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* **1981**, *18*, 39–50. [CrossRef]
85. Bagozzi, R.P.; Yi, Y. On the evaluation of structural equation models. *J. Acad. Mark. Sci.* **1988**, *16*, 74–94. [CrossRef]
86. Iacobucci, D.; Saldanha, N.; Deng, X.Y. A meditation on mediation: Evidence that structural equations models perform better than regressions. *J. Consum. Psychol.* **2007**, *17*, 139–153. [CrossRef]
87. Woodside, A.G.; Zhang, M. Identifying X-Consumers Using Causal Recipes: "Whales" and "Jumbo Shrimps" Casino Gamblers. *J. Gambl. Stud.* **2012**, *28*, 13–26. [CrossRef]
88. Ali, M.; Kan, K.A.S.; Sarstedt, M. Direct and configurational paths of absorptive capacity and organizational innovation to successful organizational performance. *J. Bus. Res.* **2016**, *69*, 5317–5323. [CrossRef]
89. Cheng, J.; Du, L.J.; Yan, Y.; Zhong, J. When institutional contexts and psychological cognition can stimulate entrepreneurship activity: A study based on QCA approach. *Sci. Sci. Manag.* **2019**, *40*, 114–131.
90. Ragin, C.C. *Redesigning Social Inquiry: Fuzzy Sets and Beyond*; University of Chicago Press: Chicago, IL, USA, 2009.
91. Misangyi, V.F.; Greckhamer, T.; Furnari, S.; Fiss, P.C.; Crilly, D.; Aguilera, R. Embracing Causal Complexity: The Emergence of a Neo-Configurational Perspective. *J. Manag.* **2017**, *43*, 255–282. [CrossRef]
92. Bouncken, R.; Brem, A.; Kraus, S. Multi-Cultural Teams as Sources for Creativity and Innovation: The Role of Cultural Diversity on Team Performance. *Int. J. Innov. Manag.* **2016**, *20*, 1650012. [CrossRef]
93. Kathan, W.; Hutter, K.; Füller, J.; Hautz, J. Reciprocity vs. free-riding in innovation contest communities. *Creat. Innov. Manag.* **2015**, *24*, 537–549. [CrossRef]