

# The Influence of the Configuration Effect of Social Capital and Knowledge Absorptive Capacity on the Cooperation Intensity of Cooperatives Participating in Agricultural Industrialization Consortia

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**Abstract.** Agricultural industrialization consortia fully realize the organizational advantages of division of labor, risk sharing, and benefit sharing, which mainly rely on close cooperation of members under integrated governance, but the current influence mechanism on the intensity of cooperation is yet to be explored in depth. Using 40 member cooperatives of agricultural industrialization consortia in Sichuan Province as research samples, this paper explores the mechanism by which the configuration effects of five conditional factors at the levels of social capital and knowledge absorptive capacity can generate different cooperative intensity of cooperative participation in consortia using fuzzy set qualitative comparative analysis. It was found that (1) the driving mechanism of high cooperative intensity of cooperatives was divided into three paths; (2) the driving mechanism of non-high cooperative intensity of cooperatives was divided into two paths and had an asymmetric relationship with the driving mechanism of high cooperative intensity of cooperatives. The findings of this paper help to expand the research perspective on cooperative intensity at the level of social capital and knowledge absorptive capacity configuration, and provide useful insights for improving the cooperative intensity of cooperative participation in consortia and the cooperative tightness among consortium members.

## 1 Introduction

Agricultural industrialization consortium (referred to as "consortium") is the most cutting-edge organizational innovation form of integrated development of one, two, three industries in rural China, the core of which lies in the alliance of "leading enterprises + cooperatives + family farms", through the vertical dimension of The core is the alliance of "leading enterprises + cooperatives + family farms", which realizes the advantages of high division of labor, risk sharing and revenue sharing through "refinement of division of labor + factor integration" in vertical dimension and "scale expansion + market position enhancement" in horizontal dimension [1]. Thus, the formation of close cooperation under the comprehensive governance and chapter management of members is an important prerequisite for the high-quality development of the consortium and a prominent problem that needs to be solved nowadays [2], but there is still an in-depth discussion on how to deepen the intensity of cooperation among members. This paper selects cooperatives as the research object to explore the influence mechanism of cooperative participation in the intensity of cooperation in consortia.

Scholars have conducted research on the intensity of cooperation from the perspectives of cultural differences

[3], stakeholders [4], social capital [5], and knowledge absorptive capacity [6]. However, in the era of competitive knowledge economy, knowledge resources play a particularly prominent role if organizations occupy a dominant position in the market. It has been shown that social capital, as the external carrier of knowledge resources, can provide heterogeneous, high-value resources and enrich the quantity of resources [5], so that resources create value under accumulation, promote organizations to form a cooperative vision [7], make coordination for common interests [8], and thus deepen cooperation; knowledge absorptive capacity, as the internal value driver of knowledge resources, can deepen cooperation by mastering the breadth, intensity, and effectiveness [6], can enhance the confidence and strength of organizational cooperation [9], determine the choice of cooperative behavior, and influence the depth of cooperation. In the existing results, social capital and knowledge absorptive capacity have mostly studied the net effect on the depth of cooperation from a single perspective, but in reality the two tend to jointly influence the depth of cooperation, and at the same time the depth of cooperation as a complex result of the interaction of multiple elements, it is also difficult for a single element to make an adequate explanation, and there is also a lack of research on the mechanism of the role of social capital and knowledge absorptive capacity in the group state.

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Therefore, this paper uses the fuzzy-set qualitative comparative analysis (fsQCA) approach to investigate how social capital and knowledge absorptive capacity synergistically affect the cooperative intensity of cooperatives in consortia, using the "social capital - knowledge absorptive capacity" configuration perspective? What specific influence paths exist? The results of the study can expand the research perspective on cooperation intensity from the perspective of social capital and knowledge absorptive capacity configuration, and provide insights for improving the cooperation intensity of cooperatives in consortia and the cooperation tightness among consortium members.

## 2 Literature review and model construction

### 2.1 Social capital

Social capital was first proposed by Putnam [8], who considered social capital as "the characteristics of social organizations, including trust, norms and networks", and this paper takes member cooperatives as independent subjects, and social capital is the organizational characteristics of cooperatives within the consortium. Among the existing studies, Uphoff [10] et al. divided social capital into structural social capital and cognitive social capital, which refer to external social networks and trust among organizational members, respectively, while Adler [11] et al. divided it into physical capital, human capital and social capital. Although there are different ways about the division of social capital, the connotations of the adopted dimensions are similar. Given that trust, norms and network are the classical analytical structures of social capital, this paper refers to Putnam's [8] division and divides the social capital of cooperatives into three aspects: relational network, member trust and subjective norms.

(1) Member trust is a kind of belief that others can satisfy their wishes at the cognitive and emotional levels, which is reflected in the cooperative's cognitive trust in recognizing the working ability of other members, and the belief that other members have no harm motivation and tendency to satisfy their wishes at the emotional trust level [12]. The establishment of trust among cooperative members can deepen the recognition of other members of the consortium, enhance the cohesion and enhance the sense of cooperation security, so it can continuously deepen the intensity of cooperation.

(2) Subjective norms are the perceptions of the organizations involved in the cooperation process about their responsibilities, which are expressed in the clarity and acceptance of responsibilities. The subjective norms of cooperatives can fit the idiosyncratic duty goals [13], based on which they will guide their behaviors toward deeper cooperation. Therefore, stronger subjective norms can continuously constrain and modify cooperative behaviors through the identification of their own duty goals, and thus continuously deepen the intensity of cooperation.

(3) Relational network is the degree of network

overlap with other organizations in the interaction of formal and informal networks [14], that is, the degree of interaction of cooperatives with other members of the consortium in formal networks of business transactions such as order transactions, and informal networks that are logical in terms of emotions and follow the unwritten rules of behavior in interpersonal relationships. Cooperatives are able to establish and enhance their own value and establish mutually dependent cooperative relationships by continuously spreading and integrating knowledge resources through the interaction of relational networks. Therefore, relational networks can strengthen the flow of knowledge resources between cooperatives and other members through formal and informal interactions, and deepen the intensity of cooperation in participating in the consortium.

### 2.2 Knowledge absorptive capacity

Knowledge absorptive capacity was first proposed by Choen & Levinthal [15], which considered knowledge absorptive capacity as the ability of an organization or an individual to identify, evaluate, digest and apply new external knowledge. Zahra et al [16], based on Choen & Levinthal [15], further divided absorptive capacity into potential knowledge absorptive capacity, which refers to the ability to acquire and digest external knowledge, and the latter refers to the ability to transform and apply the digested external knowledge. Some domestic scholars divide the knowledge absorptive ability into three dimensions of knowledge cognition, knowledge acquisition and digestion, and knowledge integration [17]. Considering the reality that cooperative groups are generally not highly educated, the knowledge absorptive process is difficult to be shown clearly from acquisition, absorptive, conversion and application in detail, meanwhile, technology is an industrial development element and organizational advantage independent of the scale of operation, and there is a special demand for technology in agricultural production and management organizations, this study focuses on technology-level knowledge, and draws on the division of Zahra et al [16] to classify knowledge absorptive capacity is divided into potential knowledge absorptive capacity and realized knowledge absorptive capacity for examination.

(1) Potential knowledge absorptive capacity is the ability to acquire and absorb knowledge resources [16], which is expressed as the storage of knowledge resources. The process of acquiring and absorbing knowledge resources by cooperatives can effectively fill the technical knowledge gaps required for their development, and the strong potential knowledge absorptive capacity can greatly save the cost of time and money for technical knowledge search. Therefore, the potential knowledge absorptive capacity deepens the depth of cooperation of participating cooperatives with the effect of efficient knowledge reserve.

(2) Realistic knowledge absorptive ability is the conversion and application ability of the reserved knowledge resources [16], which is expressed as the commercial application of knowledge resources. The

stronger the realistic knowledge absorptive capacity of cooperatives, the higher the ability to create wealth [ ], and the easier it is to attract organizations with complementary resources and capabilities to carry out cooperation, obtain higher profits, and achieve win-win situation. Therefore, the role of realistic knowledge absorptive capacity on knowledge commercialization application deepens the cooperation depth of participating cooperatives.

### 2.3 Cooperation intensity

Cooperation intensity is expressed as the degree of specific cooperative behavior between subjects [ ], the consortium through the cooperative behavior of members in order to achieve the integration of the organization's development, the process requires efficient collaboration

and communication among members, as well as the sharing of comprehensive resource elements [ ], that is, the realization of members to actively promote their own work, reasonable distribution of benefits, sincere advice and effective consultation between each other, and continuous resource in participation in the work of the consortium The paper is based on professional division of labor, communication and communication. For this reason, this paper determines the intensity of cooperation in cooperatives based on the degree of cooperative behavior at three levels: professional division of labor, communication, and resource input.

Based on the above analysis, the model of the influence of the "social capital-knowledge absorptive capacity" configuration on the cooperation intensity is shown in Figure 1.

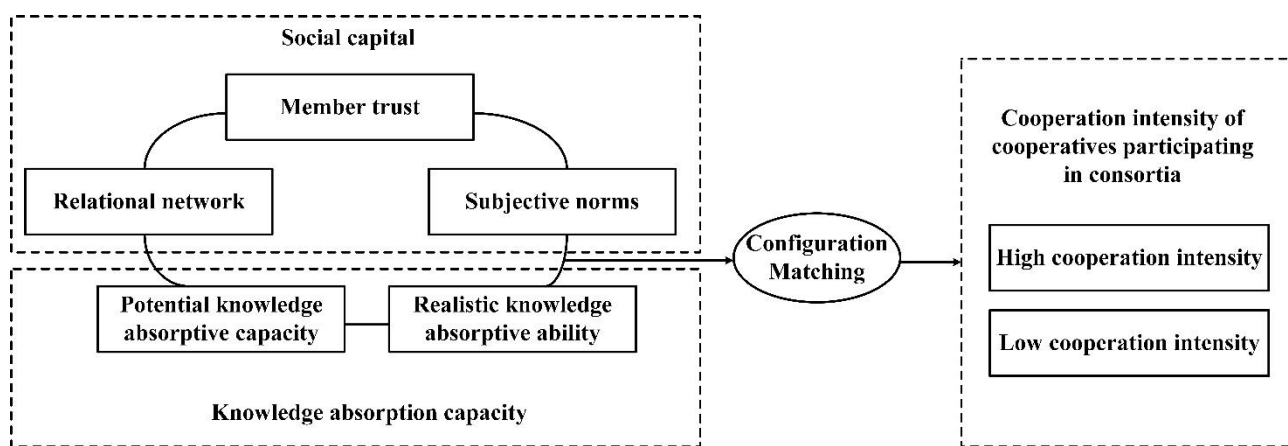


Fig. 1. The model of "Social capital - knowledge absorptive capacity" configuration- cooperation intensity

## 3 Study design

### 3.1 Data collection

In this paper, we selected 40 member cooperatives in 22 consortia in Deyang, Nanchong, Zigong, Mianyang, Suining, and Ya'an regions with the leading industries of cereals and oils, livestock and poultry, tea, herbs, vegetables, fruits, and dried fruits and spices as the research objects, based on the distribution of "10+3" industries and the economic geography of different cities and states in Sichuan Province. Since the variables in this paper are all at the cooperative level, the heads of the 40 cooperatives were selected for in-depth interviews, and relevant information such as internal working documents, publicity manuals, and media reports of the cooperatives were collected.

### 3.2 Variable measurement and assignment

In this paper, member trust, subjective norms, relationship network, potential knowledge absorptive ability, and realistic knowledge absorptive ability were used as the antecedent variables and cooperation intensity was used as the outcome variable. To ensure the reliability and validity of the scales, the variables were referred to the established scales, and the arithmetic mean of the question items was

used to assign the relationship network, and the mean of the likert5 scale scores was used to assign the remaining variables.

(1). Antecedent variables. Members' trust was determined by the scale of Wei Ying [21], and was defined as "other members are capable of doing the work of the cooperative" and "other members will not act against the interests of the cooperative". The subjective norms were based on the scales of Chang Hongjin [22] and Dang Xinghua et al. [23], and were defined as "the cooperative is clear about its own responsibilities in the operation and development of the consortium" and "the cooperative agrees with its own responsibilities in the operation and development of the consortium". The network is based on Uzzi et al.'s [24] scale and is defined as "the percentage of members who have business dealings within the consortium" and "the percentage of members who have private dealings within the consortium". Levintha [15] and Wei-Ying [25], the potential knowledge absorptive capacity is defined as "it is a daily task of the cooperative to pay attention to new technological knowledge in the industry", "the cooperative has specialized personnel and systems to acquire technological knowledge", "the cooperative is able to search and evaluate the knowledge quickly", "the cooperative is able to search and evaluate the knowledge quickly", and "the cooperative is able to search and evaluate the knowledge quickly". "The cooperative is able to quickly search and evaluate new

technological knowledge," "The cooperative is able to quickly analyze and understand the specific use of new technological knowledge within the organization," and "New technological knowledge is frequently shared within the cooperative. "The five measures of realistic knowledge absorptive capacity were based on the scales of Jansen [26] and Wei Ying [25], and were defined as "cooperatives can easily apply new technologies", "cooperatives can quickly integrate new technological knowledge with their previous ones ", "Cooperatives often communicate how to better develop and apply new technological knowledge", "Cooperatives can quickly find new technological knowledge they have learned when needed", "Applying new technological knowledge The cooperative has a clear competitive advantage from the application of new technology".

(2) Outcome variables. The intensity of cooperation was determined by drawing on the scale of Xue Wei [27], Deng Jiaojiao [28], and Dang Xinghua [29] as "cooperatives have proactively completed their own work specified by the consortium", "cooperatives can reasonably distribute benefits and maintain win-win situation in cooperation", "cooperatives have invested more manpower after joining the consortium", "cooperatives have invested more money and equipment after joining the consortium", and "cooperatives have proactively offered opinions and equipment to other members". "The cooperative has invested more manpower after joining the consortium", "The cooperative has invested more capital and equipment after joining the consortium", "The cooperative society has proactively offered opinions and suggestions to other members ",

"Cooperative and other members encounter conflicts that can be solved after mutual consultation" with a total of 6 measurement items.

### 3.3 Reliability and validity analysis

In the QCA method, the number of conditional logical combinations is  $2^n$  under the condition that the number of antecedent variables is  $n$ . The number of antecedent variables in this paper is 5, and the number of selected cases is  $40 > 2^5 = 32$ , which meets the requirements. And the exploratory factor analysis showed that the scale items satisfied the KMO value greater than 0.5 and the Bartlett statistic value less than 0.001, all the items were from related literature, experts in related fields were consulted before the questionnaire was confirmed, some references and contents of the questionnaire were pretested and corrected, meanwhile, triangulation validation [30] was applied to further ensure the reliability and validity of the study.

### 3.4 Variable standardized

Before the results of the fsQCA run, the raw values need to be standardized and calibrated to a degree of affiliation between 0 and 1. In this paper, the 25% quantile, 75% quantile and median are used as the three anchor points to define the "full affiliation point", "full disaffiliation point" and "crossover point" [31], respectively. The standardized results are shown in Table 1 below.

**Table 1.** Summary of standardized assignment of variables

Variables type	Measurement Dimension	Anchor points		
		Full affiliation point	crossover point	Full disaffiliation point
Antecedent variables	Member trust	5	4.25	4
	Subjective norms	5	4.5	4
	Relationship network	0.62625	0.4475	0.225
	Potential knowledge absorptive capacity	4.4	4.2	4
	Realistic knowledge absorptive capacity	4.6	4.3	4
Outcome variables	Participating in the cooperation of the consortium	4.5	4	4

## 4 Analysis of data results

### 4.1 Single factor Necessity Analysis

Before analyzing the fuzzy set necessity truth table procedure, the necessity condition needs to be checked. Necessary conditions are conditions that must exist to cause the outcome to occur and are necessary when the

necessity test value is greater than 0.9. As can be seen from Table 2, the necessity values of the single antecedent conditions affecting the participation of high cooperatives in the consortium cooperation are all less than 0.9, indicating that the explanatory power of each single antecedent condition on the results is insufficient. Therefore, a group analysis of the above antecedent conditions is needed to investigate the different paths that lead to the participation of high or non-high cooperatives in consortium cooperation.

**Table 2.** Results of the necessity analysis of the sample's single antecedent variable

Measurement variables		High cooperative intensity		Low cooperation intensity	
		Consistency	Coverage	Consistency	Coverage
External social capital	Member trust	0.498061	0.638322	0.496129	0.459967
	~Subjective norms	0.578630	0.613522	0.609887	0.467794



	Relationship network	0.663507	0.684444	0.555092	0.414222
	~Subjective norms	0.432141	0.573143	0.577129	0.553715
	Relationship network	0.619130	0.729812	0.419297	0.357542
	~ Relationship network	0.454976	0.519941	0.683145	0.564746
Realistic knowledge absorptive capacity	Potential knowledge absorptive capacity	0.537269	0.652880	0.429422	0.377487
	~ Potential knowledge absorptive capacity	0.487721	0.541627	0.605122	0.486124
	Realistic knowledge absorptive capacity	0.612667	0.724401	0.463371	0.396332
	~ Realistic knowledge absorptive capacity	0.489444	0.557683	0.677784	0.558665
Note: "~" means "not" of logical operation.					

#### 4.2 Antecedent configuration of cooperatives' participation in consortium cooperation

Using fsQCA 3.0 to process the standardized results of 40 cases, simple and complex solutions can be obtained, and by theoretical analysis of each antecedent variable, four intermediate solutions are obtained as shown in Table 3.

**Table 3.** fsQCA enables cooperative high/non-high cooperation intensity configuration

variables	High cooperation intensity configuration			Non-high cooperation intensity configuration	
	H1	H2	H3	NH1	NH2
Member trust	●	○		●	●
Subjective norms	○	●	●	○	
Relationship network	●	●	●	○	○
Potential knowledge absorptive capacity	○		●	●	●
Realistic knowledge absorptive capacity	○	●	●		●
Consistency	0.88	0.900	0.863	0.836	0.893
Coverage	0.133	0.248	0.302	0.158	0.185
Unique coverage	0.115	0.058	0.114	0.015	0.041
Overall consistency	0.888			0.801	
Overall coverage	0.477			0.200	
Note: "●" represents the presence of the core causal condition, "○" represents the absence of the core causal condition, "●" represents the presence of the marginal causal condition, "○" represents the absence of the marginal causal condition, and blank means that the condition can either appear or not appear in the configuration.					

From Table 3, 3 paths exist for high cooperation intensity, which are: member trust\*~subjective norm\*relationship network\* ~potential knowledge absorptive capacity\*~ realistic knowledge absorptive capacity; ~member trust\*subjective norm\*relationship network\*real knowledge absorptive capacity; member trust\*subjective norm\*potential knowledge absorptive capacity\*realistic knowledge absorptive capacity. There are 2 paths for non-high cooperation intensity, which are: member trust\*~subjective norms\*~relationship network\*potential knowledge a absorptive capacity; member trust\*~relationship network\*potential knowledge absorptive capacity\*real knowledge absorptive capacity.

H1: member trust\*~subjective norms\*relationship network\* ~potential knowledge absorptive capacity\*~realistic knowledge absorptive capacity, indicating that cooperatives will achieve high cooperation intensity in their participation in the consortium even if they lack subjective norms, potential knowledge absorptive capacity and real knowledge absorptive capacity, as long as they have high member trust and relationship networks. Yi Chengzhi points out that trust and relational network can deepen cooperation in synergy

[32], and trust is dynamic in nature, and multiple interaction interactions between subjects can lead to continuous accumulation of trust, which enables continuously increasing the flow of knowledge resources and expanding multiple consensus among interacting subjects, thus establishing their own cooperative attitudes [ ]. In practice, such cooperatives usually show full cognitive trust and emotional trust in other members, establish order transactions with more members for agricultural machinery, fertilizers, seedlings, etc., and actively participate in diverse collective activities such as symposiums and training sessions held by the consortium, although they do not show outstanding performance in terms of clarity of duties, acceptance, and ability to acquire, absorb, convert, and apply knowledge resources with other members, but the Although their performance is not outstanding in terms of clarity of responsibilities, acceptance and ability to acquire, absorb, transform and apply knowledge resources, they have established a better cooperative attitude with other members through the flow of knowledge resources and emotional identification, thus showing a strong cooperative depth.

H2:~member trust\*subjective norms\*relationship

network\*realistic knowledge absorptive capacity, suggesting that regardless of the strength of potential knowledge absorptive capacity, high cooperation intensity in participating in a consortium can be achieved through strong realistic knowledge absorptive capacity even in the absence of member trust when the cooperative has high subjective norms and relationship networks. Roxenhall [34] pointed out that under the condition that the cooperative parties do not know each other and have not established sufficient trust, confidence in formal system has significant value in enhancing business transactions and relationship intensity of subjects, especially in the heterogeneous relationship network can accelerate the flow of knowledge resources, thus combining with the full transformation and application of knowledge, with more heterogeneous knowledge put into use to achieve competitive advantage enhancement and deepen cooperation intensity. In practice, this type of cooperatives often have less or no business dealings with other members before joining the consortium, and have few private encounters. For this reason, in the absence of trust in other members, they mainly take organizational interests as the first priority to participate in cooperation, establish confidence in the rules of the consortium based on the clarity and recognition of their own responsibilities, and conduct business transactions with more members under the constraints of their own behavior. In addition, they actively participate in the training sessions, seminars and other group activities held by the consortium, so as to create an organizational atmosphere rich in technical knowledge resources, and regardless of how well the cooperative identifies and digests technical knowledge resources, they are able to transform the acquired parts into elements beneficial to their own development, thus deepening the intensity of cooperation in participating in the consortium.

H3:subjective norms\*relationship network\*potential knowledge absorptive capacity\*realistic knowledge absorptive capacity, suggesting that regardless of members' trust, cooperatives with high subjective norms and relationship networks, as well as strong potential knowledge absorptive capacity and realistic knowledge absorptive capacity, will achieve high cooperative intensity in their participation in the consortium. Motivation theory suggests that norm-based relational networks can positively influence the confidence of participating subjects, leading to and enhancing the efficiency of network resource sharing and interaction [34], and Anja Schulze & Martin Hoegl [35] argue that multiple subjects in relational networks interact with each other and easily stimulate new ideas in knowledge resource cohesion. In practice, such cooperatives are often able to capture knowledge resources more efficiently in the interaction with other members and apply them more fully to themselves, and even achieve results such as technological model innovation, thus achieving higher levels of technological dividends, so that regardless of the cooperative's trust in other members, it can increase its reliance on other members of the consortium driven by superior development advantages and achieve sustained Deepening the intensity of cooperation.

NH1:member trust\*~subjective norms\*~relational networks\*potential knowledge absorptive capacity, suggesting that regardless of the performance of cooperatives' real knowledge absorptive capacity, having high member trust and potential knowledge absorptive capacity is not conducive to achieving high cooperative intensity in their participation in consortia as long as they lack both subjective norms and relational networks. Wang Huanhuan [36] pointed out that incomplete norms and information asymmetry can give rise to network problems such as moral hazard and opportunistic behavior in a changing network environment, which in turn generate cooperative risk. This type of cooperatives often lack orders with other members and participate less in the collective activities of the consortium, which will to some extent hinder the flow of knowledge and other resources with other members or even generate conflicts of interest, so that they can obtain less technical dividends and order profits in the consortium, which, coupled with the lack of subjective normative constraints, increases the generation of speculative behaviors, resulting in that even though they fully trust other members and have a strong ability to identify and digest knowledge resources, their behavior will still be more likely to be carried out in other directions favorable to their own interests, thus inhibiting the intensity of cooperation in participating consortia.

NH2:member trust\*~relationship network\*potential knowledge absorptive capacity\*real knowledge absorptive capacity, suggesting that regardless of the subjective normative performance of cooperatives, with high member trust, potential knowledge absorptive capacity and real knowledge absorptive capacity at the same time, the lack of relationship network inhibits the cooperative intensity of cooperatives' participation in consortia. Zhang Jianyu [37] proposed that knowledge absorptive capacity makes the work of the subject more proactive, and this type of cooperative society is more inclined to achieve win-win through its own knowledge absorptive capacity, but in practice, it is often due to the strong homogeneity of consortium members, the long geographical span or the unfamiliarity among members, etc., and fewer business contacts can be established with other members, while the consortium is less likely to organize collective activities such as training sessions and symposiums, making cooperatives more difficult to obtain technical dividends and order profits in participating in consortia, thus inhibiting the tendency to cooperate in participating in consortia.

## 5 Conclusions and prospects

### 5.1 Conclusions

Through interviews and data collection from 40 member cooperatives in 22 consortia in Sichuan Province, this paper applies the idea of configuration and the fsQCA method to reconfigure the 5 conditional elements of the above 2 levels from the level of social capital and knowledge absorptive capacity to explore the multiple concurrent factors and cause-effect complex mechanisms that affect the differences in cooperative intensity of

cooperative participation in consortia, and the main conclusions of this paper are as follows:

(1) There are 3 paths for the driving mechanism of high cooperative intensity in cooperatives, among which the first path refers to high member trust, low subjective norms, high relational networks, low potential knowledge absorptive capacity, and low real knowledge absorptive capacity; the second path refers to low member trust, high subjective norms, high relational networks, and high real knowledge absorptive capacity; the third path refers to high member trust, high subjective norms, high potential knowledge absorptive capacity and high realistic knowledge absorptive capacity.

(2) There are 2 paths for the driving mechanism of non-high cooperative intensity in cooperatives, among which the first path refers to high member trust, low subjective norm, low relational network, and high potential knowledge absorptive capacity; the second path refers to high member trust, low relational network, high potential knowledge absorptive capacity, and high realistic knowledge absorptive capacity, and there is an asymmetric relationship with the driving mechanism of high cooperative intensity in cooperatives.

## 5.2 Implications

This paper has 3 main management insights on deepening cooperatives' participation in consortium cooperation, as follows: first, there are multiple paths that drive cooperatives' high cooperation intensity, in which members' trust and relationship networks together can compensate for the lack of subjective norms and knowledge absorptive capacity; the consortium council or leading enterprises, etc. need to strengthen supervision of members' product prices and quality at the top level, and lead members to participate in collective learning and Close communication, explore opportunities for cooperation among members, deepen trust among members in each other's ability and character, and stimulate the enthusiasm of actively establishing business contacts; subjective norms, relationship networks and realistic absorptive capacity can compensate for the negative impact of the lack of members' trust on the intensity of high cooperation, pay attention to the communication process with members with clear responsibilities, take timely feedback after training, and equip technicians with field assistance, etc., to achieve cooperatives to learn and apply new knowledge effectively, and at the same time, provide learning opportunities to enhance the quality of members' comprehensive abilities. Second, there are multiple paths that lead to low cooperative intensity, and strengthening the deepening of subjective norms and relationship networks can avoid the generation of low cooperative intensity in cooperatives. Finally, there are asymmetries in the cooperative intensity, so the board of directors of the consortium or the leading enterprises cannot rely on traditional experience to summarize the causes of high or low cooperative intensity and deduce them in the reverse direction, but need to grasp the role of the above five configuration paths with the specific conditions of the consortium.

## 5.3 Shortcomings and Prospects

(1) There is a lack of research on social capital, knowledge absorptive capacity and member cooperative relationship at the macro level of the consortium, and we may consider changing the research perspective from micro member cooperatives to macro consortium as a whole in the future.

(2) The research object is mainly based on Sichuan province, and there is a lack of broader exploration based on multiple provinces and cities. Subsequent research can include samples of member cooperatives of consortia in multiple provinces and cities and even nationwide, so as to provide rich paths for cooperatives to participate in close cooperation in consortia.

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## References

1. X. Shang, L. Wang. Agricultural industrialized consortia: Re-organizational dual dimension, transaction cost saving and market power reshaping. *Chinese farmers' cooperatives*, **1** 17-19 (2020).
2. H. Zhou. Research on the innovative development of agricultural industrialized consortia under the strategy of rural revitalization--operational characteristics, development dilemmas and path analysis. *Jiangsu Agricultural Science*, **47** 32-35 (2019).
3. S. Wu, W. Cai. Research on the impact of knowledge spillover on the upgrading of advanced manufacturing clusters - based on the mediating role of enterprise cooperation and government support. *East China Economic Management*, **33** 58-65 (2019).
4. J. Chen, K. Xu. Factors influencing the risk of "middle-income trap" in industrial transfer out of the country - based on the stakeholder perspective. *East China Economic Management*, **31** 93-99 (2017)
5. Q. Guo Qiang, S. Yin, Y. Liu, F. Yan, H. Jiang. A study on the influence of initial resources and social capital on the growth of tourism small enterprises--a case study of Hongcun. *Journal of Tourism*, **34** 6-47 (2019)
6. M. Yang, F. Wang, Y. Zhou. Research on the choice of R&D cooperation mode of high-tech enterprises--an empirical analysis based on 38 high-tech enterprises in Beijing. *China Soft Science*, **6** 172-177 (2019).
7. B. Sun, Y. Liu, S. Zheng. Research on the relationship between alliance social capital, knowledge management and innovation performance--a conceptual framework based on technology innovation alliance. *Journal of Xi'an Jiaotong University (Social Science Edition)*, **32** 43-49 (2012).
8. J. F. Helliwell, R. D. Putnam. *Economic Growth and*

- Social Capital in Italy. *Eastern Economic Journal*, **21** (1995)
9. S. Miao. A study on the cooperative participation behavior of farmers in small-scale water facilities from the perspective of multidimensional heterogeneity of social capital. *China Population-Resources and Environment*, **24** 46-54 (2014)
  10. N. Uphoff, C M.Wijayaratna. Demonstrated benefits from social capital: the productivity of farmer organizations in Gal Oya,Sri World Development, **28** 1875~1890 (2000).
  11. P. S. Adler, H. Van Buren. Social capital: Prospects for a new concept.*Academy of Management Review*, **27** 17~40 (2002).
  12. D. J. McAllister. Affect- and Cognition-Based Trust as Foundations for Interpersonal Cooperation in Organizations. *The Academy of Management Journal*, **38** (1995)
  13. X. Wang. A study on the influence path of urban residents' waste sorting behavior-differential willingness and action. *China Environmental Science*, **40** 495-3505 (2020).
  14. H. Lv, L. Wu, X. Zhang. A theoretical framework for the adaptation environment of formal and informal network interactions of enterprises from the perspective of CAS. *Science and Technology Management*, **37** 31-42 (2016,)
  15. W. M. Cohen, D. Levinthal. Absorptive Capacity: A New Perspective on Learning and Innovation. *Administrative Science Quarterly*, **35** (1990).
  16. S. A. Zahra, G. George. Absorptive capacity: A review reconceptualization, and extension,*Academy of Management Review*, **27** 185- 203 (2002).
  17. Y. Dai, G. Zhu. A study of social capital and innovation performance with absorptive capacity as a moderating variable--an empirical analysis based on Guangdong firms. *Soft Science*, **25** 80-84+90 (2011).
  18. H. Wang, H. Zhang, H. Wu. Study on the impact of inter-supply chain relationship quality on knowledge absorptive capacity and cooperative innovation performance of enterprises. *Statistics and Information Forum*, **27** 99-105 (2012)
  19. L. Yu, Y. Dai. Research on the influencing factors of regional science and technology innovation competition based on fuzzy QFD and fuzzy TOPSIS--the Yangtze River Delta region as an example. *Science and Technology Progress and Countermeasures*, **30** 41-46 (2013).
  20. General Office of the State Council, PRC .Opinions on accelerating the construction of policy system to foster new agricultural business subjects . *China cooperative economy*, **11** 5-7 (2017)
  21. Y. Wei. Research on the measurement of enterprise social capital. *Science Research*, **3** 518-522 (2007).
  22. H. Chang, Y. Yang. Innovation network practices, network location and knowledge sharing. *Research and Development Management*, **28** 89-96 (2016)
  23. X. Dang, Y. Sun, J. Song. The impact of dual innovation on network practices under different trust scenarios. *Management Science*, **26** 25-34 (2013)
  24. B. Uzzi. The Sources and Consequences of Embeddedness for the Economic Performance of Organizations: The Network Effect. *American Sociological Review*, **61** (1996,)
  25. Y. Wei. Corporate social capital and technological innovation: an empirical study based on absorptive capacity. *China Industrial Economics*, **9** 119-127 (2007)
  26. J. J. P. Jansen, F. A. J. Van Den Bosch, H. W. Volberda. Managing Potential and Realized absorptive Capacity: How Do Organizational Antecedents Matter ?. *The Academy of Management Journal*, **48** (2005)
  27. W. Xue, J. Lei, and N. Yi. An empirical study on the relationship between relational capital, organizational learning and R&D alliance performance. *China Industrial Economics*, **4** 89-99 (2010).
  28. J. Deng Jiaojiao. Research on the integration of contractual and relational governance of public projects and its governance mechanism. Tianjin University, 2013.
  29. X. Dang, L. Li, W. Zhang. Research on the influence of inter-firm dependence and cooperation motives on firms' cooperation behavior in technology innovation networks. *Forecasting*, **29** 37-41+47 (2010).
  30. N. Fielding, N. and J. Fielding, 1986, *Linking Data:the Articulation of Qualitative and Quantitative Methods in Social Research*, Beverly Hills, London:Sage.
  31. A. Pezeshkan, A. Smith, S. Fainshmidt, et al. A neo-configurational institutional analysis of international venture capital attractiveness and performance: insights for Asia-Pacific. *Asia Pacific Journal of Management*, **1** (2020)
  32. C. Yi, K. Zhang. Structure, mechanism and function:A three-dimensional analysis of network-based collaborative environmental governance in China--the case of Zero Alliance. *Administrative Forum*, **26** 129-137. (2019)
  33. S. Gächter, C. Thöni. SOCIAL LEARNING AND VOLUNTARY COOPERATION AMONG LIKE-MINDED PEOPLE. *Journal of the European Economic Association*, **3** (2005).
  34. H. Li, H. Hu. The impact of incubation network governance mechanisms on network performance:The moderating role of environmental dynamics. *Management Review*, **28** 100-112 (2016)
  35. A. Schulze, Martin Hoegl. Organizational knowledge creation and the generation of new product ideas: a behavioral approach. *Research Policy*, **37**(10) (2008).
  36. H. Wang, Y. Du. Research on business incubation network evolution, risk and governance mechanism. *Technology Economics and Management Research*, **10** 52-56 (2019).
  37. J. Zhang, F. Li. The connotation expansion and reconceptualization of enterprise absorptive capacity. *Science and Technology Progress and*



Countermeasures, **31** 80-85 (2014).