COOPERATION BEHAVIOR OF CHINESE SMES FROM THE PERSPECTIVE OF SUPPLIERS

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Abstract: During the economic downturn, the cooperative behavior of the supply chain will change due to the increase of risk level. The purpose of this paper is to measure cooperative behavior more effectively. Therefore, a model of supply chain cooperation is constructed from three dimensions: risk perception, inter-organizational trust and decision preference. Taking the processing trade enterprises in Guangdong Province as a sample and using the structural equation model for analysis, the research found that trust and decision preferences significantly impact cooperative behavior, and decision-making preference partially mediates the relationship between inter-organizational trust and cooperative behavior. However, risk perception has no direct impact on cooperation behavior but has an indirect impact through the mediation of inter-organizational trust and decision-making preferences. Inter-organizational trust is partially intervened between risk perception and decision preference. Further, the mediating effect of the inter-organizational trust alone is greater than the dual mediating effect of inter-organizational trust and decision preferences.

Keywords: SMEs; risk perception; inter-organizational trust; decision preference; cooperation behavior.

Introduction

The COVID-19 disease has caused great damage to global economy, and the global economic downturn has brought challenges to all aspects of business operations. (International Labour Organisation [ILO], 2020) The business risk of enterprises has increased significantly, and the managers currently face challenges from "how to develop faster" to "how to survive" (Novitz, 2020). In this context, many peer companies in the supply chain have chosen the strategy of diluting competition and

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enhancing cooperation, hoping to avoid risks by grouping together. It is true that an effective cooperation model can reduce transaction costs between enterprises, improve information utilization, and enhance enterprises' ability to resist risks. However, some scholars also pointed out that cooperation based on purely economical interests is highly vulnerable. Simple cooperation may not necessarily benefit the enterprise, and it may even deteriorate into "Avalanche effect" (Rui et al. 2010; Husaini et al. 2020).

From the supply chain perspective, SMEs are indispensable but problematic important members. Since SMEs have fewer resources and are often in a passive position in business activities, their operating funds are easily occupied by powerful companies by means of extending the accounting period, which leads to poor cash flow turnover. From the perspective of financial institutions, due to the small scale of SMEs and imperfect information disclosure, their risk levels are often high, which also makes it difficult for SMEs to obtain commercial loans (Berger and Udell, 2006; Wei et al., 2021). Coupled with the uneven management level of SMEs, it is easy to lead to low resource utilization. Based on the above-mentioned reasons, SMEs have weak resistance when facing external shocks, leading to significant differences between their cooperation behaviors with the supply chain partners. In the survey of companies, this research found that under the current economic downturn, from a subjective point of view, most SMEs are willing to choose to cooperate when encountering a crisis, but after objectively evaluating their strengths, there are also many companies forced to retrench (Ginaya et al. 2019; Einhorn et al. 2020). This research will explore the path and key influencing factors of cooperation between enterprise to effectively promote the quality of cooperation between the supply chain members and enhance the stability of the supply chain.

Literature Review

There have always been two major debates about the nature of risk in academic circles: the objective theory of risk and the subjective theory of risk. Generally speaking, scholars in the fields of finance and economics support Irving Pfeffer's definition (1965) that risk is an objective existence. Whether people are aware of it or not, it can be measured by scientific methods. Maule (2004) further defines it as "risk is the probability of certain events and their subsequent utility". On this basis, scholars have used statistical tools to construct a series of targeted classical analysis models (such as SCOR model in the field of supply chain management, KMV model

in the field of enterprise management, etc.), which can make reasonable analysis and prediction according to the actual business data of enterprises and provide an effective reference for managers (Fassin et al., 2011; Komari et al., 2020). On the other hand, the research in the field of sociology and psychology is more inclined to the subjective theory of risk, which holds that risk is an individual's understanding of objective things according to his subjective prejudice and cannot be measured by objective methods. Segal (2013) pointed out that risk exists to the same extent for anyone in the same environment, but due to the subjective judgment of risk analysts, they have different perceptions of the possibility of the same risk. The above two understandings of risk are essentially different, so some scholars believe that it can be defined as two different types of risk, one is a professional, scientific risk, which is rooted in scientific and professional statistical basis, and the other is perceived risk, which is based on personal social and intuitive knowledge. Cvetkovich and Eale (1992) believe that "Risk Perception" is an individual's prediction and judgment of objective risks based on the uncertain information he has obtained. Mccoll-Kennedy et al. (2001) believe that risk perception is an individual's subjective judgment of the probability of the occurrence of situational uncertainty and its controllability. Simon et al. (2000) defined risk perception as the individual's perception and understanding of various objective risks existing in the outside world. Based on the definitions of the above scholars, this study believes that in the field of supply chain management, the source of risk is objective, and scientific tools can be used to evaluate and predict all kinds of risks. However, from the perspective of cooperative decision-making, although decision-makers can obtain the basis for decision-making from objective analysis reports, their subjective perception is still unavoidable, so this paper will follow the decision-making theory to analyze the impact of decision-makers' subjective perception on inter-firm cooperation behavior.

The study of inter-organizational trust originated in the 1980s, when many enterprises established strategic alliances in order to maintain competitiveness, and a good inter-organizational trust relationship is one of the effective means to maintain alliance performance. Inter-organizational trust is a kind of collective consciousness defined by Zaheer (2006) as "the orientation and degree of trust shared by members of the organization towards partners, and the trust of all members of the organization as a whole towards other organizations". The premise of inter-organizational trust is that there is risk-sharing between partners. Das (1998) pointed out that only when an organization with a cooperative relationship is in a risky

environment will there be a problem of inter-organizational trust. Trust itself is the behavior of an organization willing to take risks to accept partners. At present, the mainstream view of academia is that there is a positive correlation between inter-organizational trust and the performance of cooperative enterprises. Specifically, the mechanism of trust includes:

-trust can help enterprises reduce information costs, coordination costs and contract execution costs, thereby reducing transaction costs and monitoring costs between enterprises,

-trust will make enterprises more inclined to cooperate with partners for a long time, so that both enterprises are willing to accept short-term conflicts or inequalities, and improve cooperation efficiency,

-trust will make the cooperation between enterprises more flexible and enable both enterprises to better cope with changes in the external environment.

Decision preference refers to the personal tendency of decision-makers to choose one of the events or outcomes when facing a variety of events or outcomes. Decision-makers need to constantly obtain and process information in the actual decision-making process, in which their decision-making preferences can be changed, and the psychological mechanism of their changes has three main factions in academia at present. The first viewpoint holds that decision preference changes with utility, and points out that evaluation mode and utility discount are the main reasons for preference change (Slovic, 1995). The second viewpoint holds that preference is constructed by managers after grasping objective information, so the difference between construct level and mental representation is the main reason for preference change (Hsee et al., 2008). The third view is based on artificial neural network, which holds that psychological field distance and risk aversion preference are the main reasons for preference change (Smithdoerflein et al., 2011). This study mainly refers to the first two kinds of views. On the premise that the event itself has sufficient evaluability, the managers of SMEs are interviewed through two modes of joint evaluation and individual evaluation (Koehler and Harvey, 2004; Kee et al., 2020), which are used as one of the bases for designing the questionnaire.

Cooperative behavior refers to a series of interactive behaviors taken by two or more organizations in order to achieve a predetermined common goal according to the expectations of all parties (Usher et al., 2004; Nosita et al., 2020). From the perspective of supply chain, it can also be defined as the collaborative behavior of upstream and downstream enterprises in the supply chain to establish a long-term

cooperative relationship. From the perspective of risk pre-positioning, Ritchie and Brindley (2007) pointed out that the purpose of risk management in the supply chain is to protect the organization by analyzing the source of risk and implementing corresponding risk management strategies. According to the analysis of relevant literature, the cooperation behavior in the supply chain will show different phases according to the degree of cooperation, cooperation time, trust and other factors. Akira and Takeishi (2001) summarized it as supplier transaction, supplier monitoring and supplier support. On this basis, Smithdoerflein et al. (2011) proved that there is a direct relationship between the relationship performance of both partners and the degree of participation in decision-making. In recent years, with the further deepening of supply chain management research, academia and enterprises are exploring more efficient cooperation models. At present, most scholars' research is based on the "borderless" management concept put forward by Jack Welch, the former CEO of General Electric Company. On the basis of its concept, this paper discusses the feasibility and specific cooperation mode of borderless cooperation in supply chains (Garcia et al. 2016; Arniati et al. 2019). Bastas and Liyanage (2018) considered the new cooperation mode as a part of the sustainable supply chain and discussed the evaluation index system of the new cooperation model based on the triple bottom line theory. Hua et al. (2018) defined it as a "value co-creation system" and discussed the possibility of realizing the new cooperation model from the perspective of business ecosystem. Based on the above research results, this study will determine the degree of cooperation between the buyer enterprise and its main suppliers through the relationship performance indicators and collate the main conclusions of relevant research as shown in Figure 1.
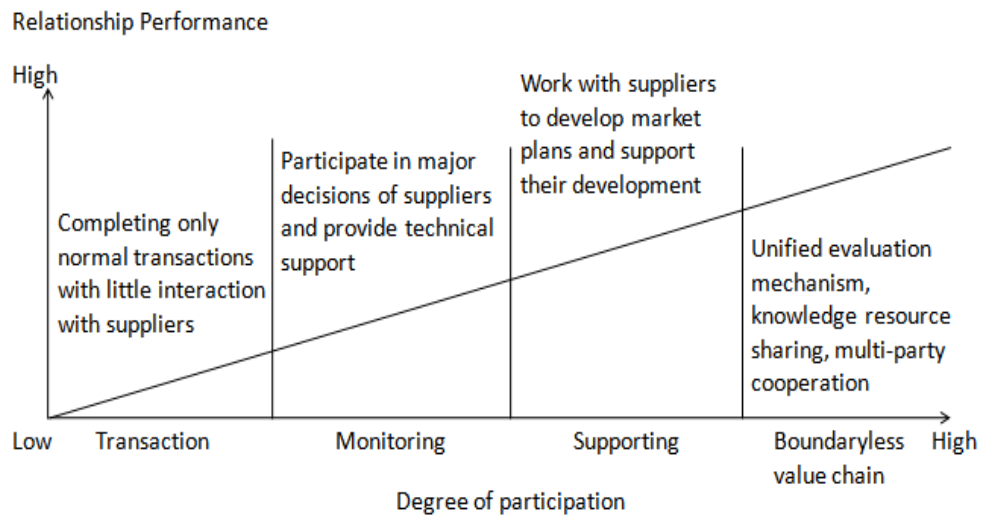
Relationship Performance

Figure 1: Buyer's Participation with Supplier and Relationship Performance

Based on the strategic decision-making process framework proposed by Daft and Weick (1984), this study introduces the theory of perceived risk, combines objective environmental factors, subjective perception and strategic choice, and constructs a decision-making model as shown in Figure 2.
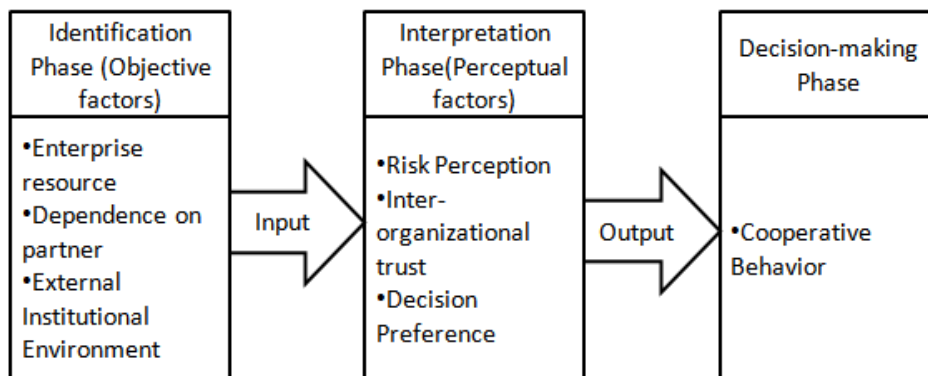

Figure 2: Buyer's decision-making model

The model divides the decision-making process into three phases. The first phase is the identification phase. In this phase, the decision-maker obtains the information of various objective factors in the internal and external environment of the enterprise.

It inputs it into his thinking process, including the relevant factors from the resource perspective, the cooperation perspective and the institutional perspective. Because there are many factors that affect the decision-maker's perception and decision-making from different perspectives, this study will find the most significant variables that affect the cooperative behavior of enterprises from different perspectives based on practical research and analyze how these factors affect the mechanism of subjective perception (Touboulic et al.2014; Pirzada et al. 2016).

The second phase is the explanation phase, in which the psychological concept of "thinking black box" is introduced. Specifically, after identifying all kinds of objective information, managers will further "interpret" this information and perceive the risks and opportunities contained in the information according to their own knowledge and experience. Through experimental research, Buckley et al. (2010) pointed out that enterprise managers will follow the guidance of some "rational rules" and form a decision set that meets the requirements of the enterprise according to various objective reality factors. Still, when it comes to specific cases, the decision results may not be completely consistent with the results of the traditional rational theory. This means that although the decision-maker is based on objective conditions in the explanation phase, the final decision is not "completely rational" due to the influence of his bounded rationality and other psychological factors, so this study believes that the decision-maker's risk perception and decision preference should be measured to analyze their impact on cooperative behavior. The third phase is the decision-making phase; in this phase, the decision-maker makes a decision based on his decision-making preference after perceiving and judging the objective factors. Because different decision preferences will lead to different final decisions, the formation mechanism of final decisions can be effectively explained by introducing decision preferences into the analysis model. Based on the bounded rationality model proposed by Simon, this study argues that decision-making preference does not directly affect the final decision-making behavior but plays an intermediary role between objective information and subjective perception, subjective perception, and final decision-making.

Risk and trust are essentially investments made by managers in the face of uncertainty (Dohmen et al., 2012; Suryani et al., 2018). The difference lies in the fact that risk can be reasonably predicted by specialized tools, different managers can obtain consistent information through the same technical means in the early phase of decision-making, and the final decision is still biased but generally

controllable; trust is more inclined to the subjective understanding of managers, and the choices made by different managers are highly uncertain. There are a series of studies on whether there is a correlation between risk decision-making and trust decision-making, but there are still two different opinions. Starting from the hypothesis of "rational economic man", some scholars have proved that there is a significant difference between risk and trust through experimental research (Dunning et al., 2012; Falk et al., 2006; Theresia et al., 2021) and believe that under the premise of identifying the existence of risk, managers will choose whether to trust their partners based on "rational thinking", that is, the degree of risk has become a prerequisite for trust. Another part of scholars uses the prisoner's dilemma experiment and trust game experiment to find a significant correlation between risk and trust (Qin et al., 2011, Schechter, 2000). Scholars of this faction believe that the high correlation between risk and trust is reflected in the fact that trust can effectively reduce the level of risk perception of managers, thus affecting their final decision-making. Many studies have shown that the "preconceived" psychological effect of acceptance plays a key role in the interaction between trust and perceived risk (Waroquier et al., 2010). Specifically, if the buyer trusts the supplier first, he is more inclined to adopt risk mitigation strategies to share the risk with the supplier even if he perceives that the supplier has a high level of sustainable risk. In general, the likelihood of such perceived trust includes the supplier's reputation in the industry and the general trust in the supplier's region (Uslaner and Conley, 2003). If the supplier does not have the conditions for the buyer to identify and trust, the trust establishment between the buyer and the seller follows the "trust penetration mode" in enterprise communication, which evolves in the order of "primary interpersonal trust", "economic trust", "deep interpersonal trust" and "coexistence of righteousness and benefit" (Jones and George, 1998). As there is no unified conclusion in the academic circles at present, this study believes that it is necessary to further verify the above issues from the practical level, so the following hypotheses are framed:

H1: There is a negative correlation between risk perception and the trust between partners.

H2: There is a negative correlation between risk perception and cooperative behavior.

M1: Inter-organizational trust plays a mediating role between risk perception and cooperative behavior.

Previous studies on inter-organizational trust and decision-making have focused on the performance level. The purpose is to find how inter-organizational trust affects decision-making behavior, thereby affecting cooperation performance (Zhao et al., 2021). The essence of the classic credit risk evaluation model KMV (Credit Monitor Model) is to analyze the impact of trust on cooperation performance. Its analysis results also prove that trust can significantly promote the performance of both partners (Seppaenen et al., 2007; Indulal, 2012). The research of Inkpen (2004) points out that trust will evolve in the process of cooperation, and it is difficult to survive in the cooperative alliance with low social capital. Another kind of research focuses on the individual decision-making preferences of managers, believing that the preferences of managers affect the development of organizations and are also one of the key factors affecting inter-organizational cooperation (Cygler, 2015; Hanif et al., 2019). From the perspective of supply chain cooperation, because the cooperation is based on resources, the imbalance of power and dependence will significantly affect the relationship between partners (Nussbaum et al., 2003; Juniwati and Sumiyati, 2020). Under this premise, managers will adopt appropriate relationship management strategies and eventually evolve towards the direction of building a sustainable supply chain (Usher et al., 2004; Pirzada et al., 2017). To sum up, most of the current studies focus on the relationship between inter-organizational trust and organizational cooperation behavior, or the mechanism of how managers affect organizational behavior. Still, there is no study on the relationship between inter-organizational trust, an "organizational behavior", and managers' individual decision preferences, whether and how inter-organizational trust affects managers' preferences. Therefore, the following hypotheses are put forward in this study:

H3: There is a positive correlation between inter-organizational trust and decision preference.

H4: There is a positive correlation between inter-organizational trust and cooperation behavior.

H5: There is a positive correlation between decision-making preference and cooperation behavior.

M2: Decision-making preference plays a mediating role between inter-organizational trust and cooperative behavior.

Some scholars have pointed out that the pressure brought by risk is one of the important preconditions for driving enterprise cooperation. Still, due to the differences in industry status, business experience, information acquisition ability

and information analysis ability of different enterprises, the signals transmitted by risk to enterprises in the supply chain are often inconsistent, which leads to the diversity of final cooperation behavior (Tangpong et al., 2008; Naik et al., 2021). On the other hand, in the process of perceiving risks, evaluating the relationship between supply and demand, allocating resources reasonably and making cooperative decisions, the decision-making preferences of enterprise decision-makers cannot be ignored. In order to ensure the benefits of cooperation, managers must effectively assess the possible level of risk of cooperation (Qin et al., 2011; Yue et al., 2021). The low cost, high tolerance and high flexibility brought by the trust relationship between enterprises are also factors that cannot be ignored by managers, and these factors will exert a subtle influence on the preferences of managers, thus ultimately affecting cooperative decision-making. Therefore, the following hypotheses are proposed in this study:

M3: Interorganizational trust plays a mediating role between risk perception and cooperative behavior.

M4: Decision-making preference plays a mediating role between risk perception and cooperative behavior.

M5: Interorganizational trust and decision-making preference play a mediating role between risk perception and cooperative behavior.

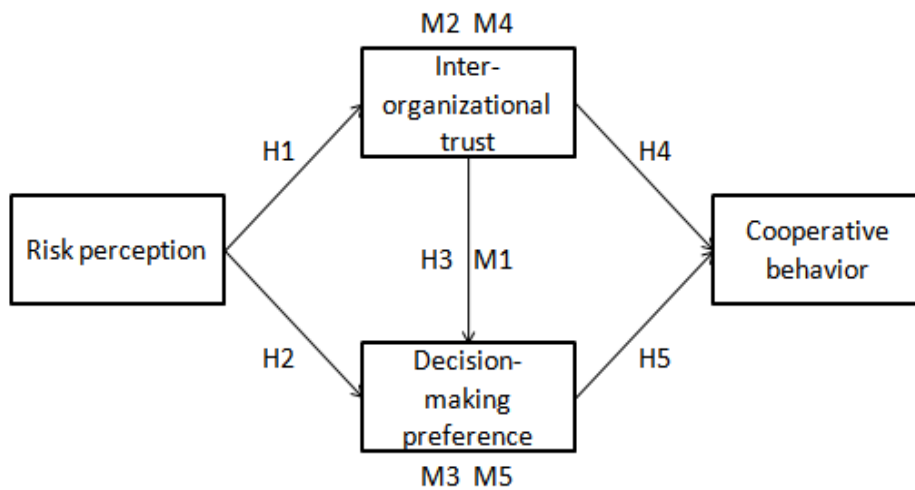To sum up, the decision-making model constructed in this study is shown in Figure 3:

Figure 3: The Relationship Model

Research Methods

In order to ensure the reliability and validity of the study, the initial questionnaire was designed according to the relevant classical literature at home and abroad. The initial questionnaire referred to the upstream and downstream cooperation strategy of supply chain proposed by Bharadwaj (2006), Wagner (2009) and Ehrgott (2013) and selected 20 small and medium-sized manufacturing enterprises in the Pearl River Delta region for interviews. The interviewees are the relevant responsible persons who have a deep understanding of the upstream suppliers of the enterprise, such as the chairman, general manager or purchasing manager of the enterprise. Then, according to the results of the interview, the researcher used grounded theory to construct the questionnaire.

The structured questionnaire is divided into six parts: personal information, enterprise information, risk perception, inter-organizational trust, decision-making preferences and cooperative behavior. The items of the four latent variables to be tested in the questionnaire were designed by using the Likert 7-point scale (1 is very disapproval, 7 is very approval, see Table 1 for specific items). Because risk perception is a negative dimension variable, the relevant questions are scored in reverse. In order to ensure that the questionnaire is reasonable and effective, the questionnaire design has been evaluated by experts and pre-tested, and the final questionnaire has been formed on the basis of the results.

Table 1. Definition of each variable and item

Variable name	Variable symbol	Item	References
Risk perception	RIS	3	Bharadwaj(2006)
Inter-organizational trust	TRU	4	Wagner(2009)
Decision-making preference	DES	4	Ehrgott(2013)
Cooperative behavior	ACT	3	Wagner(2009) , Ehrgott(2013)

In order to ensure the reliability and validity of this study, the researchers first invited professors from the School of Business of the Central University of Finance and Economics to conduct a preliminary examination of the questionnaire. With the help of the Alumni Association of the Central University of Finance and Economics and

Sun Yat-sen University, they distributed questionnaires to experienced MBA students from the Central University of Finance and Economics and some manufacturing enterprises in Guangdong Province for a pre-test. A total of 40 questionnaires were distributed in this pre-test, and 38 valid questionnaires were collected. The p value of all items is less than 0.05, and the absolute value of t is greater than 1.96, so the difference between high and low groups is significant. The Cronbach's alpha coefficients of the subscales were 0.768, 0.805, 0.834 and 0.793, respectively, so the scale had good reliability. The results of factor analysis showed that each item of the questionnaire had a factor load of more than 0.6, so the scale also had good validity. It can be used in formal research.

In this study, small and medium-sized processing trade enterprises in Guangdong Province were selected as the research object. All data collection was completed in the first half of 2021. The distribution and recovery methods of the questionnaire were as follows: on the one hand, relying on Sun Yat-sen University and contacting the local industry associations, the electronic questionnaire was distributed and recovered; On the other hand, the researcher himself visited relevant enterprises in Shenzhen, Zhuhai, Foshan, Zhongshan, Dongguan and other places in the form of field research. A total of 185 enterprises were visited, 400 questionnaires were sent out, and 347 valid questionnaires were recovered, with a recovery rate of about 87%. The normality test was conducted for the sample, and the JB statistic was 1.24 (less than the critical value), so it was considered that the sample of this survey was in line with normal distribution. In addition, the sample size of this survey is more than five times the parameters to be estimated, which meets the conditions of using a structural equation model to analyze them.

Model Test

In this paper, SPSS 21.0 and Amos 21.0 were used to analyze the survey samples. First of all, from the results of exploratory factor analysis (EFA), the KMO coefficient (0.882) and Barrett's sphere test value (Sig < 0.001) of this study meet the requirements, and the next factor analysis can be carried out. The variance maximization orthogonal rotation method was used to extract the four latent variables to be measured as common factors, and the analysis results are shown in Table 3. According to the analysis results, the factor load of all items in this study is greater than 0.7 and significant; the cross-factor load is less than 0.4; the correlation coefficient between items is greater than 0.3, and the total correlation of items after

correction is greater than 0.5, and the Cronbach's alpha value is greater than 0.7. Therefore, the factor structure of the model used in this study can be considered valid.

Table 2. Exploratory factor analysis

Items	Factors			
	RIS	TRU	DES	ACT
Performance risk	0.694			
Cooperation risk	0.725			
Capability risk	0.733			
Supplier reputation		0.803		
Cooperation experience		0.695		
Current relationship		0.756		
Cooperation expectations		0.781		
Urgency of cooperation			0.816	
Demand intensity			0.737	
Profit expectation			0.824	
Stability Expectation			0.773	
Effectiveness of cooperation				0.686
Rationality of resource allocation				0.774
Enterprise Performance Facilitating				0.743
Cronbach's α	0.803	0.798	0.763	0.812
Explanatory Variance Proportion %	18.945	17.420	17.760	15.325
Cumulative Explanation Variance %	18.945	36.365	54.125	69.450

After the previous test, the reliability and validity of the sample data were tested. Squared multivariate correlation (SMC), combined reliability (CR) and average extracted variance (AVE) were used to test the convergent validity of the model. The CR value is 0.813, 0.786, 0.808 and 0.844 (all above 0.7), and the AVE value is 0.542, 0.615, 0.537 and 0.615(all above 0.5), which proves that this model has good convergent validity. Then the discriminant validity of the model was tested by cross-loading method. Specifically, each dimension's AVE square root value is greater than the Pearson correlation coefficient of its related dimensions, which proves that the model has good discriminant validity. The next step of structural equation model

testing can be carried out. After confirming the reliability and validity, the next step is to test the path coefficients of the structural equation model. First, the variance and residuals of each variable were determined to be positive and significant ($p < 0.05$). Next, the overall fitness of the model is tested, and all indicators meet the requirements, which proves that the model has good fitness. After that, Standard Cross Validation was used to test the invariance of the model. The p-value of each index was greater than 0.05, and the absolute value of ΔTLI was less than 0.05, which proved that the model was effective and stable.

Data analysis

In this paper, the standardized coefficient paths of the model are arranged as shown in Figure 4. It shows that all path coefficients are greater than 0.2 and significant at the level of 0.05. The parameters of the main paths are arranged as shown in Table 3. The regression path coefficient between risk perception and inter-organizational trust is significant, Hypothesis H1 is verified. The regression path coefficient between risk perception and decision-making preference is significant, Hypothesis H2 is verified. The regression path coefficient between inter-organizational trust and decision preference is significant, Hypothesis H3 is verified. The regression path of inter-organizational trust and cooperative behavior is significant, Hypothesis H4 is verified. The regression path coefficient between decision-making preference and cooperation behavior is significant, Hypothesis H5 is verified. In addition, the SRC of inter-organizational trust is 0.485, greater than the SRC of decision-making preference, which is 0.377, means that the influence of inter-organizational trust is greater than the influence of decision-making preference.
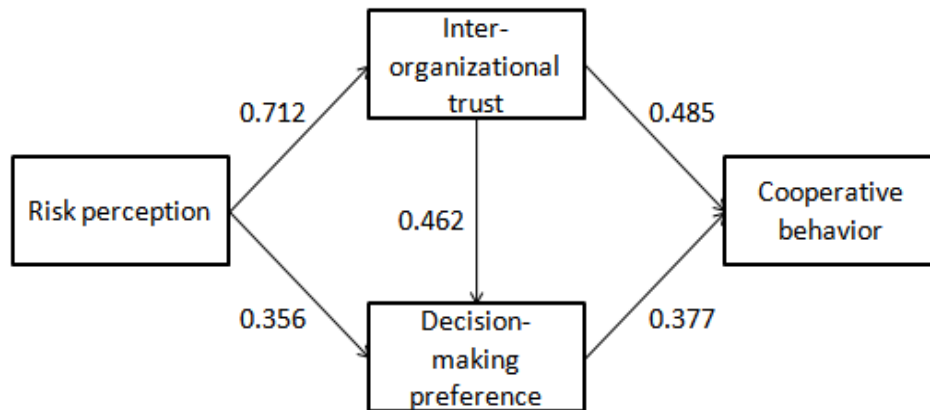
Figure 4: Structural equation path coefficient

Table 3. Parameter estimation results

Hypothesis	Path		Unstandardized coefficients	SE	z	sig	Standardized coefficients	R^2
	IV	DV						
H1	RIS	TRU	0.796	0.102	7.644	***	0.712	0.502
H2	RIS	DES	0.436	0.098	3.727	***	0.356	0.561
H3	TRU	DES	0.491	0.114	4.922	***	0.462	0.561
H4	TRU	ACT	0.523	0.125	4.763	***	0.485	0.499
H5	DES	ACT	0.314	0.086	3.311	***	0.377	0.499

In this paper, the Bootstrap method proposed by Preacher and Hayes (2008) is used to test the intermediary effect of the model, and the sampling number is set to 2000. Within the 95% confidence interval, the intermediary effect of the model is shown in Table 4. The indirect effect of inter-organizational trust between risk perception and decision-making preference is 0.366, the Z value is greater than 1.96, and the confidence interval does not include 0, Hypothesis M1 is verified. Combined with Table 3, the direct effect of risk perception on decision-making preference is 0.356, which is less than the indirect effect of inter-organizational trust, indicating that inter-organizational trust has a stronger impact on decision-making preference. Hypothesis M1 is a partial mediator. Similarly, the indirect effect of decision-making

preference between inter-organizational trust and cooperative behavior is 0.127, the Z value is greater than 1.96, and the confidence interval does not include 0, Hypothesis M2 is verified. The direct effect of inter-organizational trust on cooperative behavior is 0.485, which is greater than the indirect effect of decision-making preference. It shows that the influence of inter-organizational trust on cooperative behavior is greater than that of decision-making preference on cooperative behavior, and M2 is assumed to be a partial mediator. The indirect effect of inter-organizational trust between risk perception and cooperative behavior is 0.398, and the Z value is greater than 1.96, and the confidence interval does not include 0, Hypothesis M3 is verified. The indirect effect of decision preference between risk perception and cooperative behavior is 0.132, and the Z value is greater than 1.96, and the confidence interval does not include 0, Hypothesis M4 is verified. The double indirect effect of inter-organizational trust and decision-making preference between risk perception and cooperative behavior is 0.115, and the Z value is greater than 1.96; the confidence interval does not include 0. Hypothesis M5 has been verified. However, the direct effect of risk perception on cooperation behavior is not significant (Z value is less than 1.96, and the confidence interval includes 0), it means that M3, M4 and M5 are assumed to be completely mediating effects, that is, the risk perception of buyers to suppliers will not directly affect the cooperation behavior of both sides but will be mediated by inter-organizational trust and decision-making preferences. This conclusion is consistent with the assumptions of the conceptual model proposed in this study. Further analysis of the relevant data shows that the confidence intervals of M3 and M4, M4 and M5, M3 and M5 are all 0, which means that there is no significant difference among the three mediating effects. The mediating effect of inter-organizational trust is the strongest among the three. The single-factor mediating effect is greater than the two-factor mediating effect, which means that the influence of inter-organizational trust on inter-organizational cooperation behavior is stronger.

Table 4. Analysis of mediating effect

Hypothesis	Path	Mediating effect	Standard error	z	Bias-corrected		Percentile	
					Lower	Upper	Lower	Upper
M1	Perception - trust - decision	0.366	0.101	3.221	0.157	0.609	0.142	0.651
M2	Perception - trust - cooperation	0.127	0.072	1.989	0.027	0.288	0.025	0.273
M3	Trust - decision - cooperation	0.398	0.114	3.062	0.179	0.674	0.156	0.652
M4	Perception - decision - cooperation	0.132	0.071	1.996	0.036	0.315	0.025	0.267
M5	Perception - trust - decision - cooperation	0.115	0.062	2.114	0.023	0.278	0.023	0.249
	Total indirect effect of M3, M4, M5	0.586	0.125	4.824	0.405	0.947	0.415	0.904
	Direct effect of M3, M4, M5	0.055	0.147	0.372	-0.248	0.355	-0.245	0.366
	Total effect of M3, M4, M5	0.641	0.128	5.198	0.422	0.936	0.410	0.975
	M3 and M4	0.223	0.148	1.601	-0.039	0.621	-0.055	0.582
	M3 and M5	0.247	0.152	1.881	0.005	0.635	-0.005	0.591
	M4 and M5	0.024	0.069	0.342	-0.108	0.187	-0.126	0.176

Conclusion

This paper constructs a decision-making model based on the risk perception of enterprise decision-makers and verifies and analyzes the model through empirical research. The following conclusions can be drawn through the data analysis: First,

Inter-organizational trust and manager's decision preference are beneficial to the cooperation behavior between enterprises in the supply chain. This is consistent with Sun's findings (Sun et al., 2019). Besides that, it is found that decision preference plays a partial mediating role between inter-organizational trust and cooperation behavior. Second, risk perception does not directly impact cooperation behavior but has an indirect impact through the complete double mediation of inter-organizational trust and decision-making preference. Inter-organizational trust plays a partial mediating role between risk perception and decision preference which is a step forward in the prospects of the previous study (Bastas and Liyanage, 2018). Third, the mediating effect of inter-organizational trust is greater than the mediating effect of decision preference and greater than the double mediating effects of inter-organizational trust and decision preference.

Building a good trust environment can effectively reduce the cost of friction between formal institutions, help to improve the level of enterprise cooperation, and thus make the supply chain more stable. From the perspective of establishing and strengthening organizational trust, the construction process of a trusted environment is actually the process of accumulation, strengthening, and promotion of inter-organizational trust. From a practical point of view, the "inter-organizational trust" in the eyes of SMEs is not limited to the enterprises in the supply chain but includes the trust in the whole external business environment. Therefore, when building a trusted environment, local governments and leading enterprises need to work together to create a good investment and operation order, and then all market participants need to abide by and strengthen the order. From the perspective of individual enterprises, managers have taken trust into account as a basic factor when making cooperative decisions, which means that enterprises must pay attention to and strengthen their social responsibility and moral construction on the one hand to enhance their trust in the market. On the other hand, we need to make full use of the social evaluation system, build a good incentive and restraint mechanism, and focus on improving the moral quality of entrepreneurs.

Risk perception does not directly impact enterprise cooperation behavior, which means that decision-making becomes more rational, and decision-makers will fully consider the sustainable operation ability of partners and make cooperation decisions combined with trust and decision-making preferences. During the interview, the study found that SMEs have gradually become accustomed to accepting various sustainability assessments from core enterprises and financial institutions in the

supply chain and have begun to learn to use similar assessment tools to identify their partners. On the one hand, it puts forward higher requirements for small and medium-sized entrepreneurs, who need to be able to face the supply chain, realize that the cultivation of sustainable business ability is not for short-term sales performance or access to financing, but the healthy survival of enterprises and the long-term security of the supply chain, change the risk control system of enterprises through innovation, and actively participate in it. To ensure the healthy development of enterprises, on the other hand, core enterprises need to be aware of the important role of SMEs in the supply chain, and actively lead business activities based on value creation, so as to promote the overall performance level of the supply chain and disperse the overall risk. The decision-making behavior of enterprises is based on the cognition of managers and even entrepreneurs, so the business activities of enterprises are largely affected by the decision-making preferences of managers. However, according to the empirical results of this paper, the single-factor mediating effect of inter-organizational trust is greater than the other two-factor mediating effect, which indicates that the influence of manager's decision-making preference on enterprise cooperation behavior is weaker than that of inter-organizational trust. This means that enterprise decision-makers need to focus on cultivating their own two abilities in the current cooperation environment: one is to reasonably grasp the professional knowledge of partners, only by deeply understanding the business attributes of partners can they find more possibilities in the process of cooperation. Second, the learning of relevant management skills, because enterprises need to further open up and cooperate, the communication ability and planning ability of managers are very important. Large-scale, cross-enterprise management skills for the purpose of optimizing the supply chain will be necessary for managers. Only in this way can the ability of the supply chain be improved, and the enterprises in the supply chain be transformed and upgraded smoothly. First, the cases selected in this study are limited to SMEs in processing trade, and their external effectiveness is low, so the conclusions are only applicable to this industry, and their universality still needs to be proved by more samples. Second, this study uses cross-sectional data and fails to conduct a longitudinal study of the respondents in time, which may lead to some limitations in the study. Third, this study mentions that the upstream and downstream cooperation behavior of supply chain will affect the cooperation performance and the effectiveness of transformation and upgrading, but it has not

been studied in-depth, which will become the follow-up research direction of this study.

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ZACHOWANIA WE WSPÓŁPRACY CHIŃSKICH MŚP Z PERSPEKTYWY DOSTAWCÓW

Streszczenie: W okresie spowolnienia gospodarczego zachowanie kooperacyjne łańcucha dostaw ulegnie zmianie ze względu na wzrost poziomu ryzyka. Celem tego artykułu jest skuteczniejszy pomiar zachowań kooperacyjnych. Dlatego model współpracy w łańcuchu dostaw zbudowany jest z trzech wymiarów: percepcji ryzyka, zaufania między organizacjami i preferencji decyzyjnych. Biorąc za próbę przedsiębiorstwa zajmujące się handlem przetwórstwem w prowincji Guangdong i wykorzystując do analizy model równań strukturalnych, badania wykazały, że zaufanie i preferencje decyzyjne mają istotny wpływ na zachowanie kooperacyjne, a preferencje decyzyjne częściowo pośredniczą w związku między zaufanie i współpraca. Jednak postrzeganie ryzyka nie ma bezpośredniego wpływu na zachowanie w zakresie współpracy, ale pośrednio, poprzez pośrednictwo zaufania między organizacjami i preferencji decyzyjnych. Zaufanie między organizacjami jest częściowo interweniowane między percepcją ryzyka a preferencjami decyzyjnymi. Co więcej, efekt mediacyjny samego zaufania międzyorganizacyjnego jest większy niż podwójny efekt mediacyjny zaufania międzyorganizacyjnego i preferencji decyzyjnych.

供应商视角下的中国中小企业合作行为

摘要：在经济低迷时期，供应链的合作行为会因风险等级的增加而发生变化。本文的目的是更有效地衡量合作行为。因此，从风险感知、组织间信任和决策偏好三个维度构建供应链合作模型。以广东省加工贸易企业为样本，运用结构方程模型进行分析，研究发现信任和决策偏好对合作行为有显着影响，决策偏好在组织间关系中起部分中介作用。信任和合作行为。然而，风险感知对合作行为没有直接影响，而是通过组织间信任和决策偏好的中介产生间接影响。组织间信任部分干预风险感知和决策偏好。此外，单独的组织间信任的中介作用大于组织间信任和决策**偏好的双重中介作用。**

关键词：中小企业；风险认知；组织间信任；决策偏好；合作行为。