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The thesis of Ph.D. dissertation

**Empirical Research on the Relationship between
Principled Negotiation in Teamwork and
Negotiation Outcomes**

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1. INTRODUCTION

1.1 Background

Negotiation has become one of the fundamental requirements of global development to resolve disputes and promote cooperation. With the evolution and development of global economic and political situations, there are a lot of complex problems like trade disputes and territorial disputes. Consequently, finding ways and instruments to tackle these problems has become a global challenge. Due to the advent of the internet, especially the mobile internet, the concept of the world's becoming a global village is becoming more apparent. As a result, there is a growing desire for greater cooperation between people in society, politics, business, and life, in general. Similarly to any dispute resolution method, negotiation cannot guarantee success. However, when both parties adopt a benefit-based approach rather than a position-based approach, negotiations are often more likely to lead to successful outcomes. Negotiation is a process of communication and the consolidation of results through agreements. People promote cooperation through constant communication. If they can reach a substantive agreement, they will implement better cooperation and maintain sustained good relations.

Roger D. Fisher, a Harvard law professor and William Ury, co-founder of the Harvard Program on Negotiation, devised principled negotiation in 1981 in 'Getting to Yes: Negotiating Agreement without Giving In' (Fisher and Ury, 1981). Fisher, Ury and Patton (1991) developed the concept, but the core idea did not change. For over thirty years the method of principled negotiation has been the dominant formative approach to negotiation all over the world. In 'Getting to Yes', the four principles together result in an effective way, which can be used under almost any circumstances. Principled negotiation is an

excellent tool to be used in many disputes although it has also received some criticism. Tenbergen (2001) claimed that the concept of principled negotiation is too “soft” in general because it does not focus enough on the value-claiming aspect. Reyes (2015) thought the very idea that the method of principled negotiation could be an all-purpose strategy of negotiation is absurd. The method of principled negotiation cannot be all-purpose and a strategy of negotiation simultaneously. An all-purpose strategy would be like a flying horse to persuade negotiators that principled negotiation is an all-purpose strategy of negotiation, which has several undesirable outcomes. Although principled negotiation is a very good negotiation tool, there is still room for further exploration in theoretical support and empirical research.

Teamwork forms the basis of virtually all successful businesses (Schamotta, 2013). Despite frequent negotiations between buying and selling centers in practice, the impact of team characteristics during the course and the outcome of a negotiation has rarely been researched (Backhaus et al., 2008). As the negotiation team formed by the negotiating parties can be seen as a temporary team built around the negotiating task, factors such as the composition of the negotiating members, the closeness of the member relations, and the personality of the team leader will influence the negotiating team. However, the negotiation team as a variable that influences principled negotiation is also worth studying. Therefore, both academic research and business practice pay attention to the topic of negotiation teamwork.

Gerard I. Nierenberg, widely regarded as the ‘Father of Negotiation’, published a book entitled ‘The Art of Negotiating’ in 1968 that marked the birth of modern negotiating studies (Nierenberg, 1968). Empirical research on negotiation has been expanding rapidly since the establishment of modern negotiating studies. Empirical research widely uses the methods of field studies and laboratory experiments. Field research mainly depends on the observation method, case

study method and the interview method to understand negotiators (Pruitt, 1981). Laboratory experiments have been performed involving the simulation of formal and occasionally informal negotiation and simulation negotiation is currently the dominant method of research negotiation in the world. Since the data collected by this method are close to the real situation, it is adopted by many researchers.

1.2 Research Questions

The method of principled negotiation has been the dominant formative approach to negotiation in the world, but it lacks theoretical support and empirical analysis. The central part of research develops and tests a theoretical model built on empirical research on the relationship between principled negotiation in teamwork and negotiation outcomes. To study the core concept of principled negotiation, first, this study must find the theoretical basis for supporting principled negotiation to better explain and apply principled negotiations. Second, this study needs to set up a conceptual model of principled negotiation and a scientific scale to measure it. Third, this study explores the factors that can measure the negotiation team. Fourth, this study analyzes how principled negotiation affects the outcome of negotiations depending on the team. Fifth, as communication is an integral part in negotiation, this study analyzes how communication as a mediator affects negotiation outcomes. This research aims to address five research questions, which are as follows.

- (1) What theories support principled negotiation?
- (2) What does the principled negotiation model measure?
- (3) What factors affect the negotiation team?
- (4) How does principled negotiation influence the outcomes of the negotiation?
- (5) How does communication as a mediator influence the outcomes of negotiation in principled negotiation?

1.3 Research Hypotheses

The main concept of this study is principled negotiation. This study involves the

relationship between the four variables (negotiation team, principled negotiation, communication quality and negotiation outcome) revolving around the principle of negotiation. Based on the above analysis, this study uses the negotiating team as the pre-variable, principled negotiation as the independent variable, negotiation outcomes as the dependent variable and the introduction of the communication quality as the intermediary variable and proposes a principled negotiation model PNMT (Principle Negotiation Model in Team). Research model is shown by Figure 1.

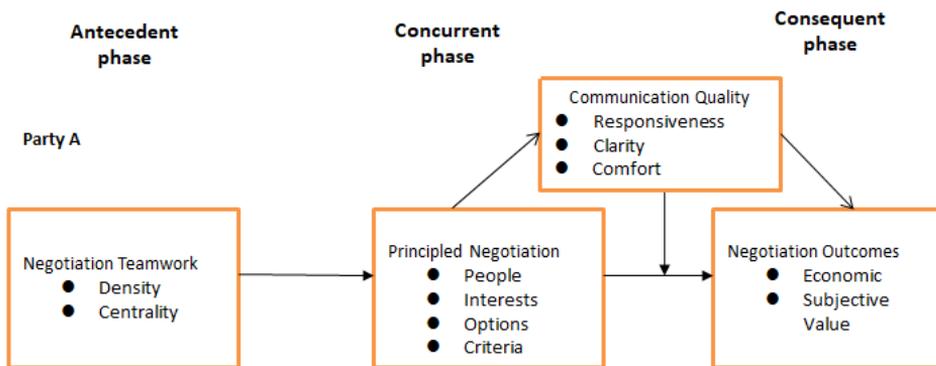


Figure 1 Conceptual Model of Principled Negotiation

Source: author’s own editing

First, a negotiation team is a collection of individuals working together to achieve a negotiation goal. The relationship to the team can be measured in terms of both density and centrality. According to Burt et al. (2009) the structural characteristics of team networks can basically be reflected through network density and near-centrality. Network density describes the portion of the potential connection with a network that is an actual connection. Network centrality measures the issue of who is the most important or central person in this teamwork is.

Second, based on the analysis of the previous chapter, there are four elements of people, interests, options and criteria as principled negotiation variables.

Third, because the characteristics of the negotiating team are different from

those of the other negotiating teams, special attention had to be paid to the characteristics of communication. Therefore, this study uses the quality of communication as an intermediate variable to discuss the impact of communication quality on principled negotiation and negotiation results. In this study, the subjective judgment of negotiators is used to measure the quality of communication that includes three factors: responsiveness, clarity and comfort. Finally, for the negotiation outcome variable, this study uses the research results of Thompson (1990) to divide it into economic outcome and objective outcome in order to represent it. Social psychological outcomes are measured by using the subjective value of negotiation as an indicator. After the literature review, the research theme defines the research questions and hypotheses as presented by Figure 2.

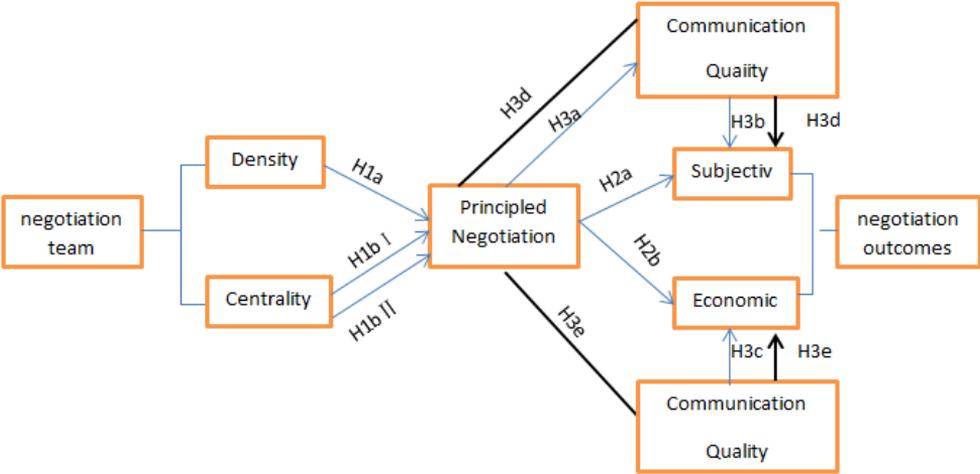


Figure2 Drafting the Hypotheses

Source: author’s own editing

(1) Relationship between negotiation team and principled negotiation
 Negotiation team directly influences principled negotiation; two factors in the negotiation team are involved: the density of the negotiation team and the centrality of the negotiation team. Therefore:

H1a: The higher the density of negotiation teams during the negotiation, the greater the extent of using principled negotiation is.

According to the team's centrality, teams can be divided into centralized teams and decentralized teams, therefore:

H1b□: The higher the centrality of teams (centralized teams) during the negotiation, the greater the extent of using principled negotiation is.

H1b□: The lower the centrality of teams (decentralized teams) during the negotiation, the greater the extent of using principled negotiation is.

(2) Relationship between principled negotiation and negotiation outcomes

There is a correlation between principled negotiation and negotiation outcomes; two dimensions in negotiation outcome are involved: subjective value outcomes and economic outcomes, so

H2a: The greater the extent of using principled negotiation, the greater the satisfaction of subjective outcome is in the negotiation.

H2b: The greater the extent of using principled negotiation, the greater the economic outcomes are in the negotiation.

(3) Relationships between communication quality, principled negotiation and negotiation outcomes

In order to verify communication quality as a mediator that influences principled negotiation and negotiation results, the conditions of the following four criteria must be met at the same time : (a) there is a significant correlation between principled negotiation and communication quality; (b) there is a significant correlation between communication quality and negotiation outcomes; (c) there is a significant correlation between principled negotiation and negotiation outcomes (H2a and H2b); (d) when communication quality is introduced into the regression equation, the correlation or regression coefficient between principled negotiation and negotiation outcomes is significantly reduced. Two dimensions of negotiation outcomes are involved: subjective value outcomes

and economic outcomes, therefore:

H3a: The greater the extent of using principled negotiation, the higher the quality of communication is in the negotiation.

H3b: The greater the extent of communication quality, the greater the satisfaction of subjective outcome is in the negotiation.

H3c: The greater the extent of communication quality, the greater the economic outcomes of negotiation are in the negotiation.

H3d: Communication quality is a mediator between principled negotiation and the subjective value outcomes of negotiation.

H3e: Communication quality is a mediator between principled negotiation and the economic outcomes of negotiation.

2. MATERIALS AND METHODS

Based on the conceptual model PNMT and hypotheses proposed in the previous chapter, this chapter designs questionnaires based on the variables involved in the study, explains the samples and variables in detail, describes the process of data collection, and briefly introduces the main methods used in data analysis.

2.1. Questionnaire Design

This study involves four variables of negotiation term, principled negotiation, communication quality, negotiation outcomes. For the measurement these variables, a questionnaire was designed.

2.1.1 Negotiation Term Scale

According to Burt (2009), the structural characteristics of team networks can be basically reflected through network density and near-centrality. Surveys and questionnaires in whole-network studies use several response formats to obtain network data: binary judgments (often termed sociometric choices) about whether respondents have a specified relationship with each actor on the roster, ordinal ratings of tie strength, or rankings.

2.1.2 Principled Negotiation Scale

Because I cannot find a scale to measure the principled negotiation, I developed a 18 item scale of principled negotiation scale for this study. Based on the analysis of the previous chapter, there are four elements of people, interests, options and criteria; the scale is designed to four dimension people, interests, options and criteria. The final questionnaire was developed as follows (Table1).

Table 1. the Final Questionnaire of Principled Negotiation

Dimensions	No.	Content
	1	I am a person who is more rational than emotional.
	2	I always collect enough information before making a judgment.
	3	I have been able to use the time very well.

people	4	I am a person who often reads books.
	5	I will habitually predict the possible outcome before one thing is put into action.
	6	I often think about its value and meaning when doing things.
interests	7	I have a deep understanding of each other's interests need to be diverse, not specific, not clear.
	8	I often ask myself and the other "why" to explore each other's interests.
	9	When negotiating, I can accurately and clearly express my own interests and needs.
	10	When negotiating, I am good at grasping the consensus to find common interests.
	11	When the negotiations diverge, I do not argue with each other about what has happened, but to influence the future.
	12	I am good at converting my interest demands into multiple sets of executable alternatives.
	13	When negotiating, I can stick to my own interests but do not attack and accuse each other.
options	14	I always prepared a different alternative program before the negotiations.
	15	I call different experts to look at the problem.
	16	I try to find a solution that is also satisfactory to each other.
criteria	17	When you encounter a problem or cannot persuade each other, I will first and experienced people (experts) to discuss and then deal with.
	18	I often ask each other, you put this program (view, problem, theory) is based on what.

Source: author's own editing

2.1.3 Communication Quality Scale

Liu (2004) Quality of communication scale was used to measure communication quality. Liu developed a 15- item scale of quality of communication specifically for that study. The scale is designed to measure the responsiveness, clarity, comfort that individuals experience during the negotiation.

2.1.4 Negotiation Outcomes

Thompson (1990) divides the outcomes of negotiation into two categories, the

economic or objective outcomes, and the social-psychological or subjective outcomes. In two-party negotiation, the objective outcomes can be operationalized by the joint gain for both parties regarding the resources being negotiated. The subjective outcomes include each negotiator's perceptions of the negotiation situation, the self, and the other party. Satisfaction and expectation for a future relationship were measured with questions adapted from The Subjective Value Inventory (SVI).

2.2 Data Collection

2.2.1 The Experimental Method

Data were collected using international research negotiation method -- laboratory simulation experiment.

2.2.2 Participants

The Communication and Negotiation Committee of China Industrial Technology Association of Economic Management Colleges organized negotiation competition for students on November 4th-5th 2017 at the Capital University of Economics and Business of Beijing. The participants were from 220 colleges (45 teams) from 26 universities to attend the competition.

2.2.3 The Experimental Process

The participants arrived at the negotiation competition preparation room at the appointed time. After signing in, the experimenter brought the negotiation group to a separate laboratory. First of all, the two roles of the buyer and the seller were assigned by drawing lots, and then they were seated in the seat with the corresponding signage to enter the role; the experimenter distributed the negotiated case materials with the following instructions. Try to read carefully, understand the background of the negotiation, analyze the income list of one's own party, and ask the participants to aim at maximizing their overall level of return. Participants were asked to fill out a negotiation team questionnaire and a principled negotiation questionnaire. Then negotiations began formally, telling

them that they could communicate freely except that they could not exchange revenue lists directly. The entire time for the negotiation competition was 45 minutes. After the negotiation, the two parties were brought into different rooms; post-negotiation questionnaires of communication quality and subjective value inventory were sent out. The entire process is shown in Figure 3.

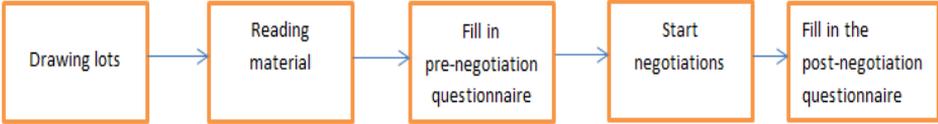


Figure 3 Experiment Flowchart

Source: author’s own editing

2.2.4 Negotiation Case

The case is a silk trade negotiation. The two parties are Party A (seller)-Shaoxing silk factory in China and Party B (buyer) - Formica Corporation in America. The two sides negotiate to reach a deal in the headquarters of Shaoxing silk factory. The buyer's purchase price limit is \$ 7 / yard but the first batch of more than 30,000 yards will have a greater market risk. The seller's marginal profit is 4.80 US dollars / yards × 4 million yards. If there are few transactions, the corresponding price should be higher.

2.3Data Analysis Methods

After the questionnaire was recovered, the social network analysis software Ucinet 6.0 was used for the further processing of the data matrix, and then imported into the SPSS database while in the correlation data processing SPSS22.0 was used. Five analysis methods were mainly adopted.

2.3.1. Social network analysis to Negotiation Team

Social network analysis (SNA) is the mapping and measuring of relationships and flows between people, groups, organizations, computers, URLs, and other connected information/knowledge entities. The nodes in the network are the people and groups while the links show relationships or flows between the

nodes (Carrington et al., 2005). SNA provides both a visual and a mathematical analysis of human relationships. Ucinet 6 for Windows is a software package for analyzing and drawing social networks developed by Lin Freeman, Martin Everett and Steve Borgatti (Huisman and Vanduijn, 2005). According to Burt et al. (2009) the structural characteristics of team networks can basically be reflected through network density and near-centrality. In this study, social network analysis methods were used to analyze the density and centrality of the negotiating team.

2.3.2. Descriptive statistical analysis

This study first used the descriptive statistical analysis method to help understand the basic distribution of the sample by performing frequency assignment and percentage analysis of the variables; the mean and standard deviation analysis were used.

2.3.3. Factor analysis

Factor analysis usually includes Exploratory Factor Analysis and Confirmatory Factor Analysis. The Principled Negotiation scale adopted in this study is used to test and modify the existing measurement tools. Factor analysis is needed to verify the measurement dimensions and correct and delete the measurement items. Because the measurement tools used in this study are used after modification and the target groups are also different, they need to be tested for reliability. At the same time, in the actual measurement, the measurement reliability performance needs to be analyzed. This study uses SPSS to calculate Cronbach a. coefficient.

2.3.4. Correlation analysis

Correlation is a bivariate analysis that measures the strength of association between variables and the direction of the relationship. In terms of the strength of relationship, the value of the correlation coefficient varies between +1 and -1. A value of ± 1 indicates a perfect degree of association between the two

variables. As the correlation coefficient value goes towards 0, the relationship between the two variables will be weaker. The direction of the relationship is indicated by the sign of the coefficient; a + sign indicates a positive relationship and a – sign indicates a negative relationship. Usually in statistics we measure four types of correlations: Pearson correlation, Kendall rank correlation, Spearman correlation, and the Point-Biserial correlation. The software SPSS allows you to very easily conduct a correlation. In this study, the correlation analysis method was used to analyze the relationship between the four variables of the negotiation term, principled negotiation, communication quality and negotiation outcomes.

2.3.5. Regression analysis

In statistical modeling, regression analysis is a set of statistical processes for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables when the focus is on the relationship between a dependent variable and one or more independent variables (or predictors). More specifically, regression analysis helps one understand how the typical value of the dependent variable (or criterion variable) changes when any one of the independent variables is varied while the other independent variables are held fixed. Many techniques for carrying out regression analysis have been developed. Familiar methods such as linear regression and ordinary least squares regression are parametric, in that the regression function is defined in terms of a finite number of unknown parameters that are estimated from the data. Nonparametric regression refers to techniques that allow the regression function to lie in a specified set of functions, which may be infinite-dimensional. In this study, hierarchical regression, which is linear regression, verifies the quality of communication as a mediator variable between the principle of negotiation and negotiation outcomes.

3. RESULTS

Based on the foregoing discussion, this chapter analyzes the data collected by the questionnaire survey according to the statistical methods proposed. Descriptive statistics, social network analysis, correlation analysis, and regression analysis were used separately. The models and hypotheses proposed in this study were discussed based on the results of data analysis.

3.1. Analysis between Variables in the Theoretical Model

The correlation between the variables in the calculation model is shown by Figure 4.

Correlation Matrix							
		density	centrality	pn	communication	SVI	economic
Correlation	density	1.000	-.734	.822	.639	-.061	.424
	centrality	-.734	1.000	-.673	-.473	.087	-.413
	pn	.822	-.673	1.000	.718	-.071	.571
	communication	.639	-.473	.718	1.000	.180	.677
	SVI	-.061	.087	-.071	.180	1.000	.063
	economic	.424	-.413	.571	.677	.063	1.000
Sig. (1-tailed)	density		.000	.000	.000	.346	.002
	centrality	.000		.000	.001	.284	.002
	pn	.000	.000		.000	.320	.000
	communication	.000	.001	.000		.118	.000
	SVI	.346	.284	.320	.118		.341
	economic	.002	.002	.000	.000	.341	

Figure 4 Correlation Matrix for Each Variable

Source: author's own editing by using software SPSS (22) , 2017

From Figure 4 the correlation coefficient between these variables is a strong correlation. Therefore, H1a, H1b, H2b, H3a and H3c are confirmed; H1b, H2a, H3b and H3d are rejected.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-10.373	7.012		-1.479	.146
	pn	6.240	1.369	.571	4.557	.000
2	(Constant)	-13.508	6.339		-2.131	.039
	pn	1.909	1.760	.175	1.084	.284
	communication	4.898	1.430	.552	3.426	.001

a. Dependent Variable: economic

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	communication	.552 ^b	3.426	.001	.467	.484

a. Dependent Variable: economic

b. Predictors in the Model: (Constant), pn

Figure 5 Communication Quality Mediation Regression Analysis Process

Source: author's own editing by using software SPSS (22) , 2017

In Figure5 the regression coefficient changes from 0.571 to 0.175 when the quality of communication participates as a mediator variable. Therefore, H3e: Communication quality is a mediator between principled negotiation and the economic outcomes of negotiation is justified.

3.2 New and Novel Scientific Achievements

Based on the above findings, the main innovations of this study are summarized as follows.

(1) The integration of Chinese and Western cultures has led to a new theoretical support for principled negotiation.

As an important negotiation method, principled negotiation has had a tremendous influence on the negotiation field, but as a scientific concept it lacks theoretical support. This study uses transaction analysis (TA) theory, the Chinese harmony theory and the sensegiving theory to provide theoretical support for

principled negotiation from the perspectives of negotiators, negotiating interests and communication persuasive processes. Especially, negotiating harmony theory from the perspective of cross-cultural perspectives in both China and the West found consistent results in different cultural negotiations. The principled negotiation is the Tai Chi negotiation. This conclusion can effectively explain that why businesspeople engaged in business negotiations in Eastern culture even if they are not familiar with principled negotiation can also be quickly connected with the West culture.

(2) The research proposes and verifies the Principled Negotiation Scale first time in the world.

Many instances exist in which the researcher cannot find an adequate or appropriate existing scale to measure an important construct of principled negotiation. In these situations, it is necessary to create a new scale (Hinkin et al., 1997). A four-dimensional questionnaire was designed based on the original idea and a scientific questionnaire was used to verify the questionnaires that formed 18 items. This questionnaire provided an effective research tool for the completion of the study and other studies.

(3) Using social network analysis (SNA) method to study the negotiating team is the new research methods for principled negotiation.

Despite the frequent negotiations between buying and selling centers in practice, the impact of team characteristics on the course and outcome of a negotiation has rarely been researched (Backhaus et al., 2008). Although predecessors also had research-style negotiations, research has focused on other team areas. The reason why team characteristics are rarely discussed by the researcher as an important variable for negotiation is that the way to quantify the negotiation team and collect data is difficult to achieve. Social network analysis has gradually become a new method since the 1990s to study complex social relationships. This study uses the negotiating team as the research object to test

and measure principled negotiation by using the method of SNA and verifies the correlation between principled negotiation and the negotiation team. This method proposes new and effective ways to study the structure of the negotiating team and the impact of principled negotiation.

Based on the above theoretical analysis and empirical research conclusions, the following specific recommendations are made on how to achieve a win-win negotiation result for the company.

(1) Negotiators must emphasize the role of the principled negotiation in promoting the outcomes of the negotiations. Although it is difficult to carry out principled negotiation in job responsibilities, it plays a crucial role in maintaining the effective operation of the team, the organization's continued existence and development together with promoting the realization of organizational goals. The results of empirical studies show that principled negotiation has a significant positive correlation with the economic outcomes of negotiations. Therefore, negotiators must stimulate, maintain and promote principled negotiation of the team through various means (such as changing work, organizational characteristics and strengthening leadership behaviors, etc.).

(2) Negotiators must pay attention to the important role of communication in the formation of principled negotiations. Communication is not only a language; it is a mechanism for companies and teams. A sound communication system, a smooth communication channel, a good communication atmosphere and superb communication skills will all promote the principled negotiation among the negotiation teams. Team leaders should pay attention to the establishment of communication mechanism and ensure that team members form principled negotiation through the communication mechanism to promote negotiations and achieve a win-win negotiation result.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 The Main Research Conclusions

The research focuses on the effect of principled negotiation on the outcomes of negotiation, identifies the connotation and the influencing factors of principled negotiation, and develops a principled negotiation index system. This research proposes principled negotiation as an independent variable, the negotiation result as a dependent variable, and the introduction of communication quality as a mediator variable and proposes a conceptual model of the principled negotiation model in Negotiation Team (PNMNT). The empirical results verify the theoretical model and research hypotheses in general. In order to make the results more intuitive, a summary of the hypothesis test results is presented here in a table format as shown in Table 2.

Table 2 Hypothesis Test Results

No	Hypothesis	Testing results
H1a	The higher the density of negotiation teams during the negotiation, the greater the extent of using principled negotiation is.	Confirmed
H1b□	The higher the centrality of teams (centralized teams) during the negotiation, the greater the extent of using principled negotiation is.	Rejected
H1b□	The lower the centrality of teams (decentralized teams) during the negotiation, the greater the extent of using principled negotiation is.	Confirmed
H2a	The greater the extent of using principled negotiation, the greater the satisfaction of subjective outcomes is in the negotiation.	Rejected
H2b	The greater the extent of using principled negotiation, the greater the economic outcomes are in the negotiation.	Confirmed

H3a	The greater the extent of using principled negotiation, the higher the quality of communication is in the negotiation.	Confirmed
H3b	The higher the quality of communication, the greater the satisfaction of the subjective outcomes is in the negotiation.	Rejected
H3c	The higher the quality of communication, the greater the economic outcomes of negotiation are in the negotiation.	Confirmed

Through the above summary of the hypothesis test results and the previous statistical analysis process, the following conclusions of the study can be drawn.

(1) In general, the negotiation team is related to principled negotiation. Hypothesis H1a and Hypothesis H1b reflect the justification of such a conclusion.

(2) The economic effects of negotiation and principled negotiation are highly related. Hypothesis H2b can support such a conclusion.

(3) The psychological results of negotiations and principled negotiations are irrelevant, so hypothesis H2a has not been confirmed. The psychological results of negotiations and communication quality are irrelevant, hypothesis H3b has not been confirmed. As the first two assumptions are not established, hypothesis H3d has not been confirmed, either.

(4) Communication quality as a mediator variable has obvious economic effects on principled negotiation and negotiation. Hypothesis H3e is confirmed.

4.2 Discussion

Through correlation analysis and regression analysis, I basically verified the correlations proposed in the theoretical model. The hypotheses of the negotiating team's influence on principled negotiation, the impact of principled negotiation on the economic results of negotiation, the effect of communication quality on the economic outcomes of negotiations and principled negotiations which correlates with them have been verified. Only relations between principled negotiation directly influencing subjective value outcomes,

communication quality directly influencing subjective value outcomes and communication quality as a mediator variable influencing the subjective value outcomes of negotiations and principled negotiations did not reach a significant level.

4.2.1. The density of the negotiating team has a positive effect on principled negotiation

The greater the density of the negotiating team, the tighter the relationship is between the members of the negotiating team and the negotiation team influences members' attitudes and behavior to a greater extent. The negotiation team must closely cooperate before and during negotiations. The high density of the negotiating team reflects the strong collaborative power of the negotiating team. Principled negotiation is one type of cooperative negotiation strategies (Constantinovits and Zhang, 2018). Therefore, the level of collaboration at which the members of the negotiating team react will also appear when using principled negotiation, both of which has internal consistency. It can be concluded that the negotiating team's high density is an important basis and condition for using principled negotiation.

4.2.2. The centrality of the negotiating team has a negative effect on principled negotiations; the decentralized teams are more conducive to principled negotiations

According to the team's centrality, teams can be divided into centralized teams and decentralized teams. Hypothesis H1b□ is not justified whereas hypothesis H1b□ is justified. This shows that decentralized teams are more conducive to principled negotiations. The more centralized the team is, the more concentrated the power of this team is, and one person is particularly important. Through the previous empirical research, the decentralization trend of the negotiating team was demonstrated. The lower the team's centrality, the greater extent they use principled negotiations. The reason for the decentralization of the negotiating

team lies in the particularity of the composition of the negotiating team members. The negotiating team is often a team composed of temporary negotiating tasks. Such a team is composed of experts in finance, law, marketing, and technology. Even a simulated negotiating team composed of students often selects students from different professional backgrounds. In the face of temporarily formed teams, young people work together very energetically and can use modern communication methods to communicate in a timely manner. The efficiency of such teams is high. This result also shows that even if the negotiating team composed of its own excellent members is decentralized, students with good negotiation consciousness can still use principled negotiation very well.

4.2.3. Principled negotiation is an effective way to achieve successful economic outcomes

The principled negotiation method, focusing on basic interests, mutually satisfying options, and fair standards, typically results in a wise agreement (Fisher and Ury, 1981). According to the previous data analysis, if the negotiators use more principled negotiations, they will get better economic results, accordingly. This result politely explains the original author's assertion. The reason why principled negotiations can achieve good economic results is that the four basic principles of principled negotiations are a good guide for negotiators to achieve win-win results.

The first principle (Separate the people from the problem) puts forward requirements for negotiators and negotiates to maintain a rational display of "adult ego". The second principle (Focus on interests, not positions) imposes requirements on negotiating interests. Negotiations focus on real interests and should not be confused with superficial positions. The third principle (Invent options for mutual gain) puts forward requirements for the negotiation process. Negotiation is not only about communicating ideas and interests of each other

but, more importantly, it is about creatively formulating a negotiation option that can be mutually beneficial and win-win. The fourth principle (Insist on objective criteria) puts forward requirements for the use of third party for negotiation. Once negotiations cannot use the first three principles to solve conflicts, we must consider using external third-party forces to promote negotiations.

4.2.4. Communication quality is an important intermediary for the successful economic outcomes of principled negotiations

Communication quality is a mediator variable of principled negotiation and economic results. It verifies the hypothesis proposed by the research and proves the important role of communication in negotiation. Negotiation is the process of communication and human interaction. Even if negotiators of all parties effectively use principled negotiation to guide their own practice, the good economic negotiation result must be achieved through good communication as an intermediary. Communication is the bridge between principled negotiation and good economic results. In this study, communication quality was used as an indicator to measure the level of communication. The quality of communication included responsiveness, clarity and comfort.

If negotiators communicate and send and receive information, as well as adjust their psychological patterns with the first principle of principled negotiation (Separate the people from the problem), negotiators must possess high-quality communications when communicating because the quality of communication is the level of responsiveness, clarity, and comfort experienced by the communicators in the negotiation, such as the tip of “listen actively and acknowledge what is being said” represents the same meaning with responsiveness; the tip of “speak for a purpose” represents the same meaning with clarity; the tip of “ace-saving: make your proposals consistent with their values” represents the same meaning with comfort. Therefore, it can be expected

that during the negotiation process, the greater extent of using principled negotiation will help promote high quality communication.

The process of negotiation is a process of communication and exchange. During this process, people reveal their views on the tasks of the negotiations and show their own strategic actions. Better communication quality represents the good running of the mental model and compatibility with each other. Smith (1969) reported the communication variables as important influencers on negotiation outcomes. Liu et al. (2010) found that a higher quality of communication experience leads to better negotiation outcomes. Quality communication signals a higher degree of enactment and mutual influence outcomes of negotiation in principled negotiation.

4.2.5. Subjective value judgment in negotiation is a complex factor

However, three hypotheses involving subjective values have not been justified. The first reason is that the subjective value judgment of the negotiation includes many factors such as the perception of the negotiation situation, the perception of the negotiation opponent and the perception of themselves. The scale, designed to measure the Instrumental, Self, Process, and Relationship, developed 16 items during the negotiation. The second reason is that due to the restrictions of simulated negotiation, the negotiating parties all hope to reach a negotiation agreement in order to obtain good competition results and thus compromise in the economic results. The subjective feeling of satisfaction as a result of negotiation is difficult to achieve. The members of the simulated negotiating team are students. Each member has different grades, profession, role etc. and feels great differences after the whole negotiation process. The data obtained through the questionnaire are also quite different, and thus there is no agreement on the subjective feelings of negotiation.

4.3 Limitations and Research Recommendations

Although this study has basically reached the expected research goals, it also has certain limitations, mainly in the following aspects:

(1) In terms of selecting the target. The participants were college students. As they are relatively unfamiliar with business situations and young people (average 20 years old) lack practical work experience, oral explanations and written notice have been carried out in the negotiation competition and some students still feel that they have no way to start. This will affect the reliability of the data.

(2) In terms of the number of samples. Subject to conditions, this study collected a total of 45 teams as valid samples. The sample size is small. A larger sample size obviously helps to improve the applicability of the research conclusions. A sample with a wider geographical distribution and several categories can be analyzed in more detail, and other more valuable conclusions may be drawn.

(3) In the measurement of principled negotiation. Although the principled negotiation scale method is currently used as a better method than other research methods, this measurement method also has its drawbacks. For example, the accuracy of the core concepts summarized through negotiated job analysis may be biased and used in laboratory experiments. Finding a method that can overcome the above deficiencies and achieve better measurement of principled negotiation effects should be the next step in the research.

(4) The study of the independent variables in principled negotiation. From the existing research results, teamwork was focused on. Many factors that affect principled negotiation such as environmental factors, organizational factors, individual factors will also be studied with the further introduction of more diverse antecedent variables in the future.

(5) Although the density and centrality of the negotiating teams are studied, other concepts such as factions, positions, reality networks, and virtual network

homogeneity, social capital, etc. can be further studied.

(6) In terms of theoretical support. There are four basic dimensions of principled negotiation. The first two (people, interest) are discussed in detail in this study, but the third (options) and the fourth (objective criteria) lack careful discussion. A detailed discussion of the “brainstorming” theory should be conducted that generates creative solutions and third-party theories that seek external support in order to fully reveal all aspects of the principled negotiations in the future.

The facts above show that there are many deficiencies in the research on principled negotiation, and it is these deficiencies that generate further research. Therefore, research on this aspect can be carried out in the future.

(1) Broader choice of subjects. Most of the subjects are university students. This is very different from the actual negotiation activities, which limits the external validity of the promotion of the research results. College students often lack experience in the actual negotiation of companies, and they do not have in-depth understanding of negotiation issues. In future studies, those who have negotiating experience can choose to conduct research. Principled negotiation is an all-purpose strategy (Fisher and Ury, 1981). All the samples of this study come from Chinese university students. In the future, students of other countries could be used.

(2) Consider more complex team situations. When the buyers and sellers are distinguished in detail, when there is a one-to-many, many-to-many negotiation form, there will be extremely complicated adversary reactions and strategies. This study did not discuss them in depth. These are the research directions for the future analysis of principled negotiations.

(3) Negotiation is a dynamic process. From a dynamic perspective, the study of the evolution of principled negotiation and the application of relevant results to commercial warfare and daily life can effectively improve the efficiency of negotiation.

5. PUBLICATIONS

1. **Zhang shougang**, Research on Chinese Harmony Thought and Principled Negotiation, “*Science connecting natiaons*”2nd VUA YOUTH scientific session,Hungary,2015.(ISBN978-963-269-451-1).
2. **Zhang shougang**, The Development“Hacker Space”Improving Enterprise Education in Universities and Its Inspirations, *China Adult Education*(2016).(ISSN 1004-6577).
3. **Zhang shougang**, Principled NegotiationPractice in International Trade, *Practice in Foreign Economic Relations and Trade* (2016).(ISSN: 1003-5559).
4. **Zhang shougang**, An Investigation into the Characteristics of Higher Education of Hungary, *Journal of Xi'an Eurasia University* (2016).
5. **Zhang shougang**, A Study of Negotiation Mechanism Based on Science of Momentum, *the International Scientific Conference: „International Scientific Days 2016“Faculty of Economics and Management of the Slovak University of Agriculture in Nitra, Slovak* ,2016. (ISBN978-80-552-1500-6). (Index by web of science (CPCI-SSH)).
6. **Shougang Zhang**, Milan Constantinovits, A Study of Principled Negotiation Based on Chinese Harmony Thought, *BRAND. Broad Research in Accounting, Negotiation, and Distribution*(2016).(ISSN:2067-8177). (Index by EBSCO).
7. **Zhang Shougang**, Li Dechang, Mao Fanyu, Xia Mingxue, A Study of Negotiation Mechanism Based on Science of Momentum, *Business English Teaching and Research*(2016). ISBN 978-7-5446-4374-0/Z.007).
8. **Shougang Zhang**, Milan Constantinovits, A Study of Price Negotiating Strategy Based on the Sensegiving Theory, *The Third International Symposium on Management, Innovation & Development* ,China,2016.(ISSN:2067-8177). (Index by web of science (CPCI-SSH)).
9. **Shougang Zhang**, Milan Constantinovits, A Study of Negotiation Strategy Based on Transactional Analysis Theory, “*Future scientists for sustainable*

development''3rd VUA YOUTH scientific session,Hungary,2016.(ISBN978-963-269-451-1).

10. **Shougang Zhang**, Milan Constantinovits, A Study of Principled Negotiation Based on Transactional Analysis Theory, *BRAND. Broad Research in Accounting, Negotiation, and Distribution* (2017).(ISSN:2067-8177). (Index by EBSCO).
11. **Shougang Zhang**, Milan Constantinovits, The development of a conceptual model and questionnaire of Principled Negotiation, *4th Winter Conference of Economics PhD students and Researchers* ,Hungary,2018.
12. MAO Fanyu,**Shougang Zhang**, On Grammatical Metaphor in Business English Negotiation, *BRAND. Broad Research in Accounting, Negotiation, and Distribution*(2018).(ISSN:2067-8177). (Index by EBSCO).
13. Milan Constantinovi,**Shougang Zhang**, Oral tactics in principled negotiation based on AIDA model, *BRAND. Broad Research in Accounting, Negotiation, and Distribution*(2018).(ISSN:2067-8177). (Index by EBSCO).
14. **Zhang shougang**, Business communication and negotiation(the second edition), Publisher: Posts & TELECOM PRESS (2016).(ISBN978-7-115-43065-6).