ISCTE Business School

Instituto Universitário de Lisboa

CONFLICT MANAGEMENT AND GAME THEORY IN CHINESE COMPANY

Yiran Wang

Supervisor:
Prof. Pedro Fontes Falc ão, ISCTE Business School, Professor and Executive Director
of the Executive MBA and Executive Master in Business Management

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Abstract

The developing China that has 950 million labor population is becoming one world factory where conflicts happen every day. According to a traditional Chinese concept of conflict, Chinese usually think it only leads to bad results and usually try to avoid or withhold it. Meanwhile, Chinese deem a persistent harmony can be the foundation for long term collaboration which consequently brings out more benefits. Game theory is a scientific study of strategic decision making which is built to analyze different situations in negotiation with our models. Since this research analyzes the development of conflict management in Chinese culture and application of game theory in the conflict. The study assesses the theoretical and practical game models among different relationships in corporate, taking gender and age factors into consideration. Therefore, it helps us to have an understanding of Chinese negotiation patterns and solutions with game theory.

Abstract

A China em desenvolvimento tem mais de 950 milhões de trabalhadores, e ocorrem muitos conflitos todos os dias. O conceito tradicional chinês acha que os conflitos somente trazem resultados negativos, por isso, devem evitá-los; os chineses também consideram que a harmonia é a base da cooperação de longo prazo, somente a harmonia pode trazer os lucros sustentáveis. A teoria de jogos é analisar de forma científica a escolha política em situações diferentes, e a tese utiliza a teoria de jogos como uma ferramenta para discutir a administração de conflitos da China. O presente texto avalia os estudos teóricos e práticas em laboratório de simulação de jogos, a fim de deixar-nos conhecer melhor o método de administração de conflitos da China.

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1. Conflict and Conflict Management

1.1 Conflict

Conflict which is inevitable widely exists in society; it is a clash among people with different needs and values. Pondy (1967) summarized conflict definitions into 5 categories; antecedent, conditions, emotions, perceptions and behaviors. He also deemed that conflict is detrimental to organizational function and he emphasized more on conflict causes and resolution. The recent researches have theorize that the conflict benefits under circumstances. Thomas (1992) defined conflict as "the process which begins when one party perceives that another has frustrated or is about to frustrate and concern for this". Carsten reported that conflict could be divided into task conflict and relationship conflict. Low-level conflict usually increases organization efficiency but high level conflict is a disaster for any organizations (Vliert&Dreu, 1994).

Definition for conflict is diversiform, but we can see all the researchers have the same idea of importance for reason and pattern in conflict. Jehn classified task conflict and relationship conflict and Pondy concluded conflict process as latent conflict, perceived conflict, felt conflict, manifested conflict and conflict aftermath. The divergence of scarce resources and goals contributes to a latent conflict. Sometimes drives for autonomy is also a trigger of conflict in organization; When one or more parties becomes aware of conflict potential, the process is called as perceived conflict; After the awareness, people will start feeling anger, frustration or hostility within the individuals in felt co`nflict; Then a conflict resolution and management programs are applied to a manifested conflict process; In the end, reaction interplays among conflicting parties results in consequences for conflict aftermath.

Two crucial elements in the conflict are the opinion violation and perception, we cannot say it is a conflict if anyone is lost. The positive result from a conflict can be innovation or revolution of organization while the negative one will cause the loss of resources or reduction of efficien`cy. In this research, we will dive the conflict into two classifications; one is the

intragroup conflict including vertical and horizontal relationships; the other one is intergroup conflict.

1.1.1   Intragroup Conflict

Intragroup conflict is the conflict between two or more members in the same group. Surra and Longstreth (1990) manifested that coworkers who are in interpersonal tension will be more unsatisfied with the group, due to many negative emotions. Employees can also experience frustration when they have different values in group (Walton and Dutton, 1969). Guetzkow and Gry (1954) came to a conclusion that intragroup conflicts are divided into substantive conflict and affective conflict. Piem and Price (1991) classified two intragroup conflict types as cognitive interpersonal conflict and task conflict. Relationship conflict happens with incompatibilities within group members; task conflict exists while different contents of task in views and opinions.

Jehn (1995) says intragroup conflict should be classified as relationship conflict, task conflict and process conflict. Task Conflict means intragroup member may have the different opinion on the same goal, a positive task conflict can help group making creativity, solving problems. But the disagreement may also make people feeling animosity from other group members. Process Conflict is an inconsistency in the method while relationship conflict is the personal conflict between people who have the different personalities and emotions.

To summarize, the cause of intragroup conflict can be classified as goal imcompatibility, differentiation in value, scarcity of resources and improper communication. The imcompatibility of goals implies different goals for group members may interrupt each other`s; in this circumstance, the more important goal may induce a more severe conflict. Value differentiation is widely existed in any groups, it represents the divergence in opinion, attitude and experience. In intragroup, the scarce resources usually lead to the competitive conflict;

people try to reap resources from other colleagues with this scarcity. Besides, an improper communication states a psychological mindset conflict in communication; this might happen when two parties have few opportunities to talk, or there is an absence in communication skill for each party.

Besides, there are many empirical researches on intragroup conflicts showing a contradictory function of conflict. For instance, theorists found productivity and satisfaction reduction which is associated with intragroup conflicts. On the other hand, there are plenty of evidences implied that conflict within team can improve quality of strategic decision and growth of organization (Bourgeois, 1985; Schweiger, 1989). To resolve the contradiction of intragroup conflict result, it is imperative to identify the different factors which contribute to these consequences.

1.1.2 Intergroup Conflict

Alexander (1978) reported that intergroup conflict where a group was involved in could influence its member`s cooperation and affiliation. Individuals in intergroup often make different contribution, then an intergroup conflict is the term for disagreement or confrontation between two or more groups and their members. This may involve physical violence, interpersonal discord and psychological tension. Compared with intragroup conflict, intergroup conflict happens between different groups where distinct groups of individuals do not like each other. Limited resources and interests can intrigue intergroup conflict more seriously; meanwhile different group goals, can also create conflict. (Tony Belak, 1998) Lanrence and Lorrsh (1967) reported that intergroup conflict comes from 4 sources, inconformity of time, goal, relationship and system.

Realistic intergroup theory coined by Coser (1956) classified intergroup conflicts as goal discrepancy and resource scarcity. It has generally been accepted that rational group members will act in the same way against others as intragroup conflict, considering of "people are selfish

and will try to maximize their own rewards" (Taylor & Moghaddam, 1987). This is a paradox because we can find many cases which are against individual interest; for instance, hardworking staffs sacrifice their time with family; soldiers loss precious life in battle. A collective interest, to some extent, is inevitably different from individual interest, then the dilemma has been researched by many theorists such as van de Kragt, Dawes, & Orbell (1988) who concluded intergroup conflicts cooperation is representatively bad from collective perspective.

An intergroup relationship is the collective sentiment between own group and out group. It usually brings out negative emotions towards others, and even generates detestation. Eidelson, Roy, J and Eidelson, Judy I (2003) concluded five causes for intergroup conflicts: Superiority, injustice, vulnerability, distrust and helplessness. They classify these intergroup reasons as individual level as well as group level. From individual level, superiority means people are sure that they are better than others; injustice states unfair treatment by others; vulnerability is the absence in the sense of safety; distrust represents people who lose trust in collaboration; and helplessness demonstrates a lack of motivation. In group level, superiority shows a better heritage from group towards others; injustice on group level occurs when there are significant mistreatments against other groups; Group-level vulnerability is fully composed of collective disaster, people are afraid of future and produce violence; Distrust, on group level, can generate many serious confrontations on perceptions of outgroups; intergroup helplessness is the collective weakness towards the others which can also result in intergroup conflict.

Above all we talk about the difference of goal in our games. Although the final goal is the same, each group has its own specialized goal to achieve that will maximize its benefit. Much work on social intergroup relationships has been researched on patterns of individual prejudice, discrimination and motivation. General psychologists apply the complex interviews on individual or interpersonal behaviors, finding conflict behaviors have been stressed on prejudiced attitude and discrimination (Tajfel, 1927).We can conceptualize a group, from our role play games, as collections of individuals who deem themselves to be members of the same

group. Sherif (1966) believed that any behavior displayed by one or more actors toward one or more others is based on their identification, regarding different social categories. The argument in this thesis is based on a general hypothesis where individuals pursue positive esteem based on social identity in comparison with the other groups.

1.2 Conflict Management

Conflict management is the control of conflict, and it is the style of conflict handling. Administrator should not only tackle organizational conflicts but make a conflict more beneficial; individuals may have different methods to manage conflicts. A classical managerial grid (Blake and Mouton, 1964) stated that there are five different approaches to manage conflicts by two dimensions of assertiveness and cooperativeness. The model is represented as a grid, involved with concern of production and people; this conflict-handling mode is generally studied in social and organization situation among plenty of researchers；The five approaches visualize the fundamental choices in different styles better than simple article words. Thomas-Kilmann's meta-model makes five conflict management framework approaches: collaborating, accommodating, competing, avoiding, and compromising. These five handling styles can be categorized regarding their integrative (problem-solving) and distributive (bargaining) dimensions (Rahim, 2002). Rahim and Bonoma (1979) identified five handling styles of conflict which are depicted in the following figure; this is very close to Thomas-Kilmann's research but illustrates a better explanation of concern for parties in the conflict handling styles.
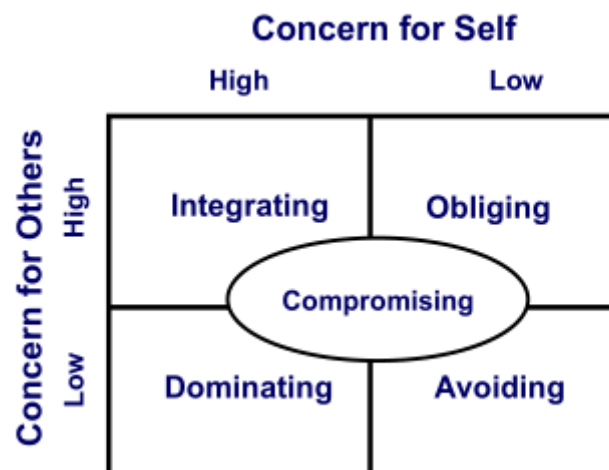

Figure 1. Dual Concern Model of the Styles of Handling Interpersonal Conflict, in Rahim & Bonoma(1979)

Obliging: It is known as accommodating, when people cooperate in a high-degree at cost of own expense, usually work against own goals and objectives. It has a low concern for self and high concern for others. Oliging people ignore their own concern to satisfy the other party. This style could be appropriate when one person who has low power or perceives long term relationship.

Avoiding: It has a low concern for own and the other. It can be also called retreat and prevarication. An avoiding person will not realize his or her own interest as well as other`s. This is when people are not assisting the other party to reap interest, nor even are pursuing own goal. People tend to act like this when it is a trivial or have no chance of win.

Integrating: It is also known as collaborating that is how both parties achieve same goals. The use of this style involves openness and exchange in information to both parties. This is necessary when one party cannot solve problems alone. Lawrence and Lorsch (1967) perceived this style is more effective, when we need organizational integration. On the other hand, Pruitt and Carnevale (1993), arrived at an evidence from studies, indicating that this handling style is the best way for social conflict management.

Dominating: It is also known as competing that is a "win-lose" approach. It is a very dictatorial way to reap own interests, without concern for the others; or it can be at the expense of the others. A dominating or competing person merely focus on own win , neglecting the needs from the others. This style usually happens when there is a party who has more power distance, or an emergency occurs.

Compromising: An intermediate in concern for self and others. People do not receive what they want. Compromising is a medium level of assertiveness and cooperation, locating at the middle of the grid. It implies both parties abandon something to achieve a so-called win-win solution. This handling style is appropriate when the conflicting parties have same power. It is

somehow appropriate when both parties do not have time for negotiation and make a temporary agreement.

The majority of management researchers and scholars believe there is no ideal approach to conflict handling even though Rahim (2002) concluded the styles of handling in interpersonal conflict and appropriate or inappropriate situations. Previous studies have shown a poor conflict resolution would increases stress of interpersonal relationships (Wall, Kemp, 1986). There is, however, little direct empirical evidence to testify the conclusion in Chinese culture.

2. Conflicts in Chinese Culture

2.1 Chinese Culture Dimension

Geert Hofstede conducted one of the most comprehensive study that is involved with values and culture. The 6 culture dimension is composed of power distance index(PDI),Individual-collectivism(IDV), Masculinity-feminity(MAS), Uncertainty avoidance index(UAI),Long-term orientation versus short-term normative orientation(LTO) and Indulgence versus restraint(IND). This culture theory has been widely accepted in theoretical researches and practical communications.
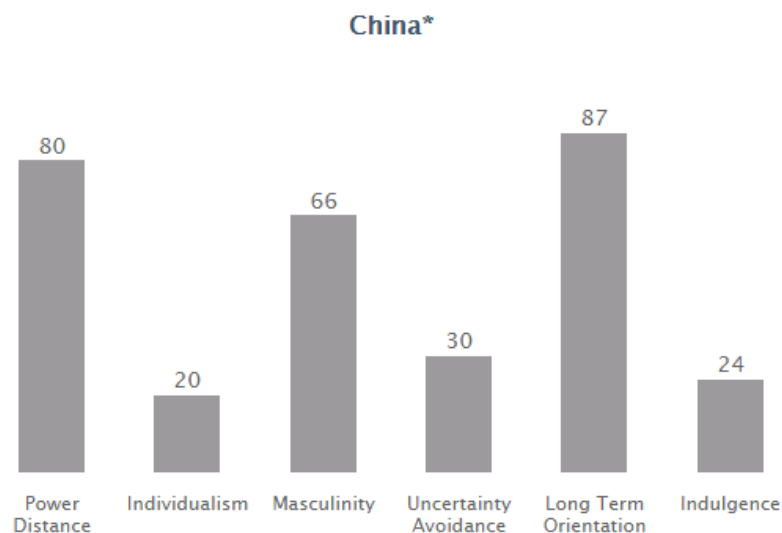
China*

Figure 2.   Hofstede culture dimension (2016)

Power Distance Index (PDI) is defined as people within a country accept that power is unequal, individuals are on an unequal basis. China scores 80 in PDI (55 average in the world) which means it has a high power distance influence. Subordinate is less willing to challenge the supervisor because they have less power distance. For a long time, the traditional Chinese stability is built on inequality of the relationship. Confucian thought defines five basic social relations as king-subject, parent-child, sibling, spousal relation and hierarchy. Chinese get used to these social relations and different power distance. The power distance has played a main role in maintaining the social harmony in China. The author cited the concept of PDI in the research; because, in intragroup conflict models, we would have two roles as a higher-power supervisor and a lower-power subordinate. Here, the power distance can be taken into consideration; because, as a lot studies show, the different status of power can influence the behaviors; hence, the conflict-handling style can be also altered by PDI.

Individualism (IDV) is the degree of interdependence a civilian have. Individualist people are only supposed to take care of themselves and family; on the contrary, collectivist people are loyal to group. Hofstede found the developed countries have a higher score on IDV; China only got 20 score. This may be result from the collectivist culture; people usually set the group benefit ahead of their own wants. Confusion also gives the doctrine that long-term collective satisfaction is greater than the personal need. To keep the long term relation, collective people try to negotiate and solve problems peacefully. China starts from agricultural economy and always keeps this leading position in the world; and the agricultural people settled together in groups and worked collectively. This also contribute to be a collective reason for Chinese low index on IDV. In our intergroup models, this concept of individualism can be regarded as one key determinant study. Because an individualism culture will have different conflict management bahaviors compared with collectivism society. Hence, in a collectivism China, people are inclined to be more collaborating in group conflict.

Masculinty (MAS) is a preference for assertiveness, achievement, heroism, and material rewards for success. Society with large MAS is more competitive and it will be driven by achievement and success. While the opposite, femininity, shows a preference for cooperation and sympathy. Femininity also cares about the quality of life rather than the stays under spotlight.

China get 66 at a Masculine, which means the society is more success oriented. This notion is a bit controversial for China; an individualism society is supposed to be more collaborating and to hold the whole-heart concern for others, regarding to a harmony relationships. However, the high index in MAS, shows an opposite way of attitude towards interest. In any conflict, there should be at least one interest that each party would like to achieve. The high index in MAS, at 66, demonstrates that Chinese are more alike goal pursuers. When they confront interest such as success, material rewards, they have more demands for competing. In all three of our game plays, the inclination of high MAS can be explained later.

Uncertainty Avoidance (UAI) implies the handling style for irregular incidents which threaten individuals. The main question in UAI indicates whether we need to manipulate future. A high index in UAI, reflects that people feel threatened by ambiguous or unknown situations and try to avoid it because uncertainty brings out anxiety; a low UAI index society will be more easy-going with uncertainty and rules.

At 30 China has a low score (64 average in the world) which shows Chinese do not dislike uncertainty and Chinese are comfortable with ambiguity. This can be manifested in the attribute of implicit Chinese language and communication style where they are easy-going with uncertainty. The UAI indicates people`s attitude to risks; then in our intragroup models, a uncertainty avoidance plan is raised to testify the UAI preference of Chinese. This concept would manifest our conclusion in our study in a specific way even though this research focuses on conflict management rather than the risk preference.

Long Term Orientation (LTO) describes culture adaption to the present and future. It explains whether the past and future are coexisted or mutually exclusionary from culture dimension. A high LTO society takes advantage of practicability while a low-LTO society maintains norm and tradition.

China scores 87 in long-term orientation dimension (45 average in the world). This demonstrates Chinese perceive that truth depends completely on time, occasion and people. They, in many cases, show their ability to change, with a strong inclination to invest in future as well. LTO helps our research to study the long-time relationship pursuit preference with conflicts. On the other hand, it studies the traditional Chinese conflict management and the modern manner about handling conflicts; in other words, whether traditional Confusion concept are adaptive in modern Chinese conflict management.

2.2 Chinese Conflict Management

No Chinese likes conflict; but if there are more than one person coexisting in the same place, it must have a trace of conflict. Traditional Chinese theory to conflict interprets a negative influence in interpersonal relationships while, with the development of concepts, more Chinese deem conflict can expose the problem in organization which can benefit the group with a decent management style. Michael W. Morris gives conclusion that the national culture has much influence the conflict managements.

Confucian Ethics is widespread in China which makes the fundamental philosophy for Chinese is harmony. Harmony is not only the interaction with human but also a whole heart concern for others. Cheng (1983) and Zeng (1986) says that, in the condition of harmonious relationship, there are four goals, a feeling of security, togetherness, nice interacting, and being beneficial from the interaction. Harmony becomes one spontaneous value of Chinese culture. Legge (1955) said Chinese consider harmony as the universal path that everyone needs to maintain. Chen and Chung (1994) deemed the final goal for Chinese interactions is the interpersonal harmony. Besides, Leung (1997) argued that, in Chinese society, the purpose of harmony maintenance has two motivations; one is to prevent the broken of relationship, the other is to promote relationship. When Chinesee has conflicts with people in his social network, first reaction usually is to forbear. Lee (1997) said restraint has a profound cultural foundation in China even if the no objection from Chinese does not mean support; this conflict cannot be evaded fast with time passing and it finally may cause more serious consequences and break the harmony and trust.

Most eminent Chinese belief on conflict is established in harmonious communication. Chinese regulated many principles of self-discipline to keep relationship and save face in conflicts. Eberhard (1971) concluded that, to maintain harmony, Chinese have to control their mind in public, neglecting own desires. In Chinese society relationship, aggressive behavior is not easily

forgiven and then self-discipline leads them to avoid this circumstance (Shenkar& Romen, 1987). The rejection of others is regarded as an uncooperative attitude that deteriorates harmony; Chu (1988) found that Chinese seldom says "no" in conflict. Guo (2000) deemed, when there an unavoidable conflict, Chinese are inclined to become more dominating which can be easily seen in Chinese classical Art of War. However, this seldom arises in the literature of Chinese study because of its inconsistency with Confucian teachings.

In China, seniority occupies a dominant role in conflict management according to Confucianism. Bond and Hwang (1986) said seniors have the priority and credibility in any occasions and are more powerful in conflicts. Then it is believed that age factor does influence conflict-handling styles. Besides, contrast of the other factors is too large to interpret because the Chinese who live in North and South have very different mindsets; we will not talk about this geographical bias.

2.2.1 Chinese Intragroup Conflict Management

Chens said in vertical in-group, when a subordinate has conflict with supervisor, he or she is inclined to protect supervisor`s face; then an indirect disagreement may happen. With the difference of power distance, the more serious conflicts between them, the weaker their relationship will be. At consequence, both parties will consider more about their own interests from relationship. On the contrary, in the process of horizontal conflict, face giving is a basic rule for everyone because conflict only makes both sides upset and angry; to keep harmony, they have more reasons to compromise and give face to each other. Hence, both can "walk down the steps". The author will brief the intragroup as vertical supervisor-subordinate and horizontal colleagues.

Supervisor vs Subordinate

The different status in conflict contributes divergence in goal, expectation, attitude and behavior, thus divergence can result in intragroup conflict when it is perceived. It usually can be classifies as task dimension and relationship dimension. Chen says most supervisors in China pursue maximizing the use of labor force which decreases the operating cost. In this case, subordinates will have much work pressure and a high dissatisfaction in work. On the other hand, employees hope to get more wage and welfare from company which decreases the profit of company in turn. Chinese supervisor tends to confront and dominate in the negotiation with subordinates while subordinates compromise as usual because the supply of low-grade Chinese labor force exceeds the demand. (Chen Lina)

In China, there are many management behaviors to infringe employee`s right due to a lack of society supervision. Meanwhile there are very large differences in salary allocation between supervisor and subordinate which cause a dissatisfaction among employees. As Hofstede research indicates, Chinese culture has a high power distance whose hallmark is supervisor is more dominating and subordinate is inverse. Most researches have agreed with the same Chinese intragroup conflict-handling behaviors. Therefore, to testify it by a game theory tool, the author took a role play and demonstrated whether this conclusion is going fine with the previous study.

In our supervisor-subordinate model, the game stimulates a salary negation between a supervisor with a dominant strategy and a subordinate who does not have it. This is a Chinese high-power to low-power conflict confrontment and it will give us the result whether Chinese power distance culture influences game theory choices.

Colleague vs Colleague

Different emotion, experience and pursuit make individuals difficult to fulfil all expectation in a group. The typical Chinese colleague conflict is the plan negotiation. Chinese want to have a harmony work environment, conflict behavior will damage the face of the others. "face giving" and "face saving" are common behaviors in colleague conflicts. It is shameful to disturb group or interpersonal harmony for Chinese. (Paul, Robert) With this interpersonal ideology, Chinese colleagues in the same group usually try to avoid conflict as possible and they tend to use the compromising or integrating management styles in conflict.

There are always true and false harmony also named as superficial harmony in Chinese groups. Leung (1997) reported, in China, there are two intensions to maintain the harmony in group. One is to prevent the loss from relationship, the other is relationship promotion. He concludes the true harmony by promotion and false harmony by prevention of loss. He also thinks the true harmony in group may generate more positive results and innovation while the false one will lead to the negative atmosphere in workplace. Everyone will be stuck in this false harmony and suppress his will. The false harmony in groups represents the concern of loss which Chinese do not want to get. Zhang and Wang (2010) considered the concern of harmony has the positive correlation with the concern of loss, and Chinese in group have much intension for the harmony which states Chinese have a strong will to keep the harmony in group.

Masculinity index from Hofstede also implies that the Chines are more competitive at work. This concept, in the meaning, violates with the traditional culture; from the traditional Confusion thought, people should keep a balance in everything which demonstrates that people will consider more than the substance itself; a good balance in life facilitates all lifestyle. Nonetheless, Hofstede concluded the high masculinity to Chinese, indicating a high competitive society with more concern for self.

2.2.2 Chinese Intergroup Conflict Management

In general, Chinese intergroup conflicts can be classified as ethnocentrism and realistic conflict. Regarding ethnocentrism that was derived from Brewer`s sociological research (1979), the conflicts between "we" and "others" are the essence. Due to the different identification and characteristics, a perseverance in stability of "our group" and an exploiting of "other groups" are involved in this conflict. The realistic group conflict is related to difference in goals and resources. When groups are confronted with this situation, a rational group or individual would concern the total interests and make decisions. Sherif did plenty of researches, showing that the competition usually results in intergroup conflict; Billing in 1976 noted that in Sherif`s research, the negative attitude in intergroup emerged before the introduction of competition which shows a ethnocentrism in intergroup.

When talking about the conflict management, the relationship between groups can be classified as competition and collaborating according to Li. A traditional Confusion ideology teaches Chinese to be "zhongyong", it means not to take side in each party and not to go breaking the collaborating. Bur there was also many researches demonstrating Chinese offensive behaviors against out-group people. As members of one group, they sometimes are very aggressive and may abuse or even make violence if necessary. Facing serious intergroup conflicts in Chinese culture Chinese stick to convention.

Chinese are conservatives and do not want to be responsible for mistakes and land themselves in the risk (Justin Tan). Chinese culture likes ambiguity, when there is an ambiguous responsibility shared among Chinese groups, few would come out and take responsibility willingly. Since if there are some conflicts happening, most Chinese groups tend to dodge the bad result. This scene can be generally seen in Chinese culture. For instances, the government sections buck pass the issues to the other departments; CEOs escape with money when

corporate meets severe problems. In intergroup conflict, if there is a space for them to dodge the responsibility, Chinese would like to be more dominating.

In our game model, we conducted a "prisoner dilemma" between two departments. From the behavior of candidates` choices, we can analyze their preferences of intergroup conflict-handling styles. As Chinese culture verifies, people will be more dominating in this intergroup conflict, which means they would like to choose their dominant strategy in game against other groups. The results will tell us whether the culture dimension and game theory corroborate each other.

3 Game Theory

Game, as a word represents, sounds like an unconsidered subject because it is only related to the gamble or competition literally. Nevertheless, it can be involved in almost all practical strategies while people are thinking. Game theory is composed of game rule and strategy, game rule is strategic interaction and law of play; while strategy is the solution to outcomes. It is a study of reasonable solutions for games with all-known information. It studies conflict mathematic and suggests the rational decision to players.

Leonard Savage deemed game theory is not only a prediction for other player`s move, but also a behavior guide for a rational player. John von Neumann and Oskar Margenstern first introduced game theory in *Theory of games and economic behavior.* John von Neumann believed that modern game theory started by mixed-strategy equilibrium. In China, there is a famous work called *Art of War*; it is known as one of the most profound epics in Chinese literature. There are a lot of game strategies in this book even though it is not related to mathematics.

A game theory has many basic elements including players, action set, playing sequence, strategies, payoffs etc. A game at least has two players, sometimes the players can be nature. (For example tossing a coin). The action set means each player has own options to choose (For example in coin toss game, player can choose front or back). Playing sequence is the sequence rule for the complete game, it can be sequential or simultaneous game. In a simultaneous game, players are unaware of the other players' move. Strategies mean the complete plan for game. It is composed of the forecast and response of the other players` move in simultaneous game or the response to the move in sequential game. Game strategies are the choices available to players, which is used to describe a person`s decisions over a fairly long time span and a sequence of choices. Payoffs is the result for every possible yields. In this research, we will talk about the rational behavior, Nash equilibrium and decision tree.

Rational Behavior People choose choices and moves according to the belief of themselves. Theoretical models are studied to assume that each player is rational in sense that he is conscious of options and payoffs. Individuals often cannot see all information from a game, including objective parameters, other players` preference etc. But a rational decision maker will maximum his expectation in a game with the known conditions. In our theoretical analysis of game models, rational behavior is the first criteria we need to consider. We predict what our players would do according to this norm.

Nash Equilibrium It is a strategic portfolio and a steady condition of a game when every player understands all possible predictions about the other player`s move, meanwhile, it is the best response to the other players` possible choice. However, not every game has a Nash Equilibrium. In our game models, we have the Nash equilibrium point that shows a best strategy for each player; whenever there is a player who does not play it, we should consider the reason rather than conclude it as irrationality.

Decision Tree It is a chart with sequential moves. Each node represents a point of choice; each line represents a possible move for player, and the payoffs are described adjacently. In game theory, decision tree like many other charts which are used to better illustrate game situation and payoffs is applied to simplify words into image. We would introduce the decision trees and payoff tables in our models, for a clear view. Generally, we utilize decision tree in the sequential games because in simultaneous game a simple table of payoffs are clear enough.

The main use of game theory is to make a better response to human behaviors. In practice, human behavior do not act as our supposition. Many researchers dispute practicability of game theory; in some empirical researches, people regularly do not play Nash equilibrium. The author utilizes game theory to predict what rational candidates in our experiments will behave. Compared with the theory research and practical results, we can make conclusion about Chinese individual conflict management behaviors.

4. Method

The author conducted a series of role play games interview on 54 Chinese people who come from different companies from May to August in 2016. Participants are randomly selected such us the friends, colleagues and family at work. The interview place is in PRC Shenzhen City. All data were reserved, leaving 54 participants in the study (27 pair), of which 48% (26) are women, 52% (28) are men. Meanwhile the age group is randomly visited so the author dive the age into 3 groups (20-29,30-39,40-50). Of course, these group of people cannot represent all the Chinese conflict behaviors but they can also give us some implications. Negotiation setting is to seat the participants paired on opposite of a desk, usually in the coffee house or restaurant. The author would randomly select the participants to play a role in the negotiation games. The author recorded the negotiation results and gave the guidance such as the questions and rules. Because the participants are also randomly selected, then the gender and age factor are mixed. As we have 3 different role play games to classify the conflict in different occasions, we took three-round games to meet our experiments.

Game Procedure:

1. Asking players what they will do when confronting conflicts in workplace.
    (1st question)

2. Starting 3 different role play games. Randomly pick a role and play to negotiate.
    (each question for 10 minutes)

3. Recording the results after both sides have written down the final choice.
    (a short feedback after the interview)

4.1 Conflict management style

The first question to be given is that how they choose to deal with the conflicts, of which the 4 choices "dominating, collaborating, obliging and avoiding".

Figure 3. "What will you do when confronting conflicts at work?"
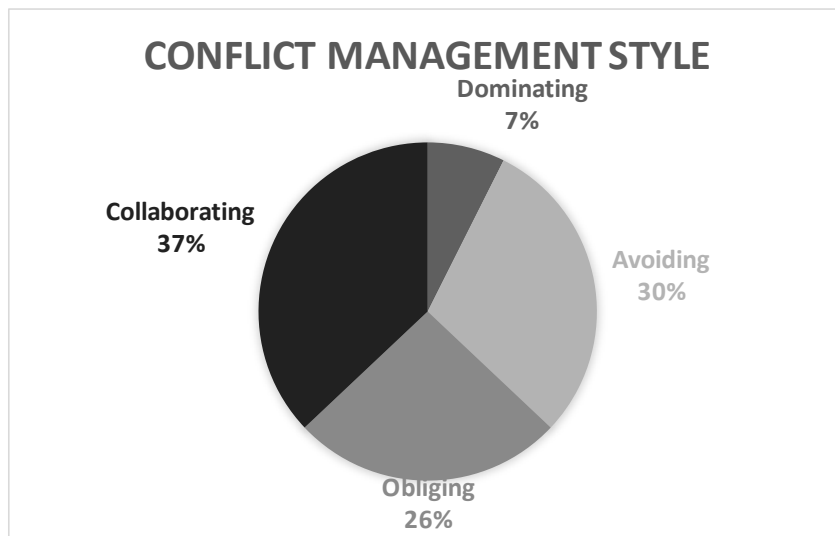
Result shows 54 participants in total, of which are 7.4% dominating, 29.6% avoiding, 25.9% obliging, 37.0% collaborating. We find most people would like to collaborate while least people choose "dominating". This confirms to a traditional Chinese concept of conflict managements both in a collectivism way and Confusion doctrine. The same results could be seen in many Asian countries such as South Korea and Japan; compared with Western culture, eastern culture can be more collaborating in researches.

When we take the gender and age group into consideration, it shows there is no correlation between gender and the conflict management choices. Similarity happens for the age group factor; the results means there is still no correlation between age group factor and the conflict management choices. So far more researchers believe that females would be more collaborating, obliging and compromising but less dominating; this is different from what the author has found. It may be caused by the limited sample size, or this kind of simple and conceptual question with a few words cannot state the conflict handling styles.

4.2 Game Theory Models

4.2.a Intergroup Game

Two departments(A and B) collaborate to do a project, department A and B both fail to complete their own task, however, the deadline is coming and they have to report the result to the departments in charge. Department A and B both have choice to choose to admit the failure or deny with the outcome be listed below. The pay-off for both parties is shown below:

		DEP. B	
		ADMIT	DENY
DEP. A	ADMIT	-1,-1	-2,1
	DENY	1,-2	0,0

Figure 4. Intergroup Game Pay-offs

a.1 Theoretical research analysis

Here we classify this game into two categories by time, the first one is a simultaneous game, and the second one is a sequential game.

The simultaneous game is alike a "Prisonor`s Dilemma". For each of the department, the subject uncertainty caused by the other one`s choice. First let us brief the situation of Dep.A. Let us say the possibility of Dep.B admitting failure is "p", then chance of Dep.B to choose Deny is 1-p. For Dep.A , the yield of admit failure will be $-1*p-2*(1-p)=p-2$. If Dep.A denies, it will yield $1*p+0*(1-p)$, which equals p at last. Since p-2 is always less than p, it is impossible for the yield of admiting exceeds deny. Accordingly, in this case deny is always the better choice for Dep.A for sure. The same circumstance happens for Dep.B. Let us say the probability for Dep.A admitting is q, then denying is 1-q. Dep.B will yield $-q-2(1-q)=q-2$ when Dep.B admits and $1xq+0x(1-q)=q$ when Dep.B denies. Therefore the same result happens and the better choice for Dep.B is deny as well. As we can see, deny is the dominant to both sides, and this node is also the Nash equilibrium node. Therefore, Dep.A and B try to deny at every time which is a

rational decision. Nevertheless, it is the worst outcome for a company. Company cannot find the failures in both sides and makes a bad project or product.

If the game is taken by order, which means it is a sequential game. We have the decision tree as follow (if A first moves):
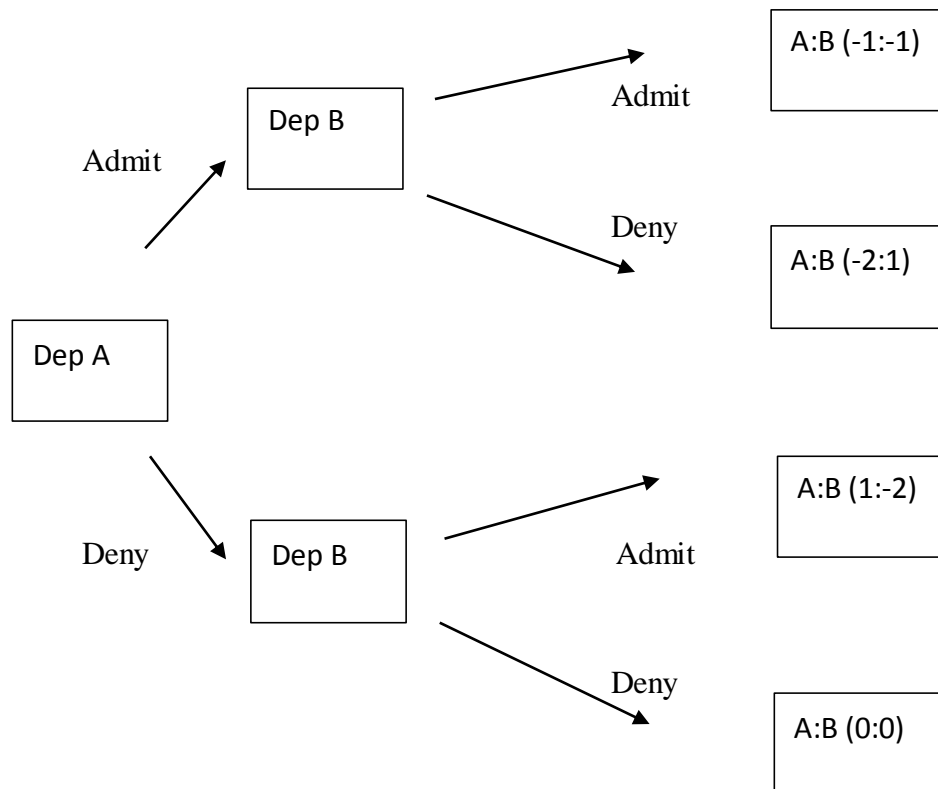
Figure 5. Decision Tree for Intergroup Model (Dep A first-mover)

There are the similar decision making trees for both sides, and we can see when there is a move order, the later mover who can take the defensive position and choose the best response to the strategy. For better explanation, in this game, when Department A chooses first, Department B can avoid those worse consequences and Department B can have a "0" by Deny-Deny move at least. Vice versa, when Department B moves first, Department A can always have a zero or positive yield. In this case, each side knows that there is a second-move advantage. Since for Department A or B, they will choose the "deny" at the first step because they know the

counterpart will choose their dominant strategy. We can find that the same thing happens in the forward research by synchronous game which indicates the "deny" is the better choice. As a rational gamer, the Department A and B, will choose the "deny" to get out of the responsibility. However, we all are aware that the "deny" cannot make this project successful and does harm to the company heavily. The manager may not notice the failure and launch an aborted product. Then the "deny" is a big loss to this business. This is a significant research on choices when the profit for oneself is confronted with the other gamer or group profit.

a2. Research Approach

The experiment was played among 27 pairs of people (54 people). The role plays had a negotiation process and they made a final choice after that. Both of the candidates in negotiation process talked about the situation and whether they would admit or deny the failure. The final decision was made at the same time which was written in the answer sheet.

a3. Result

40.74% people admit the failure in this experiment while 59.26% people choose to deny failure. When we consider the gender factor in this case，it says there is no significant gender influence on this conflict choice. Then we look at the age group in the same way. We can find the age group has much influence on this conflict choice, the correlation index is -0.0414 here, standing for the negative correlation between age and choices. The elder he or she is, the higher possibility of choosing to accept will occur. After the research, we find Chinese people has a higher chance of denying in this sample but we cannot conclude it because we have few cases and very few senior candidates (the elders prefer to admit the failure in this sample). To sum up, more people will choose to deny between intergroup conflicts, and there is no correlation between the gender and choice in this game, while the age influences the choices much.

a.4 Discussion

Trubisky (1991) said Chinese culture is collectivistic, then Chinese would like to concern more about own group interests, comparing with people who have individualistic cultures In this game, different intergroup department A or B will consider own group interest first according to this concept. But we can find more participants (59.26%) choose to deny failure when they confront with this issue. Does this mean China is a more individualistic culture than a collectivistic culture? After the experiment, I asked several participants why they choose to deny in this game. "The other departments are not my group" most of them will answer this. From this point of view, we can find our candidates regard their own department as a group while the other departments are "outsiders". This may be the best reason for the role play result, Chinese staffs in one department are inclined to deny the failure when they confront conflicts with the other departments.

Portello and Long (1994) concluded male individuals prefer dominating style in conflict while Brewer (2002) reported females are keen on an avoiding conflict-handling style. Sutschek (2001), in contrast, found females prefers integrating and obliging styles more than males; besides, males are not more competitive in dominating than females. Then we can find out the controversial studies of the gender region in conflict-handling styles. However, as the role play result shows, the gender factor does not influence the choice. Maybe when the male and female staffs work in the same department, they will act as a group and deal with the conflicts together, rather than a single person. The age factor in Chinese intergroup conflict managements does not have many reviews, but from this experiment, we can see the elder people are, the lower preference they deny failure.

Regarding the game theory, of course, we can see deny is the best option for both sides. A rational gamer or staffs in a real company will choose to deny when they encounter this situation. However, the reality is not only a game, but also a complicated and diversified society. Then the choice is built up to many confounding factors. With 59.26% Chinese choose to deny in this game, we can classify this more observably, Chinese does not always act as a rational player in game, at least 40.74% people do not play dominant strategy in this game.

4.2.b Intragroup Game

4.2.b.1 Supervisor vs Subordinate

An employee wants to raise salary and negotiates with his boss. His original monthly pay is 20 and wants to raise it to 50(Plan A). The employer proposes the wage should not be over 30(Plan B). However, the employer does not have time to wait for long negotiation and only give the employee one time decision. Assume the employee yield is 90 which is the value contributed to the company. If it does not come to an agreement, employer can hire another one (freshman needs 20 wage with 60 output). Employee can find another job whose wage is 20.) When employee makes Plan B and employer decides PlanA, they will, at last, negotiate an average salary to 40. The pay-off table for both employee and employer is shown below:

		employer	
		Plan A	Plan B
employee	Plan A	50,40	20,40
	Plan B	40,50	30,60

Figure 6. Intragroup Game Pay-offs (vertical)

b1.1 theoretical research analysis

We try to suppose employee`s mixture probabilities are Pa, Pb

Pa+Pb =1, Then the employer`s payoffs from his pure strategies are:

PlanA= 50*Pa+20*Pb =20+30Pa

PlanB=40*Pa+30*Pb =30+10*Pa

We can equate Plan A and PlanB with Pa+Pb =1, meanwhile P cannot be negative value which means Plan A always yields less than Plan B. Then we suppose Plan A =Plan B where 20+30Pa equals 30+10*Pa, we will have Pa=0.5. When the Pa is over 0.5, namely when employer has more likelihood to choose PlanA, the PlanA is the better option for employee. On the contrary,

when Pa< 0.5, namely employer prefer to choose PlanB, the PlanB is the better option for employee.

Similarly, the payoff for Employer is listed below (suppose probability for employer decision making are Pa` ,Pb`, Pa` +Pb` =1);

PlanA= 40*Pa`+50*Pb`=50-10Pa`

PlanB= 40*Pa`+60*Pb`=60-20Pa`

50-10Pa`=60-20Pa`,Pa`=1 As we can see, the Pa` cannot be over 1 then the Plan B is always better than PlanA for employer.

To sum up, only the employer has the dominant strategy which is PlanB, indicating the power of employer is higher. Company can find alternative recruitment easily, then they have more bargain power. Subordinates are more passive when negotiate in conflicts. Even if he (she) recruits a freshman, the yield for Plan B is still better than satisfy employee in this game. However, the employee may refuse the PlanB and it is a loss for the company to train him and a future yield. The model does not take the future improvement of employee into consideration. In practice, this usually is a step game. So when the employee makes choice first, the employer will have the relevant payoff when they make the strategy as follows:

Figure 7. Decision Tree for Supervisor-subordinate Model (Employee first-mover)
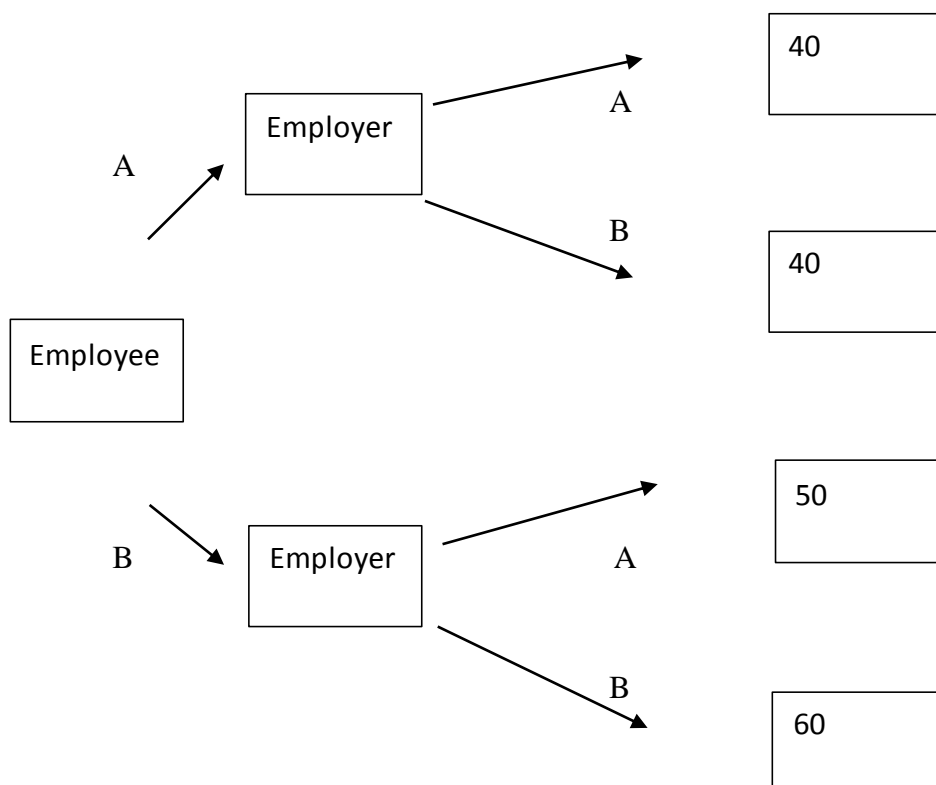
We can see that when the employee takes the first move, employer will have two options (Plan A or B). When he finds the employee chooses plan A at last, he will have the payoff both equal to 40, which means there is no difference in yield between whichever option the employer will choose. However, if the employee chooses plan B first, employer will have payoff of 50 or 60. Apparently, a rational employer will make a plan B because it has a higher yield with 60.

When the employer makes choice first, the employee will have the relevant result as follows:

```
                              ┌──────────┐              ┌──────┐
                          A   │ Employee │    A         │  50  │
                        ──────▶          ├────────▶     └──────┘
              A                └──────────┘
          ──────▶                              B        ┌──────┐
┌──────────┐                                  ────────▶ │  40  │
│ Employer │                                            └──────┘
└──────────┘
          ──────▶              ┌──────────┐              ┌──────┐
              B            B   │ Employee │    A         │  20  │
                        ──────▶│          ├────────▶     └──────┘
                               └──────────┘
                                              B          ┌──────┐
                                             ────────▶   │  30  │
                                                         └──────┘
```
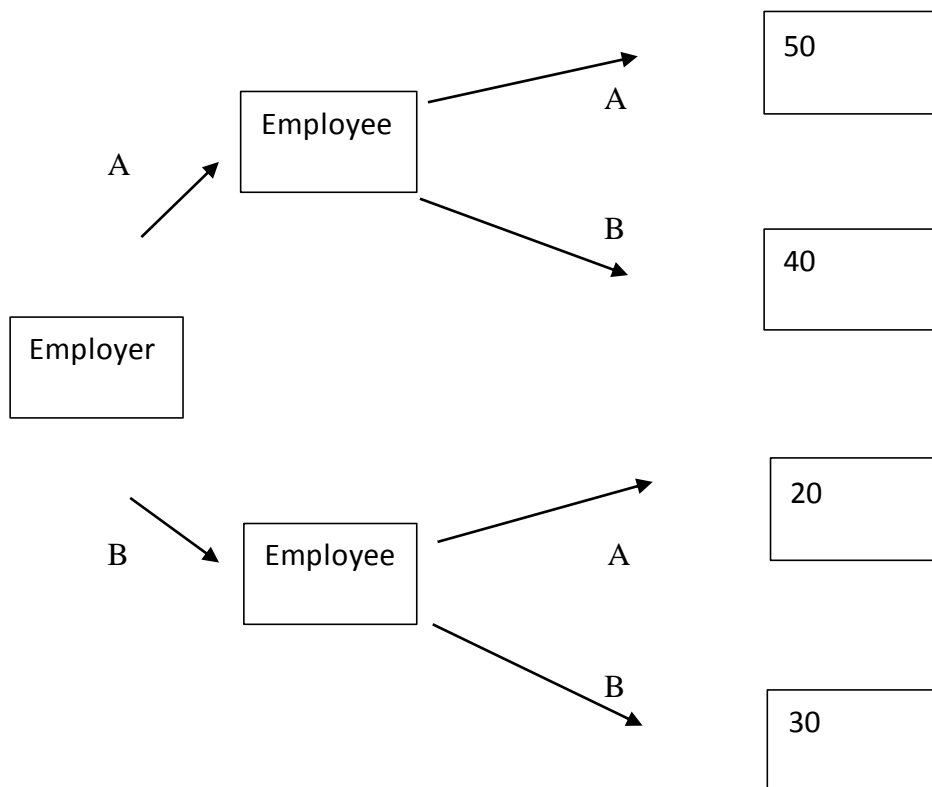
Figure 8. Decision Tree for Supervisor-subordinate Model (Employer first-mover)

We can see, from this decision tree, employee will get 50 from plan A or 40 from plan B, when the employer decides he will apply the plan A. Similarly, employee can get 20 or 30 when the employer carries out a plan B. In this case, we have adequate reason to believe that, there is a first-move advantage. Employee knows that if he makes the planA decision first, the employer has no difference in payoff so employer will satisfy his subordinate. Employee can finally

increase his salary to 50 which is his optimal expectation. Employer will also understand if he takes the first move, the employee can only choose the best response that is planB.

To sum up, if it is a simultaneous game, plan B is the best choice for employer which is a dominant strategy and employee does not have a dominant strategy. The employee will know employer will choose plan B, and as a rational people, he will accept the plan B as well. But if it is a step game, the first mover has an advantage, no matter what role he plays in this game. This is game theory, as we know, it has a first-move dominant strategy. Nonetheless in our approach, we do not talk about the steps in game, because it makes no sense to find out what the first mover will choose. People will always choose the best option.

b1.2 Research Approach

The author takes 27 pairs of role play experiment as a practical research. To simplify the plan A and plan B, we just rename the choice for each candidate as "insist" and "compromise". This means the Plan A is the "insist" for employee and Plan B is "compromise"; vice versa, Plan B is "insist" for employer and plan A is "compromise" for employer. Then for the candidates, employee and employer both have the choices of insisting or compromising their suggestions, standing for the Plan A and B. After the salary negotiation, they will make the final choice on thee answer sheet at the same time which means this is a simultaneous game.

b1.3 Result

The result indicates that there is no correlation between the roles and their choices which means any roles do not have preference to insist or compromise. The sample size is not enough now so we cannot conclude that the role is absolutely irrelevant to the conflict management choices. When we compare the gender factor in this game, it also gives us the no-correlation between the choices and gender in intragroup model. However, the small sample size cannot support the conclusion that gender does not influence the conflict choices much. The age group factor in

our observation shows the P>0.05, then we still can conclude that the there is no correlation between age groups and conflict choices.

b1.4 Discussion

Firstly, let us look at the conflicts; Employer wants a decent salary for employee while the employee wants more wages. As a rational player, employee knows employer will not compromise because the dominant strategy is to reject the plan A. By this experiment we can say the role, gender and age group cannot influence the conflict choices in China. During the experiment, the author finds that the employer usually leads communication to be more indirect, which means, they try to talk about other things such as promotion, life and aspiration. The employee, most of the time, will follow the conversation by the employers and at last will compromise; this style of indirect communication is favored by collectivistic culture (Hall, 1976).

Besides, Brew and Cairns perceived Chinese tend to avoid conflict because they think that conflict is detrimental to the continuous harmony. Ting-Toomey and Oetzel (2001) Chinese regard maintain this harmony is very necessary in organizational relationships. Nonetheless, the results here demonstrate that there is no correlation between the roles and choices. This also manifests that in the Chinese negotiation, people have no preference to compromise or insist their own wills after consideration. In this game, nearly half want to keep a harmony balance and the other half breaks the harmony.

As we know, China has a large power distance index (80), according to Hofstede. With a 55 average in the world, Chinese power distance means that the inequity of power makes subordinate is less willing to challenge the supervisor. There are many articles showing the Chinese who have more power distance prefer to confront the conflicts while the Chinese who has less power distance are inclined to compromise. Chen says the supervisor who has a

dominant advantage with more capability and resource of adapting the broken of harmony will insist his will more often. While the subordinates take an opposite situation of power and resource, they are inclined to protect the harmony and compromise. Ting-Tommy also supported this notion which is different from what the author has found in this experiment. This might be caused by the small sample cases that cannot sustain this conclusion much. Or the experiment cannot represent the reality because the candidates cannot play as a real role in the "game". To get this result more correctly, we need to get more samples and groups for further large and detailed research.

On the other hand, Chinese culture is high in Long-term Orientation, this concept can confirm to our results where Chinese supervisors are less dominating than we thought before. To keep a long term relationship, Chinese supervisors can invest more on their subordinates rather than dominate by own interests. Then the two concepts are contrary in our research; high power should dominate low counterpart but Chinese likes to invest more on future.

4.2.b.2 Colleague vs Colleague

Two colleagues (A and B) respectively crafts a delicate watch for the same client, the customer only wants to buy one watch (if buy both watches he only pays 500 € each) .Customer may also reject to buy anyone he does not like. The two craftsmen do not know what the client prefers which means they both have 50 percent chance to sell it. The watch can be sold for 1,000 € and the cost of watch will be 100 €. If one cannot successfully sell the watch to this client, the value of the watch will be zero. Now the author make a suggestion to them. Because everyone has his expectation income in this deal, can they accept a risk avoidance way to make this deal. The negotiation is played between the two roles. The original payoff is shown below:

		Craftsman A	
		succeed	fail
Craftsman	succeed	400,400	-100,900
B	fail	900,-100	-100,-100

Figure 9. Intragroup Game Pay-offs (horizontal risk)

b2.1 Theoretical research

For craftsman A and B, they may get 400, 900,-100 or -100 payment after the sales. We can see that if the craftsman fails to sell the watch, he will lose money and the efforts are in vain. However, he can get high yield if he sells the watch. For people who is conservative, he might not accept this order because there is chance at a loss.

First of all, we do not know how elegant the watch will be and the possibility of sell. Then we just suppose each outcome has a 25% chance to happen. We can see the expectation income for craftsman is (400+900-100-100)*0.25=275. As a positive value 275, it gives a decent profit for the craftsman when he crafts this watch.

If they do not like adventure and risk, the craftsmen have one other idea of this bill. Craftsman A and B both take responsibility for the gain and loss and there will be 75% chance to get benefit; though the profit is not that high as original pay-off.

Sharing Risks method. For A or B, exception income= (400+900-100-100)*0.25=275

If they share the 275 € exception income to diminish risk, the yield is listed below as,

		Craftsman A	
		succeed	fail
Craftsman	succeed	400,400	275,525
B	fail	525,- 275	-100,-100

Figure. 10 Intragroup Game Pay-offs (horizontal risk avoidance)

In this case, craftsman A will give 375 € to craftsman B when A succeeds B fails, and vice versa. They both share the risk with the other while one party succeeds and the other fails.

But will you commit to the deal after succeeding? Do you really share the incomes with your colleagues? If you break the words and hold the whole income. The payoff returns to the PlanA. One craftsman can also save the cost of the watch with inferior materials with low cost (50 for example), he knows no matter how the result will become, he will receive 375 from the partner according to the PlanB. Then his new payoff is 375-50=325. The conflict here shows that if both parties make an agreement to be partners, they will share the gain and loss. Even if they make a contract to build a trust relationship, one side can also cheat in the game. As a craftsman, when you know your partner will not commit the rules as plan, you will never accept this so-called "uncertainty avoidance scenario"

b2.2 Research Approach

Experiment is to find out whether Chinese want to negotiate and achieve the safe-win plan. Being told this safer situation, 54 people rolled as craftsmen A and B playing in this experiment. There are 2 choices for them, one is to achieve a higher profit with risk (Reject), and the other

is gain certain profit with zero risk (Accept). In total, there are 54 people who negotiate about the risk avoidance way. The candidates will make the final choices at last. The author will remind them that there is no supervision mechanism to find out the "cheater" in the game. Here, the cheater means the people who crafts a low-cost watch and share the gain with the partner. (For instance, A and B share the risk together, but A crafts a watch at the cost of 50, making outcome for craftsman A 50 increase with this scenario.)

b2.3 Result

59.26% people choose to accept the advice and reduce the risk of loss, while 40.74% people still would like to chase more profits with risk of loss. When the data is analyzed according to gender factor, it gives us the result that gender influences the choices significantly with $p<0.05$. Male is more likely to take the risks and female prefer a risk avoidance way to get profit. Besides, the age group does not have influence on this conflict choices in statistics.

b2.4 Discussion

From this experiment, we see more people (59.26%) choose to accept the risk avoidance way to get benefit, therefore we can conclude that Chinese prefer a safer way in business. Chinese are conservatives and do not want to be responsible for mistakes and land themselves in the risk. (Justin Tan) Hofstede concludes that China has a low uncertainty avoidance (30) culture. This is different from what the author has found in this experiment. Probably, the end goal is clear to Chinese regarding a high MAS index. Even if Chinese has low uncertainty avoidance, they prefer to success rather than loss. The detail of how they get success will be light and flexible as long as they can have more chances to get it. In this case, the risk avoidance way is the flexible option for a higher chance win-solution. The age factor does not show much effect on both options.

On the other hand, we can see the gender do influence on the conflict choices, while the age group does not. James P.Byrrnes said that male is more likely to take risks than female in human

behaviors. Their researches support our result that female is more likely to choose risk avoidance strategy in decision making. Eckel (2001) and Cronson(2009) sorted the risk avoidance gender preference, they all concluded that female detest risks much more than male. Overconfidence maybe the reason according to Bengtssona and Perssonb.

Even though the possibility of successful sales and failed trade are not 50% in practice, this experiment also makes a clear Chinese tendency of risk taken. We emphasize the risk avoidance preference for Chinese here, giving a game theory model. We can see the results here are different from what the Hofstede have concluded in his culture dimension research. From Hofstede`s research, Chinese do not have preference to avoid risks. However, in this specified game, Chinese choose to avoid risks. It can be caused by profound collectivism and their intragroup relation. Chinese in the same group would collaborate more to maintain harmony. It also can be biased because of the limited sample size or incomplete game setting. The author finds an interesting thing during the role plays. There is always at least one side (sometimes both sides) supports the risk avoidance way at start and try to persuade the other. None of the groups starts with risk taken ways, then we can conclude in this experiment, from the beginning to the final decision, Chinese have a higher preference to avoid risks, even though they know one side may cheat in this game.

5. Conclusion and implication

This study provides opinions to conflict management styles by games. It studies three Chinese conflict cases and gives ideas of the management strategy for Chinese administrators. Game theory method is a tool to analyze whether a theoretical rational decision can dominate human`s choice.

From first question, when asking a Chinese what kind of conflict-handling style they will perform, 37% will answer collaborating and 7.4% choose the dominating option. This shows that in a conceptual question, more Chinese will answer collaborating to the conflicts. This is generally accepted worldwide, because the human society is built on collaboration and no exact conflict description was given. In Hofstede culture dimension research, we understand Chinese culture has a low distance in individualism which means collectivism is a general ideology among Chinese. This also contributes our conclusion that more Chinese, at heart, prefer a collaborating way in conflict management. Besides, gender and age factor do not show correlation with the options in this question, demonstrating that these two factors do not influence the conflict-handling styles in statistics. This gender result is inconsistent with many previous researches worldwide which show female is more collaborating, obliging and compromising but less dominating, comparing with male. A more plausible reason could be this conceptual question cannot represent the human behaviors, classified by gender.

Nevertheless, when it turns to the first role play game, we find 59.26% people choose "deny" that is similar to the dominating in the previous conceptual question. We find that when Chinese, of course as a rational decision maker, encounter profits, they have a higher likelihood to choose dominating in a "prisoner dilemma". This result meets a rationality in game theory; and it can manifest that even though people would like to collaborate more by culture dimension, Chinese is the same as all-world people who moves Nash equilibrium in "Prisoner Dilemma". This experiment also studies the intergroup conflict management; therefore, to diminish the bias

from game theory, the author tried to ask people reason for "deny"; as a consequence, it shows Chinese deem the other party as "opponent" in this intergroup game. If this "prisoner dilemma" happens in the intragroup, some of the people will alter their options to "admit" for more reasons. The consequence maybe stem from a low index in Hofstede individualism where Chinese is a collective society; a group converges its force to confront others.

Therefore, all these manifest that our conclusion fits the intergroup model as well. Another interesting thing here is that, the elder Chinese are in this experiment, the higher preference they admit the failure. There are few reviews regarding this verdict but we can say in practice, elders have less to concern which can be a plausible reason for this inclination.

After we understand the preference and reason for "deny". As we know, the "deny" jeopardizes the interests of company, then we can do to response the worst outcome. Above all, diminishing the intergroup concept in the corporate is important. It is said before, Chinese do regard intragroup members as "the others"; they have less concern for the others and it makes the dominating strategies taken more frequently. A manager should diminish the intergroup factor in a corporate and form an integration with all related groups and departments. Besides, the responsibility can be allocated to smaller groups or single person. This makes a failure less severe and a faster response. At last, it is better to follow the project progress and check the details more frequently in case of this "deny" happens. These two solutions can reduce the circumstance of "prisoner dilemma" primarily and integrate the intergroup force as "our force".

From the supervisor-subordinate salary negotiation model, we see Chinese does not have an inclination to insist or compromise his or her own interests whichever role a Chinese plays. This means no matter Chinese plays as a supervisor or a subordinate, Chinese does not have a significant conflict-handling preference in statistics. But we all know, as a rational gamer, that the "insist" is the dominant strategy for employer in this game. Employer is supposed to have the tendency of insisting their own plan. This inconsistent result may show that the Chinese do

not only consider the profit but also have an idea of varieties of interpersonal environments, such as "harmony, face etc". This is generally accepted in Chinese culture where Confusion cultivates generations in a long history. To keep harmony at work, people can restraint to collaborate others more. The Hofstede culture concept in which he concluded a high index in Chinese power distance does not stand as powerful in this research; a plausible reason can be the conceptual experiment cannot represent the candidates` own interest. Hence, Chinese in this experiment do not move as game theory and Hofstede culture dimension. The gender and age factor do not show influence on options in statistics; this conclusion still needs further research, because researchers have studied the gender factors in conflict management, concluding male prefer a dominating style (Portello & Long, 1994; Brewer, 2002) and female purse an avoiding style (Brewer, 2002).

From decision tree, we can also understand, as an employee or employer, it is better to move first when we want to insist own interests in practice because usually it is a sequential game. We realize Chinese employers are not the more dominating persons in this game which is different from the theoretical game theory; since employees can be freer from salary raising proposal than what they except before. For the employers, this experiment does not mean it is right to collaborate more than dominating or preference is not necessary; in practice, an employer should consider many conditions in this bargain occasion. The most significant thing is to assure the appropriate salary for a right employee, rather than the simple concern of harmony maintenance.

Hofstede index shows Chinese uncertainty avoidance is low. However, the third role play manifests that there are more Chinese who prefer a safer strategy between colleagues at work, violating the Hofstede Chinese culture theory. The uncertainty of sale in this model threatens craftsmen; this ambiguous likelihood facilitates our members in intragroup to be more collaborating. The possible reason for the difference is that, risk is very distinct from the uncertainty described by Hofstede. This game simulates two intragroup colleagues, they can

help us to understand the conflict management between relatively intimate interpersonal at work. The risk avoidance way also contributes to the collaborating conflict management styles. It demonstrates that Chinese like to integrate their efforts to diminish risk.

Then this game makes two conclusions, one is Chinese in the same group prefer to collaborate to find interests; the other conclusion is Chinese are inclined to share less earnings to diminish risks according to this research. The gender factor, just like most of the worldwide conclusions, has a significant influence on the risk preference, indicating female prefers risk avoidance. The result shows that the Chinese female would like to avoid risks more than male, which is helpful in negotiation and strategy with Chinese. Meanwhile, like many intragroup conflicts researches, female is more collaborating than male.

To summarize, we can see Chinese are collaborating pursuer when they meet a conceptual question with no interest; more dominating in a intergroup "Prisoner Dilemma"; no inclination on conflict-handling styles between superior-subordinate relationships; more collaborating in intragroup negotiation. Gender factor only influences the styles in intragroup while age factor shows significant obliging in intergroup dilemma. There are some inconsistences of results between this research and Hofstede theory. This is not to say right or wrong, but it is obvious that very few studies have been done to analyze Chinese conflict dynamics in company.
We can believe that this study depicts an effective conclusion, regarding gender and age factors. To manifest more validity, there is a need of future research on a larger sample and scale. The game theory, as a tool here, helps to study the Chinese conflict management styles theoretically. The role plays, even few samples, help to demonstrate a real Chinese company situation and yield out a Chinese preference in conflicts. This article, in some extent, can be a reference to the Chinese managers or researchers, enhancing the effectiveness and efficiency of Chinese conflict management.

The practical benefit for economics is that the study can help managers understand how to negotiate in enterprise. This will increase the effectiveness and efficiency of management. Meanwhile, it helps cost reduction and company culture building. For social significance, the well-being conflict management style promotes the image of companies which will attract more employees and more clients. As the political implication, a scientific conflict management reduce the social pressure for government with fewer complaints and strikes.

6 Limitation

First, as the author mentions, the sample size is small, which cannot give the ample evidence to support the conclusion. There are only 54 Chinese playing in the experiment. The age factor is biased especially for the elder group. All the games are played in Shenzhen, Guangdong province. This geographical limitation cannot represent all Chinese behaviors as well.

Secondly, the most severe limitation is rationality of games. These models are created by the author, the index in each model cannot properly fit the real occasions. We cannot say the exact conclusion even we get enough samples.

Thirdly, the model is hard to be executed because lack of resource to make this negotiation reflecting the reality. The candidates cannot spare full heart in this experiment as the role and they cannot negotiate like the role should do.

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8. Appendix

8.1 Statistical Chart

Conflict Management Style Conceptual Question
8.1.1 GENDER

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.509a	3	.474
Likelihood Ratio	3.282	3	.350
Linear-by-Linear Association	1.310	1	.252
N of Valid Cases	27		

8.1.2 AGE GROUP

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.958a	6	.682
Likelihood Ratio	4.868	6	.561
Linear-by-Linear Association	.968	1	.325
N of Valid Cases	27		

1st Role Play—an intergroup model of "prisoner dilemma"

8.1.3 GENDER

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)）
Pearson Correlation	.609a	1	.435
Likelihood Ratio	.609	1	.435
Fisher	.597	1	.440
N of Valid Cases	54		

8.1.4 AGE GROUP

SymmetricMeasures

	Value	Asymp. SE	Tb	Sig
Pearson Correlation	-.414	.116	-3.279	.002c
Spearman Correlation	-.404	.124	-3.189	.002c
N of Valid Cases	54			

2nd role play— an intragroup supervisor-subordinate model

8.1.5 Roles and Choices

	Value	df	Asymp. Sig. (2-sided)
Pearson Correlation	.074a	1	.785
Likelihood Ratio	.075	1	.785
Fisher	.073	1	.787
N of Valid Cases	54		

8.1.6 GENDER

Chi-Square Tests

	Value	df	Asymp. Sig.（2-sided）
Pearson Correlation	.000a	1	.984
Likelihood Ratio	.000	1	.984
Fisher	.000	1	.984
N of Valid Cases	54		

8.1.7 AGE GROUP

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Correlation	3.140a	2	.208
Likelihood Ratio	3.546	2	.170
Fisher	3.021	1	.082
N of Valid Cases	53		

3rd role play— an intragroup colleague model

8.1.8 GENDER

Symmetric Measures

	Value	Asymp. SE	Tb	Sig
Pearson Correlation	-.497	.115	-4.133	.000c
Spearman Correlation	-.497	.115	-4.133	.000c
N of Valid Cases	54			

8.1.9 AGE GROUP

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Correlation	1.500a	2	.472
Likelihood Ratio	2.217	2	.330
Fisher	.741	1	.389
N of Valid Cases	54		

8.2 Survey (English translation version)

1. What will you do when confront conflicts at work?

A. dominating
B. collaborating
C. obliging
D. avoiding

2. Two departments(A and B) collaborate to do a project, department A and B both fail to complete their own task, however, the deadline is coming and they have to report the result to the departments in charge. Department A and B both have choice to choose admit the failure or deny with the outcome be listed below. (precondition: the boss will never know who makes a failure if they deny). The pay-off for both parties is shown below:

		DEP. B	
		ADMIT	DENY
DEP.	ADMIT	-1,-1	-2,1
A	DENY	1,-2	0,0

Will you admit or deny the failure?

A. ADMIT
B. DENY

3. An employee wants to raise salary and negotiates with his boss. His original monthly pay is 20 and wants to raise it to 50(Plan A). The employer proposes the wage should not be over 30(Plan B). However, the employer does not have time to wait for long negotiation and only give the employee one time decision. Assume the employee yield is 90 which is the value contributed to the company. If it does not come to an agreement, employer can hire another one

(freshman needs 20 wage with 60 output). Employee can find another job whose wage is 20.)
When employee makes Plan B and employer decides PlanA, they will, at last, negotiate an
average salary to 40. The pay-off table for both employee and employer is shown below:

		employer	
		Plan A	Plan B
employee	Plan A	50,40	20,40
	Plan B	40,50	30,60

Will you insist or compromise your own pan?

A. INSIST
B. COMPROMISE

4. Two colleagues (A and B) respectively crafts a delicate watch for the same client, the
customer only wants to buy one watch (if buy both watches he only pays 500 € each) .Customer
may also reject to buy anyone he does not like. The two craftsmen do not know what the client
prefers which means they both have 50 percent chance to sell it. The watch can be sold for
1,000 € and the cost of watch will be 100 €. If one cannot successfully sell the watch to this
client, the value of the watch will be zero. Now the author make a suggestion to them. Because
everyone has his expectation income in this deal, can they accept a risk avoidance way to make
this deal. The negotiation is played between the two roles. The original payoff is shown below:

		Craftsman A	
		succeed	fail
Craftsman	succeed	400,400	-100,900
B	fail	900,-100	-100,-100

There is the other one choice to decrease risk:

		Craftsman A	
		succeed	fail
Craftsman	succeed	400,400	275,525
B	fail	525,- 275	-100,-100

Will you take risk or share risk?

A. TAKE RISK
B. SHARE RISK