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Interindividual-intergroup discontinuity effect based on harmonious management

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Effect on interindividual-intergroup discontinuity means that groups are more competitive than individuals. This study uses matrix game and experimentation to integrate realistic conflict theory as well as social identity theory. It emphasizes that intergroup interaction is different from interindividual interaction. Compared with interindividual interaction, two sides in the game of group interaction are more greedy and unreliable. Besides, their decision-making is more reasonable. In conclusion, this paper put forward several important methods which can reduce intergroup conflicts for managers, namely, attention on long-term interests, appointment of strong leaders, sympathy on external groups and superordinate goal setting. How these strategies complement with each other to become a harmonious mechanism for social and enterprise management is an issue that still needs further discussion in future.

Key words: Interindividual-intergroup discontinuity, interindividual conflicts, intergroup conflicts, harmonious management, matrix game.

INTRODUCTION

Interindividual-intergroup discontinuity means that inter-group interaction is more competitive or less cooperative than interindividual interaction during management process. Whether individuals become more violent in intergroup formation can track back to Plato's exploration for political affairs. During the past 100 years, researchers have come to lock such phenomenon into interactive and non-individual individuals and groups. Besides, they have been proven to be stable and existing in many studies. Research results related with interindividual-intergroup discontinuity have been applied to many explanations for social issues. Tragedy of the Commons, which describes someone who wants to add one more cattle into his cattle in a public pasture, indicates that competitive behaviors exist between individuals and groups under multiple interest conflicts.

Theories about discontinuity effect in management are divided into two sorts. One is "fear and greed perspective" which proposed that intergroups are more unreliable and greedy than inter-individuals. The other

one is group decision- making perspective which focuses on intergroup decision-making process, in which its fundamental hypothesis is that discussion among group members can make group members to understand games better and eventually realize the maximized interests. So far, the first sort has gained comparatively strong support in academic community, the second sort, however, is still an issue.

"Fear and greed perspective" integrates two traditional psychological management theories--- realistic group conflicts theory (Campbell, 1965), which emphasizes practical economic interests, and social identity theory (Tajfel and Turner, 1986), which considers the group's fear of low interests and greed for high interests, including absolute and relative interests. It raised 5 concrete hypotheses.

The first one is schema-based distrust and fear. It asserted that groups were greedy and offensive, which is formulated from memories during the past experiences or social culture evolution.

The second one was that such distrust and fear might come from natural selection. Namely, reproductive advantage behavior model that had not been generalized into intergroup games. Otherwise, it was unable to

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explain why original human groups were vigilant of external attacks constantly. Naquin and Kurtzberg (2009) found that trust among groups was lower than it among individuals. In some cases, it at most equaled with the lowest level of it among individuals. However, paradox existed between fear (distrust) and greed (self interested behaviors). Similarity in groups there is increased in intergroup trust while trust decreased fear as well as intergroup competition. Meanwhile, greed created resulted from the fact that group members understand each other well. Considering this contradiction, Schopler (1995) put forward the identifiability hypothesis that groups made each member's identity unable to be distinguished as an unnamed umbrella, under which each member did not need to be responsible for their self-regarded behaviors.

The third one was social support for shared self-interest. It showed that group members were more competitive in their pursuit of self social support. Competitive behaviors broke personal morality while social supports among groups would reduce social regular limitations. Regarding social support effect mechanism, researchers found two phenomena. One was that social support would not bring in blind obedience and the other was that the increase of effect on relative interests was more remarkable. Considering such huge function from social support, Wildschut et al (2002, 2003) raised in-group-favoring norm hypothesis. In his opinion, a potential pressure existed among group members and it urged individual decisions always to give priority to group interest increasing. Cohen (2008) pointed out intergroup interaction and interindividual interaction should follow two different moral systems. Individual morality stressed fair, honest, trust and mutual benefit while group morality stressed internal group interests even though at the cost of harm on external groups. Intergroup interaction did not activate group morality but these two different systems activated different moral codes.

The fourth one was Altruistic Rationalization. It thought that group members could consider their self-regarded behaviors as pro-group behaviors under intergroup. However, such effect failed to be produced under interindividual. Insko (1987) found that heterogeneity degree of regional group member interests would not affect discontinuity effect in 1987. Pinter et al. (2007) developed a comparative study about intergroup interaction with interindividual interaction in leaders' decision-making. He found that even though leaders were not responsible for their interests, discontinuity effect would still exist. Besides, such effect was stronger on those leaders who had high guilt tendency and responsibility for group interests. Therefore, they deducted the reason may be that leaders had transformed from self-regarded behaviors to pro-group behaviors.

On the contrary, group decision-making supposed that internal discussion promoted rational thinking under multiple motives and such rational thinking played an important role in discontinuity effect. Four theory hypothesizes were covered in this viewpoint.

(1) Backward induction hypothesis. It pointed out that groups could gather more intelligence which had stronger reasoning ability than individuals. Hence, it would be more possible for group to gain interests by rational competitions.
(2) Group polarization hypothesis. It means that group discussion was easier to polarize their competitive tendency.
(3) Reciprocity hypothesis. It proposed that groups could grasp game rules better and maximized their interests.
(4) Cautious reciprocation model. Group would choose competitions only when they cognize that their opposite side had already made competitions.

In fact, each theory is greatly debated and some studies have rejected the point 3 and 4, and some new perspectives on discontinuity effect are brought. Firstly, decision-making styles were different from intergroup and inter-individuals. Secondly, internal group discussion affected cognition from external group.

In the research, we applied the experimentation methods, matrix games and diary method in order to find the fundamental motivation of harmonious management which had few studies in the past. The paper studied the formation mechanism of interindividual-intergroup discontinuity effect to reduce intergroup conflicts effectively and promote intergroup and team harmony as well as harmonious society and enterprise organizations in order to improve team management efficiency. The research results can be widely used in social and enterprise management, such as solving the whaling issue, global warming, price competition, internal and external co-operation among enterprises, mediation among countries and so on.

METHODOLOGY

Experimentation

Researches on interindividual-intergroup discontinuity effect are undertaken by setting mixed-motivation conflicts and games. During experiment process, individuals and groups are dispatched into two laboratories which are connected with central house. After they understand the game rules explicitly, group leaders from each game side will communicate with each other and discuss their possible choices in the central house. Then, they will come back to their own laboratories and make decisions. In the end, their final choices will be written on a list. Then, the host of this test will declare their interests and hand out to each part by currency or token currency. Various conditions exist in the experimentation process. Firstly, group decision-making process is varied in the degree of democracy. Secondly, two parts will not communicate with each other before decision-making.

All experiment materials used in this experiment are processed in generalized prisoner dilemma game (PDG). Besides, matrix game is mainly used in this experiment. Under such circumstance, both game parts are confronted with two choices--- corporation, X or competition, Y. The sample for PDG is shown in Figure 1.
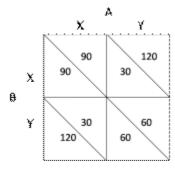
Figure 1. The sample for PDG.

Matrix game and diary method

Descending order for any part's interests is: YX, XX, YY, XY (Previous letter stands for their own interests and the latter one stands for their opponent's interests). Regarding different research aims, we can adjust and control matrix models (like add "avoid") in order to gain interests consistency between two parts and game time.

Apart from matrix games, Schopler (2001) designed a parallel experiment according to the different interests of both parts in PGD in 2001. In his study, it needed to try to make standard-sized origami (A makes yellow duck origami and B makes pink swan origami) and decide whether to give their half handcrafts to their opposite side (X, cooperation) or keep all in their own hands (Y, competition). The result shows remarkable interindividual-intergroup discontinuity effects exist in origami experiment under PDG and combined experiment under matrix model.

In order to improve ecological validity for interindividual-intergroup discontinuity effect in management process, we also adopted a kind of new diary method to measure experiment materials from the interindividual-intergroup cooperative behaviors and competitive behaviors to prove the "discontinuity effect".

RESEARCH RESULTS FOR INTERDIVIDUAL-INTERGROUP DISCONTINUITY EFFECT

Firstly, we can get following method in study interests from group members and groups, which is calculation
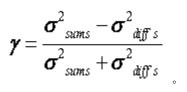
INC for interest consistency. σ^2_{sums} is square sum of A and B 's interests sum in each unit of the matrix.

σ^2_{diffs}

is square sum of A and B's interest differences in each unit of the matrix. $0<r<1$ is the game for interests consistency while $-1<r<0$ is for interests non-consistency.

$$\gamma = \frac{\sigma^2_{sums} - \sigma^2_{diffs}}{\sigma^2_{sums} + \sigma^2_{diffs}}$$

Secondly, when group scale expands, its competition is stronger. Eventually, such differences between inter-individual and intergroup behaviors are named as discontinuity effect. Individual-group discontinuity effect takes place of such phenomenon and forms interindividual-intergroup discontinuity effect. It stresses that if single groups and individuals are compared, such discontinuity effect may not emerge. However, when intergroup interaction or interindividual interaction is produced, groups are always more competitive than individuals.

Thirdly, although intergroup interaction is more com-petitive than interindividual interaction, it only increases group scale which cannot improve such discontinuity effect even. Therefore, interindividual-intergroup dis-continuity effect is not solely related to the scale, but results from the differences between intergroup interactions and interindividual interactions.

STRATEGIES TO REDUCE INTERGROUP CONFLICTS

Theories about interindividual-intergroup discontinuity effect indicate the differences between intergroup interaction and interindividual interaction. If we start from this perspective, we can reduce intergroup distrust, suppress intergroup greed, change intergroup decision-making style and reduce intergroup conflicts. Concrete strategies are as follows.

Driving attention on long-term benefit

Interaction between intergroup and interindividual is a process of multiple games. In many cases, competition can gain maximized interests, but it will reduce mutual trust and lead minimized long-term interests even fatal disasters. A series of strategies including encouraging groups to attain to interaction with their rival parties can impel groups to care for long-term interests and guarantee maximized interests. Control one side to use an eye for an eye strategy and make groups to realize the relationship between the long-term consequences and their current behaviors. Also, increase intergroup trust and improve intergroup abstract thinking ability. All these strategies can be employed to explain some major social affairs, like German 30-year wall, Israeli-Palestinian conflicts etc.

However, the results of these aforementioned strategies can not be revealed immediately, and quite long time is necessary. At the same time, many changes will happen to affect the groups' strategies during a long period of time.

Appointment of strong leaders

Just as indicated at the beginning, moral standard for Inter-individual interaction is personal trust while that for

intergroup interaction is maximized group interests. In those intergroup interaction cases the leaders' decision-making is needed, the leaders will betray moral standard or make a competitive decision in order to placate their internal group members. However, strong leaders dare to stick to their own personal morality. Some leaders do not need to be responsible for group interests or do not have high loyalty to be cooperative. Namely, if the leaders are stronger in decision-making, it will result in lower intergroup competition. Yitzhak, Rabin and Arafat were strong leaders, and they signed *Seven Years Peace Treaty* which made great contribution to Israeli-Palestinian' peace.

Induction of sympathy on external groups

Study shows sympathy on external groups can reduce intergroup conflicts. Shechtman and Basheer (2005) found that Arabic children who had high sympathy on Jew children rarely support violence on them. Experimental studies demonstrate that groups show less competitive behaviors with external sympathy in matrix game. It is noteworthy that the nature of external group sympathy may reduce differences, which cause long-term conflicts in ideology among various groups like Jew and Muslim, Buddhist and Hindu as well as Protestant and Catholic.

Super ordinate goal setting

Super ordinate goal means common goal for different groups and two ways can be used to establish this. Firstly, it can improve interest consistency among different groups in terms of interest relativity. The main way to gain maximized interests is by intergroup cooperation. Secondly, in the light of social categorization, the perceived groupness and group entitality have great effects on group behaviors. If starts from such perspective that groups tend to consider each other as a bigger entirety with consistent interests and this intergroup prejudice will be reduced by increasing tendency of cognition in bigger entirety. Therefore, intergroup conflicts can be reduced by re-categorization to certain degree.

In addition, intergroup conflicts can also be reduced through other approaches, such as increase recognition among group members, reduce intergroup interests and so on. However, these ideas are short of enough experimental and practical studies and need further discussion in future.

Conclusion

To make a clear demonstration on our argument, we involve formulation and verification of hypothesizes,

mechanism study and influencing factor exploration, ecological validity in our study.

Firstly, interindividual-intergroup discontinuity effect is put forward by studies about practical issues in social management (Like Israeli-Palestinian conflicts, the Second World War etc). Besides, we integrate conflicts theories and social identification theories in practical groups. The results show interindividual-intergroup discontinuity effect is widespread in different enterprise cultures. The essential nature of enormous difference between intergroup interactions and interindividual interactions can not be solely understood from the perspective of scale effect.

Secondly, we have made numerous explorations about its forming mechanism of such effect. We compared differences between intergroup interactions and interindividual interactions and summarized how to reduce intergroup conflicts and promote effective and harmonious intergroup management in management process.

Thirdly, existence of such effect has been proven in more practical cases. Take auction as an example, groups will stay longer than individuals, and they will offer higher prices. Some laboratory studies also prove that such effect can ease intergroup conflicts and improve management efficiency in practice.

In spite of those achievements, this theory still needs further exploring. What are the basic and necessary conditions for interindividual-intergroup discontinuity effect? When intergroup trust and greed coexist, which effect has a greater effect on discontinuity effect? How to guarantee groups' substantive in experiments? How to imitate some practical issues, such as wars and others? In addition, another important topic in this field is how to reduce intergroup conflicts and promote harmony by contain negative factors in intergroup interaction. Though researchers have made some progress in this field, we should inspect two questions in future studies. One is how to make existing management intervention ways complement with each other and reduce intergroup conflicts in management process as much as possible. The other one is how to apply intervention strategies in labs to real enterprise and social management.

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