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The Impact of Team Faultline on Team Performance — A Mediation of Behavior Integration

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Abstract: The research on the relationship between team members and team performance has been one of corporation's most notable studies. There are many literatures on the team Faultline and team heterogeneity based on different situation. From the work practice, we feel there is some reasons that make it happen, then we built a research model in Chinese context to open the black-box. The study found that team Faultline of the social classification and information cognition have an impact on team performance through the mediation of behavioral integration. According to the conclusion of this study, this paper proposes some management suggestions, hoping to guide corporation leaders to get high performance in practical work. At the same time, it also inspires management theory construction and researching route in Chinese Background.

Key words: team faultline, behavior integration, team performance, the pattern of differential-sequence
JEL code: M100

1. Introduction

While developing its own value, China's private organizations are also facing the pressure of uncertain competitive environment, If the organization lacks long-term consideration, the strategy is not clear, the corporation management cannot keep up, the team operation efficiency is low, the leadership misconduct interference and the poor human capital management occurs, it will inevitably have a negative impact on the output of the organization performance. The first king of ancient China Zhou Dynasty, Duke of Zhou, summed up the lessons of the fall of another ancient China Shang Dynasty, "supporting heaven with morality", "respecting morality and protecting the people". DUKE of ZHOU thought that the leader implementing "rule by virtue" which is the people-oriented though guides national governances. Corporate governance theory is the theoretical direction for building corporate governance structure and solving corporate governance problems. The so-called corporate governance problems refer to a series of problems caused by the failure of the corporate internal incentive and restraint mechanism, the failure of the external market development or the lack of perfect governance laws and regulations. However, with the rapid development of economic globalization and science & technology progress, the employees in the organization are becoming more and more diverse because of needs of different talented people for specific works. In fact, on the one hand, it brings new vitality to the team, on the other hand, it also increases the difficulty of team management. In this organizational context, the team Faultline describes a team structure which due to the joint

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action of multiple characteristics (such as age, gender, race, education, tenure, team size, team duration, etc.), the team is invisibly divided into many relatively homogeneous subgroups, then the dividing line between subgroups is defined as the team Faultline. Team Faultline is considered to be the key factor restricting team process and team effectiveness. How the Faultline structure can be effectively managed and reasonably utilized has important theoretical and practical significance for current corporations. According to the study definition (Lau & Murnighan, 1998), due to different combinations of demographic characteristics, a team may have multiple potential team Faultline, which may have different effects on the team process and output.

We know a little about the mediating mechanism of team Faultline affecting team performance. Some past diversity studies have showed that team conflict is the key mediation between team Faultline and team performance. More studies also show that team conflict has little explanation for the relationship between these. Due to the different ways of social communication and information exchange between team members with different attributes in the team Faultline, the cognitive division of labor of team members will have different characteristics, resulting in different levels of team performance. Moreover, the Chinese society social relations under the pattern of differential sequence theory make the members of Chinese organizations unwilling to conflict and more hidden their thoughts, making the process variables difficult to measure (Ying, 2006). Therefore, based on the upper echelon theory, this study will explore the mediating role of team behavior integration on team Faultline and team performance.

The research of this paper is to open up the differences of social structure in the pattern of differential sequence theory in the Chinese context. In this context, we would find the impact of team operation process on performance. Jumping out of the western society grouping structure inherent mode of team conflict, this paper discusses the mediating role of behavioral integration. Reveal the effectiveness of the upper echelon theory under the Chinese background, and provide a supplement of Chinese situational background for improving the theory. The study investigated many industries in China, covering a wide range of industries and scattered personnel, for striving to eliminate the homology deviation and improve the reliability of data. The social classification Faultline and information cognition Faultline affect the output of team performance through the intermediary role of behavioral integration. The empirical results verify the model assumptions. The study supplements the upper echelon theory and guides the research on the pattern of differential sequence under Chinese social structure.

2. Literature Review

2.1 Team Faultline

When scholars (Lau & Murnighan, 1998) wrote an article on the AMR to summarize the research on team heterogeneity, they proposed team Faultline based on the concept of geography, and suggested that it should be used as a theoretical mechanism to future study on the characteristic effect of team composition and explain the team operation process of the “black box”. Soon after, the study of team Faultline received the attention of scholars and recognition of the management business administration, and international top academic journals in the field of organizational management (such as the AMJ, AMR, Journal of Applied Psychology, Organizational Behavior and Human Decision Processes, Organization Science, etc.) published relevant paper. The team Faultline refers to: due to the dynamic aggregation of multiple identical or similar attributes of team members, the team is divided into multiple subgroups, and the hypothetical boundary between subgroups is the team Faultline. Indeed, It is worth noting that the difference between team Faultline and team heterogeneity attracted many researches. Studies pointed out the differences between team Faultline and team heterogeneity in the study (Bezrukova et al., 2007; Ndofor et al., 2015).

The concept of "Faultline" comes from the field of geology. The similarity between the team Faultline and the geological Faultline is mainly reflected in the following three aspects: first, the multiple attributes of the team members are similar to the multi-layer structure of the crust, with diversity characteristics. Second, in the absence of external dynamic stimulation, team Faultline and geological Faultline are easy to be ignored, so they both have hidden characteristics. Third, when the strength of the geological Faultline is large, it is easy to cause natural disasters such as earthquakes. Similarly, the greater the influence of the Faultline, the greater the strength of breaking the team. Therefore, according to the rule, the strength of the team Faultline is an important indicator to measure its role in the team process and output. The strength of the team Faultline reveals the relative homogeneity within different subgroups and the heterogeneity between subgroups of the team. For a team with strong Faultline, the dividing line between its subgroups is obvious, which amplifies the potential uncertainty or destructive factors within the team, which will have a significant impact on the operation process and output of the organization.

In the existing research, according to different theoretical basis and research specifications, scholars mainly divide the team Faultline into the following types:

1) Potential Faultline and active Faultline;
2) Surface Faultline and deep Faultline;
3) Task type Faultline and relationship type Faultline;
4) Internal factor Faultline and external factor Faultline.

In the early stage of team Faultline research, scholars mainly used qualitative research methods to distinguish team Faultline. However, with the increase of team members attribute characteristics, the study of describing the team Faultline through quantitative research methods gradually started. At present, scholars mainly measure the team Faultline through mathematical calculation methods, and successively proposed the concepts of team Faultline strength and team Faultline distance. Among them, the strength of the team Faultline refers to the degree to which different subgroups may appear by dividing the team in a unified way according to multiple identical or similar characteristics (Hutzschenreuter & Horstkotte, 2013); The distance of team Faultline refers to the distance between the centroids of two subgroups, that is, the differentiation degree between subgroups. At present, the more effective method is to calculate the Faultline degree of the team through specific calculation methods, mainly including variance decomposition method, clustering method and cross classification method(Bezrukova et al., 2009; Hutzschenreuter & Horstkotte, 2013; Jiatao & C., 2005; Nishii & Goncalo, 2008; Shaw, 1973). Chinese scholar also propose new IGFS (integrated group Faultline strength) algorithms which is IGFS=IA*Fau*D (韩立丰 & 王重鸣, 2010). The strength and distance indicators of the team Faultline mainly include f_{aug}, FLS, PMD, IGFS and ASW proposed by scholars in recent years.

Table 1 Calculation Methods of Team Faultline

name	authors	methods	features
Fau_g	Thatcher & Patel (2012)	variance decomposition method	The strength of two subgroups faultline
FLS	Shaw (1973)	clustering method	Aggregation differences between and within subgroups
PMD	Nishii & Goncalo (2008)	clustering method	Multiple heterogeneity of subgroup polarization
IGFS	Han lifeng et al. (2010)	cross classification method	Strength and width of team faultline
F_k	Li & Hambrick (2005)	clustering method	Faultline situational context
ASW	Hutzschenreuter & Horstkotte (2013)	ASW clustering method	Multiple subgroups faultline

Resource: The author collates according to the literature

In addition to the above six objective team Faultline measurement methods, scholars also sent questionnaires based on the activation perspective to measure members' perceptions of the team Faultline.

2.2 Behavioral Integration

Hambrick proposed the concept of "behavior integration", which is the collective interaction of team members in thoughts, ideas, value judgments and actions, and reflects the essence of the team (Hambrick, 1994). It integrates the team complex dynamic process, not one of them, but the whole process. Behavioral integration includes social integration (usually called team cohesion, which reflects the perceived harmonious relationship and mutually attractive emotional composition among team members), the frequency and quality of communication between members, and joint decision-making. Therefore, behavioral integration is a compound concept, because it includes the dimensions related to the society and psychology of team members — social integration, and the dimensions related to team tasks and actions — information exchange and joint decision-making. Hambrick (1994) believes that through the mutual reinforcement of these processes, the senior management team can achieve higher performance. Hambrick (1994) made the following contributions: through the concept of "behavior integration", it integrates multiple related processes in the team process, so as to better explain the dynamic and complex decision-making activities that cannot be explained by any process in the senior management team. This is different from the previous research on the senior management team, which only focuses on one or several processes (Hambrick, 1994). Behavior integration avoids possible mispredictions because it only focuses on a certain process in the team. For example, social integration is based on team cohesion. Tsui & O'Reilly (1989) believes that cohesion is "the attraction between team members, mutual satisfaction and willingness to participate in common activities". They believe that the social and psychological attraction within the team will lead to effective decision-making. However, Kuklick & Janis (1972) found that the high cohesion team made the wrong decision, because the high cohesion team paid more attention to the harmonious atmosphere and ignored the exploration of alternatives.

Social integration is based on concept of cohesion and pays more attention to team spirit (Shaw, 1973). Cohesion refers to the attraction and sense of belonging of team members to the team. The concept of early social integration comes from the field of sociology. Sociologists Durkheim first proposed the concept of social integration (Durkheim, 2000). So far, many scholars have studied social integration from the perspective of sociology (Kochan et al., 2010). Scholars' explanation of social integration is representative, that is, social integration is the process of human social integration. Team social integration reflects the consistency of team members' behavior, avoiding conflict to pursue consistency. Social integration is a social phenomenon that integrates multiple dimensions. Its characteristics are team attraction, satisfaction among team members and social interaction among team members. The relevance of these three dimensions depends on the psychological and emotional attractiveness of team members in effective decision-making. However, social integration does not always have a positive impact on team decision-making. In order to maintain a harmonious relationship and satisfaction, team members will not question the decision-making plans of other members, nor will they propose different plans, which will lead to multiple dysfunction symptoms of team thinking, thus changing the nature of tasks, leading to low-quality performance made by highly socially integrated teams. In order to avoid team members making low-quality performance, it is necessary to add other task related processes appropriately. It is for this reason that Hambrick (1994) reintegrates social and task processes into the framework of behavioral integration.

3. Theory Model and Study Hypotheses

3.1 IPO Operation Process on Upper Echelon Theory

Hambrick and Mason (1984) proposed the “upper Echelon theory”, which created a new idea for the study of the impact of top management team heterogeneity on organizational performance, making people gradually realize that some characteristics of people (not traced to the cause of formation) can play a unique role in the operation process (Hambrick & Mason, 1984). Since then, a large number of studies have found that the heterogeneity of variables such as age, gender, tenure, education and professional background of the top management team has an unstable impact on the organization structure or team performance, and even the opposite research conclusions appear. This is why team heterogeneity does not directly affect team performance, and team performance may more depend on the impact of team heterogeneity on the operation process and the management modes of the operation process. The lag of the impact of team member characteristics on corporate performance has attracted scholars' attention. In order to better understand the relationship between them, researchers conduct in-depth research by introducing different regulatory variables such as management culture, organizational learning, environmental differences, information interaction and behavior integration etc.

The core elements of the top management team include team composition, team structure and team process (Cannella et al., 2009). Team composition refers to the collective characteristics of team members, such as top management experience from demographic sociology background, including race, age, major, qualifications, education, psychological factors, opinion of values, personality and cognitive basis, etc. Most empirical studies focus on the diversity of team composition, that is, team heterogeneity (Chrisman et al., 2018; Ndofor et al., 2015). Team structure is defined by the roles of members and the relationships between members. The core of team structure is the interdependence of the roles of team members. Team composition, especially the contradiction or inconsistency of the research conclusions of team heterogeneity, has been attracted attention from scholars. The study found that the different interdependence among members will affect the role of the diversity of top management team composition (Jiatao & C., 2005). Team structure can be divided into horizontal, vertical and reward dependencies according to tasks, levels and common achievements. This is the interaction path of social relations. Scholars divide the family top management team into paternalistic, family and non-family team structures according to the degree of family participation (Michael et al., 2017).

According to this framework, this study takes the composition, structure and process of the team as the common dynamics research of the top management team, and only takes the team process as the “narrow” research: the composition and structure of the executive team affect the team process, which will also lead to changes in the composition and structure of the team in the process of team interaction. Although the composition and structure of the team mainly reflect the static characteristics of a certain period, they are also in dynamic changes from the perspective of the development of the top management team. More importantly, they are not only important input variables in the team process, but also affected by the strategic decision-making process, affecting the output of the team.

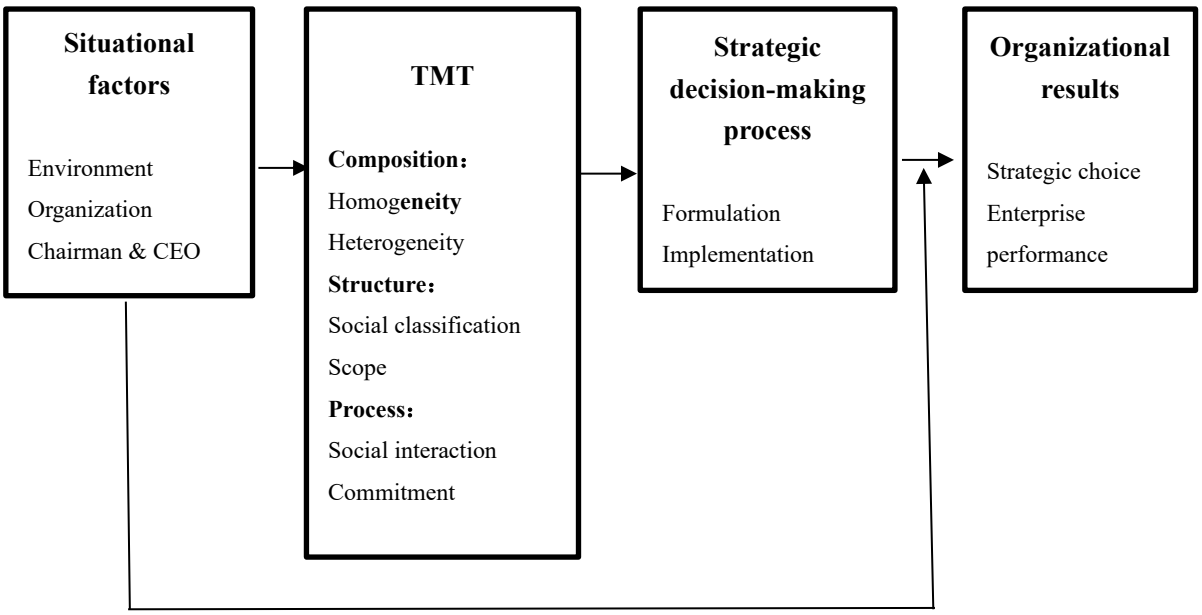

Figure 1 Research Framework of I-P-O Based on Upper Echelon Theory

Source: cannella et al. (2009)

3.2 The Pattern of Differential Sequence Theory

Burt pointed out for the first time in his book *Structural Holes: Social Structure of Competitive* (Burt, 1992), that there is no fundamental connection between strong and weak relations and social capital. He pointed out that there are two kinds of social networks, one is an almost unrelated open network, and the other is a closed network without fracture. There is no direct connection or weak connection in these networks, and there is a phenomenon of discontinuity in relations, which is structural ravine, Structural holes have certain advantages. Watts pointed out that the research of social network theory is very suitable to be carried out in the Chinese context (Watts, 1999). Chinese society is full of relationship characteristics. It is a relationship-oriented society, which provides a rich background for the research of social network theory. The research of social network theory in the Chinese context has high feasibility.

Chinese socialist Fei Xiaotong proposed the theory of the pattern of differential sequence in "native China" to understand the structure and relationship characteristics of Chinese society (Hamilton et al., 1992). He pointed out that the pattern of differential sequence in China is due to the closeness and distance of relations, forming a hierarchical network from the inside out, which is applicable to different interaction norms. The characteristics of the pattern of differential sequence are self-centered, public-private groups are relative, particularistic ethics, and etiquette society; From the perspective of resource allocation, the distribution of differential pattern shows that the distribution of identity, corresponding rights and property in the home is configured by the mode of the pattern of differential sequence (Ying, 2006). Taiwanese scholar, Hwang guangguo further extended Fei Xiaotong's thoughts. The relationship network of the pattern of the differential sequence is divided into three layers, family members, acquaintances and strangers, which are emotional relationships, instrumental relationships and mixed relationships respectively (Hwang, 1987). Its interaction norms are applicable to the law of demand, the law of human relations

and the law of fairness, in which the law of demand is based on human ethics such as the three cardinal principles and five permanent principles, The pattern of difference sequence emphasizes the two characteristics of distance and closeness and taking "oneself" as the center to draw circles (Xin & Pearce, 1996). Compared Chinese and western social network, we can find Chinese people chose to avoid conflict by asking help from the differential pattern society big man, otherwise western people fight for the group society.

3.3 Theoretical Model

This study attempts to expand the existing research results of top management team conflict theory. According to the upper echelon theory and the behavioral integration proposed by Hambrick, we established a comprehensive model of team Faultline, behavioral integration and team performance (including leader and team member questionnaire). According to this model, we create impact of social classification and information cognition Faultline on team performance, which takes behavior integration as the mediation variable. Behavior integration helps to form a constructive integration mode of "collaborative behavior, information exchange and joint decision-making" within the team. According to the study "input-process-output" mediation model, we believe that behavioral integration is an intermediary variable between team Faultline and team performance.

Based on the variables of social classification Faultline, information cognition Faultline, behavior integration and team performance, and the construction of research models, this chapter discussed the variables' correlation, and proposed corresponding research hypotheses. Firstly, it analyzes the impact of social classification Faultline and information cognition Faultline on team performance and the role of the two team Faultline on behavior integration. Then, it analyzes the mediating effect of behavioral integration on team Faultline and team performance.

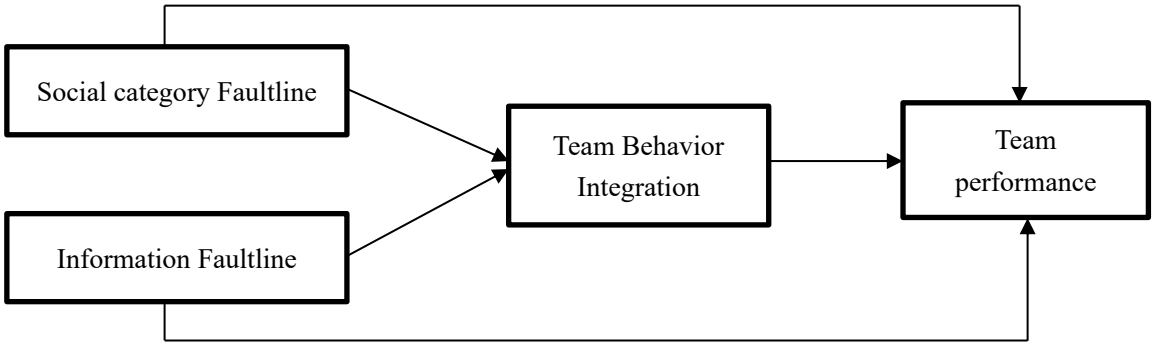

Figure 2 Theoretical Model

3.4 Study Hypotheses

Based on the above definition and research model of each research variable, this section will discuss the possible correlation between team Faultline (Social Classification Faultline, information cognition Faultline), behavior integration (collaborative behavior, information exchange, joint decision-making) and team performance.

The team Faultline can be divided into social classification Faultline and information cognition Faultline. The former refers to the Faultline mainly formed by the differences of team members' demographic characteristics (such as gender, age, race and nationality), while the latter analyzes the cognitive differences of team members in education, work experience and major. The differences in demographic characteristics such as the age and gender of team members laid the foundation for the commencement of the Faultline of team social classification. Although the social classification Faultline is not directly related to team tasks, it will affect the self-examination process of team members, affect the interactive behavior of team members, and thus affect team performance(Bezrukova et al.,

2012). The study found that the social classification Faultline is easy to cause the relationship conflict and task conflict between subgroups, so as to strengthen the friction within the team and the conflict between members, and then reduce the organization performance. The Faultline based on the relevant characteristics of information within the team is conducive to the integration and application of heterogeneous knowledge among members, so as to improve team performance. The following assumptions are put forward:

H1a: team social classification Faultline has a significant negative impact on team performance;

H1b: team information cognition Faultline has a significant positive impact on team performance;

Lack of necessary interaction and cooperation, top management team members may only pay attention to "part of the corporation itself", and lack a comprehensive perception of the changes in the overall and external market environment which the corporation may be affected. The cooperative behavior among top management team members can urge them to re-examine the rationality of task allocation. Top management teams with high behavioral integration characteristics have a high level of information exchange, so that they can more fully share all kinds of information needed for corporation decision-making. The research shows that the research on the relationship of team behavior integration, organizational decision-making quality and organizational decline show that team behavior integration has a significant positive impact on organizational decision-making quality. If team leaders make more efforts to construct the top management team and cultivate excellent corporate cultural, the organization will have better management or performance. Only when the behavior integration is high and the members have a clear and consistent understanding of corporation purpures, can corporation establish a sustainable, stable and controllable operation mode of management. Therefore, we propose the following assumptions:

H2A: team social classification Faultline has a negative impact on team behavior integration;

H2B: team information cognition Faultline has a positive impact on team behavior integration;

The top management team behavior integration is conducive to corporation decision-making and product innovation. The top management team can always let its members make and implement decisions together to solve problems, improve team performance, promote corporation innovation behavior, and improve performance output. In addition, the high-level behavioral integration of the top management team can also improve the risk tolerance of corporations, stimulate the adaptability of corporations, and promote corporations to respond to market changes in complex environments. In the three dimensions of behavior integration, cooperative behavior can create a good team atmosphere and reduce team conflict; Information exchange can maximize the diversity advantage of the team, and the efficient flow of information can improve the work efficiency of the team; Joint decision-making can stimulate the inspiration of team members and enhance the ability of the team to cope with and solve problems. Therefore, behavior integration can positively affect team performance,

H3: behavior integration has a positive impact on team performance

How the characteristics of top management team affect performance is not clear, and the results are unstable. Only by revealing "black box" can scholars predict the organization output. Teams with behavioral integration can share information, resources and participate in decision-making, so as to improve the effect of performance output. When studying the IPO dynamic operation process, this paper propose a model that affects the corporation performance according to the characteristics of the top management team. The model takes behavior integration as the mediation variable. According to the above analysis, this study proposes the following assumptions:

H4a: behavioral integration mediates the relationship between social classification Faultline and team performance.

H4b: behavioral integration mediates the relationship between information cognition Faultline and team

performance.

4. Methods and Empirical Results

4.1 Sample and Data Collection

I has been engaged in manufacturing industry for many years working in management department. My business friends have similar experience and scatters a wide range of industries, which makes me convenient to send questionnaires in various industries. This study adopts non random sampling. Select flavor industry and around (chemical industry, essence, feed, etc.), telecommunications, automotive, from my MBA educational background, and government organizations, NGO. Because of width of questionnaire collected, the result has representative.

The distribution and collection of questionnaires are mainly through three ways: (1) site visit. Researchers go directly to the corporation to have face-to-face conversations with team leaders (including CEO) and their designated team members, state the purpose of the research, the filling method of the questionnaire, emphasize that the survey results are only used for academic research, and ensure the confidentiality of data. The subjects filled in the questionnaire on the spot and submitted it directly to the researcher. (2) The associated questionnaire on APP, training the questionnaire distribution investigators, and then they distribute the questionnaire on their industries. Because the team members' questionnaire connects to the associated the same team leader's questionnaire, It can ensure the impartiality of the team questionnaire. (3) Issued by telephone, email, etc. The researcher sent the questionnaire to the investigator by email, express mail, etc. and guided the investigator to complete it. In order to ensure the completion quality, the researcher contacted the respondents by phone one by one to ensure that the questionnaire could be completed smoothly.

A total of 802 sets of questionnaires were distributed in this survey, so, from these the questionnaires of 175 teams were collected. Some questionnaires are deleted based on three principles: (1) non default principle. That is, except personal data, the missing rate of questionnaire answers should not be higher than 10%; (2) Matching principle. That is, each team questionnaire must have two levels: team leaders and members; (3) Adequacy principle. That is, each team must have one questionnaire from the team leader and more than two questionnaires from the members. The total number of effective team samples finally entered the statistical analysis was 718 questionnaires from 158 teams (158 more questionnaires from team leaders were not included in the total number), and the final effective feedback rate was 89.53%.

The team measured the demographic statistical data of the Faultline, selected ASW methods to calculate the Faultline strength, and used age and gender data for social classification Faultline; For the information cognition Faultline we selects the data of education, work experience and working years; Determine the team size and team tenure as control variables. Simsek et al. (2005) scale was selected for behavior integration, and Tjosvold D. et al. (2003) scale was selected for team performance.

4.2 Descriptive Statistics

The questionnaire covers a total of 158 teams, 718 team members, and 158 leaders are not included in the statistics. 311 males, accounting for 43.3%; 401 women, accounting for 56.7%. 76 students with high school/technical secondary school education or below, accounting for 10.6%; 223 associate colleges, accounting for 31.1%; 333 colleges, accounting for 46.4%; 86 postgraduates and above, accounting for 12%. 104 people aged 25 and below, accounting for 14.5%; 150 people aged 26-30, accounting for 20.9%; 182 people aged 31-35, accounting for 25.3%; 130 people aged 36-40, accounting for 18.1%; 128 people aged 41-50, accounting for 17.8%; 24 people

aged 51 and above, accounting for 17.3%. 124 people have worked in the corporation for less than one year, accounting for 17.3%; 180 people in 1-3 years, accounting for 25.1%; 118 people in 3-5 years, accounting for 16.4%; 86 people in 5-7 years, accounting for 12%; 66 people in 7-10 years, accounting for 9.2%; 144 people over 10 years, accounting for 20.1%. The production department was 102, accounting for 14.2%; 94 personnel, accounting for 13.1%; 85 financial, accounting for 11.8%; 119 researchers, accounting for 16.6%; 82 administrators, accounting for 11.4%; Marketing 139 people, accounting for 19.4%; 97 people from other departments, accounting for 13.5%.

Among the 158 teams, there are 77 teams with 3-6 people, accounting for 48.7%; There are 81 teams with 7 people or more, accounting for 51.3%. The team has been established for 4 groups within 1 year, accounting for 2.53%; 14 groups in 1-3 years, accounting for 8.86%; 36 groups in 3-5 years, accounting for 22.78%; 30 groups in 5-7 years, accounting for 18.99%; 48 groups in 7-10 years, accounting for 30.38%; 26 groups of teams with more than 10 years, accounting for 16.46%.

4.3 Data Aggregation

The analysis of this study is aimed at the team level, but the data is collected at the individual level. We conducted the team Faultline data consolidation through ASW method, Behavior integration individual data and team performance individual level data were aggregated into team data on average after verification. Before the aggregation of individual data, we calculate the value of Rwg, ICC(1), ICC(2) to test the consistency within and between groups. All data were greater than 0.8, meeting the aggregation requirements.

4.4 Reliability and Validity Analysis

Reliability analysis is a method to measure the consistency level of the results collected by the scale. The reliability analysis in this paper mainly adopts Cronbach's alpha coefficient, and the exploratory factor analysis is to measure the structural validity of the scale.

Table 2 Variable Reliability

variable	number	Cronbach's Alpha
Team performance	5	0.909
Behavior integration	9	0.923
total	14	0.916

According to the reliability analysis results of the above table, this study is measured by 14 measurement items. The overall Cronbach's alpha is 0.916, the Cronbach's alpha of the team performance variable is 0.909, and the Cronbach's alpha of the behavioral integration variable is 0.923. The Cronbach's alpha coefficients of the whole and each potential variable meet the basic standard of greater than 0.7. It can be seen that the questionnaire used in this study has good reliability.

Table 3 KMO & Bartlett

KMO		0.955
Bartlett	Chi square	14351.479
	df	406
	Sig.	0.000

The test results show that the KMO test value is 0.955, greater than 0.70, indicating that the questionnaire is suitable for factor analysis. Bartlett's sphericity test showed that the approximate chi square value was 14184.769

and the significance probability was 0.000 ($p < 0.01$). Therefore, the H0 hypothesis of Bartlett's sphericity test was rejected and the scale was considered suitable for factor analysis, so the validity structure was good.

4.5 Correlation Analysis

When there is a connection between things but the causal relationship cannot be explained directly, the relationship between things is called correlation. This paper analyzes the relationship between variables in this study through Person correlation.

Table 4 Variables Correlation

Variable	Social FL	Info. FL	Behavior I	TM perf
Social FL	1			
Info. FL	-.171*	1		
Behavior I	-.320**	.383**	1	
TM perf	-.380**	.362**	.486**	1

Note: ***, ** and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 4 shows that the P values corresponding to the correlation coefficients of social classification Faultline, information cognition fracture, behavior integration and team performance are all less than 0.05, which is statistically significant, indicating that there is a significant correlation between the four latent variables.

The correlation coefficient between the social classification Faultline and the information cognition Faultline is -0.171, the correlation coefficient with behavior integration is -0.320, and the correlation coefficient with team performance is -0.380, indicating that the negative effect of the social classification Faultline is obvious, indicating that the social classification Faultline in the team affects performance output; The correlation coefficient between information cognition Faultline and behavior integration is 0.383, and the correlation coefficient with team performance is 0.362; The correlation coefficient between behavior integration and team performance is 0.486, indicating that the team information cognitive Faultline is the key reference element of efficient team composition.

4.6 Regression Analysis

Among the data analysis methods, regression analysis is one of the most widely used statistical analysis methods. The direct effect regression of the model adopts hierarchical regression analysis.

Table 5 Models Regression

Variable	dependent：Behavior I		dependent：TM perf			
	Model 1		Model 2		Model 3	
	β	t	β	t	β	t
Team size	0.127	1.754	-0.001	-0.018	-0.089	-1.259
Team tenure	-0.1	-1.391	-0.092	-1.283	-0.053	-0.747
Social FL	-0.293	-4.002***	-0.333	-4.576***	-	-
Info. FL	0.313	4.31***	0.293	4.04***	-	-
Behavior I	-	-	-	-	0.487	6.891***
F	11.883***		12.300***		16.897***	
R^2	0.237		0.243		0.248	

Note: ***, ** and * indicate significance at the 1%, 5%, and 10% levels, respectively.

In the multiple linear regression analysis from the above table:

Model 1 is the regression analysis of behavior integration variables by independent variables social classification Faultline and information cognition Faultline. The value of R^2 is 0.237, which proves that 23.7% of the variation of dependent variables can be explained by independent variables. The statistical value obtained by F test is 11.883, and the corresponding p value is 0.000, less than 0.001. The model setting is reasonable. From the regression coefficient, we can see that the standardized regression coefficient of the independent variable social classification Faultline on the behavioral integration variable is -0.293, t = -4.002, P < 0.001, which proves that the social classification Faultline has a significant negative impact on the behavioral integration variable, and the hypothesis H1a is true; The standardized regression coefficient of the information cognition Faultline on the behavioral integration variable is 0.313, t = 4.31, P < 0.001, which proves that the information cognition Faultline has a significant positive effect on the behavioral integration variable, and the hypothesis H1b is true.

Model 2 is the regression analysis of the independent variables of social classification Faultline and information cognition Faultline on team performance variables. The value of R^2 is 0.243, which proves that 24.3% of the variation of dependent variables can be explained by independent variables. The statistical value obtained by F test is 12.300, and the corresponding p value is 0.000, less than 0.001, indicating that the model setting is reasonable. From the regression coefficient, we can see that the standardized regression coefficient of the independent variable social classification Faultline on team performance variables is -0.333, t = -4.576, P < 0.001, which proves that the social classification Faultline has a significant negative impact on team performance variables, and the hypothesis H1c is true; The standardized regression coefficient of the information cognition Faultline on team performance is 0.293, t = 4.04, P < 0.001, which proves that the information cognition Faultline has a significant positive impact on team performance variables, and the hypothesis h1d is true.

Model 3 is the regression analysis of behavior integration on team performance variables, The value of R^2 is 0.248, which proves that 24.8% of the variation of dependent variables can be explained by independent variables. The statistical value obtained by F test is 16.897, and the corresponding p value is 0.000, less than 0.001, indicating that the model setting is reasonable. From the regression coefficient, we can see that the standardized regression coefficient of behavioral integration on team performance variables is 0.487, t = 6.891, P < 0.001, which proves that behavioral integration has a significant positive impact on team performance variables, and the hypothesis h1e is true

4.7 Mediation Effect Test

Structural equation modelling analysis we use the model of spss27.0 plug-in process 3.3 to test the mediation effect.

Table 6 Bootstrap Analysis of Behavior Integration Mediating Between Social Faultline and Team Performance

			95% CI		
Regression	Value	Boot SE	Boot LCL	Boot UCL	Percent
Total effects	-1.360	0.262	-1.877	-0.843	-
Direct effect	-0.866	0.256	-1.373	-0.360	63.7%
Indirect effect	-0.494	0.180	-0.901	-0.194	36.3%
R^2			0.299		
F			16.386		

The results show that in the model with the Faultline of social classification as the independent variable, behavior integration as the mediatiion variable and team performance as the dependent variable, R^2 is 0.299, F value is 16.386, and the fitting degree of the model is good; The total effect value of the independent variable on the dependent variable is -1.360, and the corresponding upper and lower 95% confidence intervals do not contain 0. Pass the significance test, it shows that the total effect is significant; The direct effect value is -0.866, and the corresponding upper and lower 95% confidence intervals do not contain 0. Pass the significance test, it shows that the direct effect is significant, accounting for 63.7% of the total effect; The indirect effect value is -0.494, and the corresponding upper and lower 95% confidence intervals do not contain 0. Pass the significance test, it shows that the indirect effect is significant, accounting for 36.3% of the total effect.

Table 7 Bootstrap Analysis of Behavior Integration Mediating Between Information Faultline and Team Performance

			95% CI		
Regression	**Value**	**Boot SE**	**Boot LCL**	**Boot UCL**	**Percent**
Total effect	1.263	0.268	0.734	1.793	-
Direct effect	0.724	0.264	0.202	1.246	57.3%
Indirect effect	0.540	0.176	0.219	0.903	42.7%
R^2			0.157		
F			9.573		

The results show that in the model with information cognitive Faultline as the independent variable, behavior integration as the mediation variable and team performance as the dependent variable, R^2 is 0.157, F value is 9.573, and the fitting degree of the model is good; The total effect value of the independent variable on the dependent variable is 1.263, and the corresponding upper and lower 95% confidence intervals do not contain 0. Pass the significance test, it shows that the total effect is significant; The direct effect value is 0.724, and the corresponding upper and lower 95% confidence intervals do not contain 0. Pass the significance test, it shows that the direct effect is significant, accounting for 57.3% of the total effect; The indirect effect value is 0.540, and the corresponding upper and lower 95% confidence intervals do not contain 0. Pass the significance test, it shows that the indirect effect is significant, accounting for 42.7% of the total effect.

4.8 Results

Combined with the above results, the direct effect model is established, and the social classification of the team Faultline negatively affects team performance. Team information cognition Faultline has a positive impact on team performance. Behavior integration has a positive impact on team performance. Behavioral integration has a significant mediating effect between social classification Faultline and team performance. Social classification Faultline can not only directly affect team performance, but also indirectly affect team performance through behavioral integration, which can be identified as part of the mediation effect. Behavioral integration has a significant mediating effect between information cognitive Faultline and team performance. Information cognitive Faultline can not only directly affect team performance, but also indirectly affect team performance through behavioral integration, which can be identified as part of the mediation effect. The hypothesis is verified, and the direct and indirect effects of the model are established.

5. Discussion

The upper echelon theory reveals the relationship between the composition of team members and team performance, and studies the positive and negative effects of team Faultline on team performance according to the composition of team members. This study reveals part of the “black box” of the relationship between team Faultline and team performance.

5.1 Theoretical Contribution

This study reveals that different attribute Faultline (Social Classification and information cognition Faultline) have diametrically opposite effects on team process and performance, and their mechanisms of action on team performance are completely different. The team Faultline with demographic characteristics (such as education background and industry experience) contributes to the team cognitive process and ultimately forms the team competitive advantage. This result promotes the development of the team's Faultline theory and contributes to the continuous refinement and deepening of the research.

First of all, there is less research on process of team performance. Our study try to find other hidden variables in team process variables, except existing team conflict, LMX and organization perception etc. For example, under the Chinese social system, the team behavior integration are deeply affected by the pattern of differential sequence theory, and the forbearance of member under the differential pattern is key factor in the operation process affecting on team Faultline and team performance. In Chinese corporations, the role of team Faultline on team performance is achieved through the intermediary of behavior integration.

Secondly, because of the group bias and conflict of social identity theory, the conclusion of the social classification Faultline of the team in this study provides evidence for local management research. Apply the principle of social identity theory to eliminate group prejudice and conflict and improve corporation performance. Specifically, the team social classification Faultline makes team members unwilling to share. The team forms a small collective based on the differential pattern theory. The competitive behavior between teams reduces the overall efficiency of the team. The maximization of the interests of team members is not Pareto optimal, moreover, maximization of the interests of subgroup members often reduces the overall interests of the team.

Finally, this paper confirms the mediation role of the team process of the upper echelon theory, and reveals the "black box" between the team Faultline and team performance. Through combing the previous literature, it is found that although the team Faultline has a significant impact on team performance, the specific action path of this impact is not clear at present, and the research conclusion has not been unified, but the study shows the mediation of behavior integration mediation is an important theoretical explanation way on Chinese context.

5.2 Managerial Implications

Team leaders should be fully aware of the important impact of team Faultline on team performance. In order to effectively improve the performance of the team, it is necessary to strengthen the distinction between the social classification attribute and the information cognition attribute of the team, find the advantages and disadvantages of the two different attribute Faultline, prepare in advance, seek advantages and avoid disadvantages.

Based on the research conclusion, by measuring and predicting the degree of team Faultline, we can easily evaluate whether the composition of team members affects team performance. When the team information cognition is obviously broken, the appropriate behavior integration environment will be conducive to the team performance. The mediating role of team behavior integration reminds managers that clear division of labor and fair power are

conducive to the positive impact of information cognitive Faultline on team performance. When the social classification is broken obviously, we need to change the process that behavior integration weakens team performance. First of all, through the type of team building, the degree of the team social classification Faultline will be reduced; Secondly, when recruiting employees , avoid introducing homogeneous talents, so as not to further aggravate the Faultline of the social classification team; Thirdly, with the participation of top management, a Chinese organization relationship model similar to the difference pattern theory is established to break the worst Faultline; Finally, create a competitive mechanism of sharing platform to eliminate the high transaction cost of information within the team and avoid poor performance.

5.3 Limitation and Future Research

This study verifies the structural antecedents of team Faultline. If we can intervene the team Faultline in advance from the source, we can usually achieve the desired results. In practical work, excellent team members need time to choose and hone among members. At the same time, team operation also needs to follow the guidance of theory in order to achieve a high success rate in unpredictable results.

For the statistical indicators for calculating the strength of the Faultline, this paper extracts the explicit statistical indicators such as gender, age, education background and work experience when calculating the strength of the Faultline, but does not involve the implicit indicators such as members' personality and ideas. These implicit indicators are also important characteristics of the composition of team members, which can be further analyzed in the follow-up study.

Behavioral integration plays an mediating role between team Faultline and team performance. In practical work, it may not be true. The reason may lie in environmental factors, which is also the direction of future research. How environmental factors adjust the relationship between team Faultline and team performance, and the adjustment mechanism of the impact of team Faultline on team performance is still very complex. In the future, we can continue to explore other mediation effects and regulatory effects between team Faultline and team performance, and provide more empirical support for further clarifying the "black box" of team Faultline affecting team performance.

The research of "black box" is more single path, while the research of multiple paths in the same model is less at present. There is little research on the path similar to the SPSS tool plug-in process model 59. The multi-path adjustment of adjustment variables, the proportion of adjustment in each path of the model, and why multi-path adjustment occurs will also be the research direction in the future.

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