

Determinants of Strategic Change: Effects of TMT Faultlines and
Moderating Effects of CEO-TMT Similarity and CEO-TMT Power
Disparity

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Abstract

Rapid changes in the business environment spur firms to initiate strategic changes. Prior studies from Upper Echelons theory highlight the faultlines perspective to address the effect of top management team (TMT) subgroups on strategic change. However, the effects of TMT faultlines from the vertical communication and information sharing between CEO and TMTs is less addressed in the faultlines studies. In this study, we incorporate the effects of vertical interactions between chief executive officers (CEO) and TMTs by considering the impact of two moderating variables, CEO-TMT similarity, and CEO-TMT power disparity, on the relationship between TMT task-related faultlines and strategic change. We hypothesized a positive relationship between TMT task-related faultlines and strategic change. The moderating effects of CEO-TMT similarity can enhance a positive relationship between TMT task-related faultlines and strategic change, and CEO-TMT power disparity mitigates a positive relationship between TMT task-related faultlines and strategic change. A sample of 1046 Chinese companies publicly listed on the Shanghai and Shenzhen Stock Exchanges during 2015-2018 was examined in this study. The findings indicate that TMT task-related faultlines positively relate to strategic change, but a greater CEO-TMT power disparity weakens this relationship.

Keywords: task-related faultlines, CEO-TMT similarity, CEO-TMT power disparity, strategic change

Introduction

Firms have implemented strategic changes in response to rapid changes in the environment. A strategic change is a change in the form of an organization and its allocation of resources over time; these changes affect a firm's competitive position (Haynes & Hillman, 2010). Numerous studies have examined the factors that affect strategic change (i.e., Boeker, 1997; Goodstein, Gautam, & Boeker, 1994; Klarner, Yoshikawa, & Hitt, 2023). Among the factors, studies have applied Upper Echelon theory (UET) to explain the drivers of strategic change from the perspectives of the chief executive officer (CEO) and top management teams (TMTs) (Boeker, 1997; Weng & Lin, 2014). The UET suggests that managers from diverse backgrounds bring creative and varied ideas, facilitating the exchange of opinions and the formation of different judgments and solutions. These diverse perspectives benefit strategic changes (Barron, Chulkov, & Waddell, 2011; Lin & Chen, 2023; Zhang, Ayoko, & Liang, 2021).

However, executives with shared attributes such as expertise and demographic characteristics may form subgroups (Lau & Murnighan, 2005). The differences between subgroups result in TMT faultlines associated with interpersonal interactions and information processing in decision-making (Carton & Cummings, 2012). Studies identify task-related faultlines shaped based on traits like expertise, professional background, and tenure, which structures subgroups and lead a horizontal divide within a TMT. Such divisions impact TMT's decision processes and an organization's resource allocation when determining a strategic direction (Bezruk, Jehn, Zanutto, & Thatcher, 2009; Wu, Triana, Richard, & Yu, 2021). Investigations of the effects of TMT faultlines on strategic change have typically assumed that the CEO and each TMT play an equivalent role in initiating strategic change; these investigations have thus focused on the horizontal interactions between the CEO and each TMT. A vertical communication

and interaction influence the TMTs' subgroups and choices, such as CEO-TMT similarity and CEO-TMT power disparity, are neglected in the prior studies on strategic change.

CEOs lead TMTs and direct decisions regarding strategic changes and the organization's strategic direction. When implementing changes in business strategy, CEOs frequently interact with the TMTs and hold the most power in determining the strategic directions and implementation of these changes (Zhang, Ayoko, & Liang, 2021). CEO-TMT similarity indicates the degree of similarity in the demographic attributes of the CEO and TMTs; higher similarity facilitates interpersonal interactions, mutual communication, and information exchange (Ling, Wei, Klimoski, & Wu, 2015). On the other hand, CEO-TMT power disparity reflects power difference between the CEO and TMT; this disparity affects the flow of information between managers and reduces task performance (Li & Jones, 2019). Studies have stated that CEO-TMT similarity and CEO-TMT power disparity are critical factors affecting communication and information processing between executives and subordinates, which further affect task performance (Georgakakis, Greve, & Ruigrok, 2017; Ling et al., 2015). Identifying the CEO's interaction with TMTs is essential to understanding how an interaction with TMTs influences a company's strategic change.

This study provides several contributions to the literature. Prior UET studies emphasize TMT traits' influence on decision-making but neglect the role of TMT faultlines within subgroup behavior. This study explores the impact of TMT attributes on strategic change while also considering the role of task-related faultlines and their effects on subgroup interaction and information processing. We examined the interactions within the team from the UET perspective and the dynamics between subgroups from faultline studies. In addition, faultlines research has focused on the

influence of TMT subgroups, it has often overlooked the critical role of CEOs and their vertical relationships with other TMT members. Previous studies have neglected the importance of vertical interactions between CEOs and TMTs in explaining how these interactions and TMT faultlines affect strategic change. In this research, we address two moderating effects, CEO-TMT similarity, and CEO-TMT power disparity, are associated with the TMT's subgroup's decision process to better understand the decision-making and information processing that drive strategic changes.

In this study, we hypothesize that task-related faultlines help TMTs provide knowledge and make positive suggestions for strategic change. Therefore, task-related faultlines may positively influence strategic change. When the CEO and TMTs have similar attributes, they communicate based on shared experiences, facilitating information sharing and reducing the likelihood of conflict between subgroups. Therefore, the similarity of CEO-TMT could enhance the relationship between task-related faultlines and strategic change. However, a powerful CEO would encourage conformity by TMTs and exacerbate splits among TMTs. Hence, CEO-TMT power disparity would weaken the positive relationship between task-related faultlines and strategic change. In this study, we sampled Chinese companies publicly listed on the Shanghai and Shenzhen Stock Exchanges during 2015-2018, obtaining data for 1548 firms for our analysis.

This study is structured as follows: Section 2 reviews the literature on the influence of TMT faultlines on strategic change and proposes hypotheses regarding the moderating effects of CEO-TMT similarity and CEO-TMT power disparity. Section 3 outlines the study's data, variables, and empirical methods. Section 4 presents the research findings, and Section 5 discusses the empirical results. Finally, Section 6 presents the conclusions.

Literature Review and Hypothesis Development

TMT Task-related Faultlines and Strategic Change

Strategic changes refer to a firm's alignment with its external environment in changing significant alterations in strategic direction, goals, processes, or structure (Rajagopalan & Spreitzer, 1997; Van de Ven & Poole, 1995). Changes to a company's organizational structure, operational procedures, or resource deployment enable it to adapt to external market opportunities and respond to threats (Greenwood & Hinings, 1993; Hofer & Schendel, 1978). Initiating strategic change also allows firms to improve an organization's capability, gain competitive advantages, and enhance performance (Haveman, 1992; Helfat & Martin, 2015; Kraatz & Zajac, 2001).

Strategic change is typically driven by recognizing the need to adapt to external or internal factors that threaten an organization's sustainability, competitiveness, or growth. The need for a strategy change is brought on by changes in the external environment, such as consumer preferences and competitive pressures. Organizational factors also affect strategic changes, such as the capability to implement the change and openness to innovation, which are also relevant to the implementation of strategic change. Strategic change is a critical decision for a firm and is directed and guided by the executives. Prior studies have emphasized that manager attributes play an essential role in deciding a firm's strategic direction (i.e., Le & Kroll, 2017; Zhang, & Rajagopalan, 2010). The change between the successor and executive members drives the strategic change (Helfat & Martin, 2015; Yu, Lin, & Chang, 2009). UET states managers' characteristics and background affect their decision-making preferences (Hambrick & Mason, 1984). A diverse TMT is more likely to have a broader

perspective for interpreting and evaluating environmental changes, enabling organizations to identify superior alternatives and solutions for responding to a fast-changing environment.

Studies have further suggested that TMT characteristics and member backgrounds may shape the type and characteristics of subgroups in an organization. Faultline studies proposed by Lau and Murnighan (2005) stressed that managers with similar attributes tend to form subgroups in an organization. Group members identify more with individuals in the same subgroup, leading to interpersonal emotional conflicts among groups. These subgroups can result in various types of faultlines, which may affect communication, idea sharing, learning behavior, and novel idea generation within organizations (Bezrukova et al., 2009; Chung, Liao, Jackson, Subramony, Colakoglu, & Jiang, 2015; Gibson & Vermeulen, 2003).

Researchers have demonstrated that faultlines affect strategic decision-making differently depending on whether they are based on demographic characteristics—such as age, educational level, gender, and tenure (Hutzschenreuter & Horstkote, 2013; Wu et al., 2021)—or task-related characteristics. Richard et al. (2019) have claimed that demographic attributes are immutable, and the basis of stereotypes results in relationship-related faultlines. Such faultlines cause distrust and conflict among individuals and subgroups. Studies have also empirically demonstrated that dysfunctional communication and conflict between groups make a firm less agile and, thus, less competitive (Barkema & Shvyrkov, 2007).

Comparing to relationship-related faultlines, scholars have suggested that task-related faultlines positively affect strategic change (Richard et al., 2019). Task-related faultlines are based on differences in professional background, such as tenure and job-related functional background. Subgroups based on task-related faultlines often have

specialized knowledge related to their areas of expertise, which leads to specialized communication in subgroups with shared expertise or interests, enabling a focused sharing of ideas. The subgroups based on shared professional experience have a shared understanding and a common language; this facilitates healthy communication and idea sharing and allows the group to quickly dive deeply into specialized topics. Task-related faultlines can also prevent information overload by enabling members to interact with only those most relevant to their work, improving information processing and decision-making (Ma, Seidl, & Guérard, 2015). This can result in rapid exploration and validation of potential ideas, accelerating a company's ability to respond to rapid changes in the market.

Task-related faultlines that create knowledge-based subgroups result in TMTs being more suitable for specific tasks. Such subgroups more readily express opinions and share knowledge while executing these tasks. By offering unique insights and approaches, different groups can scrutinize the proposed strategies from various perspectives to provide alternatives for responding to a fast-changing environment. The unique insights raised by different subgroups encourage creativity, productive debate, and positive conflict, leading to more efficient strategic change (Carton & Cummings, 2012; Richard et al., 2019). These subgroups are able to focus on specific challenges and provide effective and comprehensive solutions for reacting to quick changes in the environment, which are essential when executing changes in strategy. The subgroup can get complementary opinions from other groups to contribute to high-quality suggestions for strategic change (Werbel & Johnson, 2001). Accordingly, task-related faultlines enable TMTs to provide a deep variety of information to help them better apprehend organizational changes and respond to changes in the business environment.

H1: TMT task-related faultlines would be positively related to strategic change.

Moderating Effect of CEO-TMT Similarity

UET posits that the CEO's role extends beyond mere decision-making; they are pivotal in shaping an organization's strategic direction and resource allocation, and the TMTs follow the CEO's guidelines (Finkelstein & Hambrick, 1990; Hambrick, 1994). CEOs effectively set the course for the TMTs to execute specific strategic actions by providing guidelines and empowerment. This relationship between CEO and TMTs, which is especially pertinent to how the CEO directs senior managers and how the TMTs analyze information, offers the CEO ways to assess the strategic choices.

Studies have noted that the demographic similarities between team members influence how they communicate and share information (Chattopadhyay, Tluchowska, & George, 2004). The CEO and other TMTs will have a greater shared understanding if they have a larger degree of similarity. Similar life experiences and viewpoints may make communication easier and lessen the chance of misunderstanding. The CEO can better integrate the information from different subgroups, transform it into high-quality information, and obtain a more integrated perspective for strategic decision-making. Effective interactions between the CEO and the TMT improve organizational information processing, enabling it to better respond to the business environment.

Georgakakis et al. (2017) indicated that similarities between team members can reduce knowledge fragmentation and promote team cohesion and integration. Studies have also demonstrated that cooperation between the CEO and TMT influences the success of business strategies and shapes strategic choices (Buyl, Boone, Hendriks, & Matthyssens, 2011; Heyden, Reimer, & Van Doorn, 2017). Prior studies claimed that CEO-TMT similarity can facilitate the flow of information among different groups.

Effective information flow between the CEO and the TMT facilitates the formation of consensus and the delivery of effective solutions between subgroups.

In TMTs with strong faultlines, it is easy to shape the identifiable subgroups and the more profound expertise within subgroups. Such subgroups are knowledge-based and have healthy debates with other groups, which may provide positive conflicts (Li & Jones, 2019). While a high level of similarity between the CEO and TMTs facilitates effective communication between TMTs, the similarity benefits interaction and understanding among subgroups. It is easier to integrate the opinions from different knowledge-based subgroups and further contribute to deepening the subgroups' positive strategic suggestions for the organization, thereby enhancing the positive effect between TMT task-related faultiness and strategic change.

In TMTs with weak faultlines, a higher level of CEO-TMT similarity is advantageous for knowledge sharing and learning among subgroups. Greater shared understanding between the CEO and the TMT enables managers from different subgroups to quickly reach consensus and provide effective solutions for responding to organizational change needs. Accordingly, higher CEO-TMT similarity leads to offering integration opinions from different knowledgeable subgroups and responding rapidly. Thus, CEO-TMT similarity could enhance the TMT with task-related faultlines to benefit strategic change.

H2: A greater CEO-TMT similarity would strengthen the positive relationship between TMT task-related faultlines and strategic change.

Moderating Effects of CEO-TMT Power Disparity

The power relationship between the CEO and TMT, namely the CEO-TMT power disparity, affects an organization's task assignments and strategic guidelines.

Power disparity reflects to the differences in position or hierarchy between the CEO and the TMTs. Such different positions arise from the differences in prestige, status, and decision-making authority between the CEO and TMTs, which lead to a separation between the CEO and TMT and affect the process and quality of decision-making in an organization (Hambrick, Humphrey, & Gupta, 2015). Prior research has pointed out differences, especially in vertical status and resources, will cause divisions between CEOs and TMTs (Harrison & Klein, 2007).

A greater power asymmetry between a CEO and TMTs may result in the powerful CEO exercising greater dominance in decision-making (Bourgeois & Eisenhardt, 1988). Dominant CEOs are less open to the opinions of others and tend to override the opinions and advice of managers (Gupta, Han, Nanda, & Silveri, 2018; Tost, Gino, & Larrick, 2012), whether in business operations or strategic decision-making. A greater power disparity enables the CEO to have a lower likelihood of actively listening to the concerns, feedback, and strategic suggestions from the TMTs. The high CEO-TMTs power disparity allows the CEO to make bold decisions and empower less to other TMTs. According to Keltner, Gruenfeld, and Anderson (2003), high-power CEOs give rise to a decreased level of information sharing and mutual communication within teams.

Li and Jones (2019) pointed out that CEO-TMT power disparity allows powerful CEOs to interrupt the exchange of opinions between groups and dominate the opinions, which reduces the challenges and debates between groups. High CEO-TMT power disparity lets CEOs tend to be isolated from the TMTs. Mutual understanding and the sharing of common experiences would also decrease. Studies suggest that weak information sharing between the CEO and TMT members may cause misreading of signals from the external environment and a lack of

responsiveness to the market, which may impede taking competitive actions (Cho & Hambrick, 2006; Li & Jones, 2019).

In TMTs with high faultlines, although the subgroups have professional expertise, the CEO's dominant opinions reduce the subgroups' communication, interaction, and information sharing. Greater disintegration in the TMTs results in more difficulty integrating information and implementing strategic change. Therefore, there will be dysfunctional communication and low knowledge integration between subgroups, which are disadvantages for the firm to quickly adapt to the necessity of organizational changes and external environmental pressures. In the TMTs with low faultlines, there is low social identity between the subgroups, which allows the subgroups to have more interaction and information exchange to reach a consensus. However, high CEO-TMT power disparity allows powerful CEO requests and interrupts more in TMTs' strategic suggestions, leading to reduced information exchange. Managers are less capable of responding to rivals' actions appropriately, which results in the decision-making team responding to markets slowly and failing to meet the need for strategic change (Hambrick et al., 1996). Accordingly, the CEO-TMT power disparity will damage a positive relationship between TMT faultlines and strategic change.

H3: A greater CEO-TMT power disparity would weaken the positive relationship between TMT task-related faultlines and strategic change.

Methods

Data and Sample

Data for Chinese companies that had been continuously listed on the Shanghai and Shenzhen Stock Exchanges during the 2015-2018 period were sampled. Data on

variables related to CEO and TMT characteristics (e.g., education level and functional background) and control variables (e.g., total assets and number of employees) were collected from the China Stock Market & Accounting Research (CSMAR) Database. Other researchers have used the CSMAR database to investigate the relationship between TMT backgrounds and strategic change implementation (Ma, Zhang, Zhong, & Zhou, 2020). However, some companies did not have sufficient data regarding the TMT's functional background attributes or strategic changes (e.g., inventory levels and plant and equipment newness). After matching and deleting cases with missing values, the final sample comprised 3954 observations of 1548 firms. In addition, this research focuses on the effect of faultlines, which divide teams into a few subgroups. Studies suggest that at least two persons must be present in each subgroup to maintain meaningful distinctions (Thatcher et al., 2003). We analyzed the firms with a TMT between four and six members from 2059 observations of 1046 firms. The effects of TMT interpersonal interactions on strategic change may not occur in a short time; therefore, a 1-year gap was implemented. Specifically, the independent, moderating, and control variables were measured for year t but were associated with the dependent variable (strategic change) for year $t + 1$.

Dependent Variables

Strategic Change

Resource reallocation is necessary for implementing strategic change (Zhang, 2006). We followed the method of Carpenter (2000) and Weng and Lin (2014) and used financial indicators to reflect a firm's resource allocation decisions and its strategic profile over time. Prior studies have used these indicators to capture changes in six areas

of strategic change (Carpenter, 2000; Finkelstein & Hambrick, 1990; Triana Miller, & Trzebiatowski, 2014; Zhang, 2006). These indicators were advertising intensity (advertising expenses to total sales ratio), R&D intensity (R&D expenses to total sales ratio), inventory levels (inventories to net sales ratio), plant and equipment newness (net plant and equipment or gross plant and equipment), nonproduction overhead (selling, general, and administrative expenses to total sales ratio), and financial leverage (debt to total assets ratio). We calculated six areas of strategic change between the two years, which allows us to obtain the changes in six areas. We created a z-score for each area and averaged the six areas into a single value to represent the degree of strategic change.

Independent Variable and Moderating Variables

TMT Task-related Faultlines

Prior studies have found that functional background experience affects how a manager processes information when problem-solving to enhance the mutual understanding between the personnel with different task functions (Cannella Jr et al., 2008). We followed Tihanyi et al. (2010) to classify the functions played by managers in the organization into general business, engineering, finance and accounting, marketing and public relations, research and development, production and operations, and legal roles. These indicate the primary area of functional experience for each manager's group.

International experience relates to the ability and attitude to work with uncertainty and take risks (Carpenter & Fredrickson, 2001). Managers may adopt different risk-taking attitudes to cope with the uncertainties of strategic change. We measured international experience as a binary variable indicating whether a manager had studied

abroad; 0 indicated no study abroad experience, and 1 indicated study abroad experience. Moreover, the educational level also indicates the knowledge and skills of a manager, which are highly related to professional positions. A manager's knowledge base represents how they were trained to interpret information and solve complicated problems, which reflects their capabilities for responding to a changing market. The capabilities of managers and how they interpret information may also lead them to belong to some subgroups in the organization rather than another. We followed Barkema and Shvyrkov (2007) in identifying a manager's education level as a three-level categorical variable with values of 0 = no university degree, 1 = university degree, and 2 = above master's degree. Finally, from these three task-related characteristics, TMT task-related faultlines were calculated with the Faug formula developed by Thatcher et al. (2003) from multivariate statistical clustering analysis.

$$Faug = \left(\frac{\sum_{j=1}^p \sum_{k=1}^2 n_k^g (\bar{x}_{jk} - \bar{x}_{\bullet j})^2}{\sum_{j=1}^p \sum_{k=1}^2 \sum_{i=1}^{n_k^g} (x_{ijk} - \bar{x}_{\bullet j})^2} \right) \quad g = 1, 2, \dots, S$$

where x_{ijk} represents the value of the j th characteristic for each individual i in the task-related characteristic subgroup k , $\bar{x}_{\bullet j}$ denotes the team's mean for the characteristic j , $\bar{x}_{jk}$ indicates the mean of characteristic j in the k th task-related characteristic subgroup, and n_k^g is the total number of members in the k th task-related characteristic subgroup as of split g . Faultline strength was subsequently measured as the highest value of $Faug$ based on all potential splits $g = 1, 2, \dots, S$. Prior studies have applied a similar approach to examine the relationship between TMT task-related faultlines and strategic changes (e.g., Hutzschenreuter & Horstkotte, 2013; Georgakakis et al., 2017).

CEO-TMT Similarity

We calculated a similarity score from two background demographics, age and gender; these were also applied by Georgakakis et al. (2017) to capture CEO-TMT sociodemographic similarity. Scholars have suggested that, compared with experiential and educational backgrounds, demographic backgrounds can better reflect the social identities of individual executives and effectively explain the mutual attraction of demographically similar executives (Crucke & Knockaert, 2016).

In this study, we calculated CEO-TMT similarity based on the similarity in age and gender of all of the CEO-TMT member dyads (Georgakakis et al., 2017; Ling et al., 2015). Age similarity between the CEO and the TMT was calculated with the distance formula $\sqrt{\sum((x - x_i)^2/(n - 1))}$ (Westphal & Zajac, 1995). Here, x represents the age of CEO, x_i represents the age of each non-CEO executive i of the TMT, and n is the number of TMT members. After obtaining the values of distance, we reversed the value to represent age similarity. We find the highest value observed in the age similarity variable. This value serves as a reference point for calculating the reversed values. Then, we are subtracting the original similarity value from the reference point. It results in the individual obtaining the highest value from the reference point, which indicates that the CEO and TMTs had the highest similarity, and those who obtained the lowest value from the reference point represented the lowest similarity between the CEO and TMTs.

CEO-TMT gender similarity was measured as P_i^2 , the proportion of TMT members that share the same gender category i with the CEO. The value of CEO-TMT gender similarity was between 0 and 1. Finally, we standardized age similarity and gender similarity and then averaged the two variables in a composite variable to capture CEO-TMT similarity.

CEO-TMT Power Disparity

Studies have stated that differences in salary are reflective of CEO-TMT disparity (i.e., Carpenter, 2002; Carpenter & Sanders, 2002). The difference in compensation between the CEO and the TMT reflects the leaders' relative power and importance to the organization (Abebe et al., 2011). We followed Li and Jones (2019) to measure the difference in pay between the CEO and other non-CEO compensated executives in the TMTs. The power disparity of CEO-TMT was calculated as

$$\sqrt{\frac{1}{n} \sum_{i=1}^n (S - S_i)^2}$$

where S is the CEO's compensation, S_i is the compensation of each non-CEO executive i of the TMT, and n is the number of TMT members.

Control Variables

We incorporated several control variables to account for factors that could affect our results. *Firm performance* was included to control the probability of strategic change. Studies have noted that firms often adjust their strategies in response to poor performance (Johnson, 1992). We used return on assets to capture firm performance. Consideration of a firm's response to the environment change, we also control the variance of industry growth. Furthermore, a firm with a longer established history is likely to have a higher ability to respond to change and cope with a dynamic environment. Therefore, we defined *firm age* as the natural logarithm of the number of years since the firm was established. *Firm size* was also included as a control variable because larger firms typically have more resources and a better ability to make strategic changes (Barker & Mueller, 2002). We calculated the natural logarithm of a firm's total asset to capture a firm's size.

To control for variances in TMT functional background composition, we used the focal firm's *TMT functional background heterogeneity* to capture the TMT functional diversity of a firm. Employing Blau's (1977) heterogeneity measure, we calculated TMT functional background heterogeneity as $1 - \sum(P_i)^2$, where i is the proportion of the team in the i th functional category. *Industry growth* was measured by dividing the difference between the current and previous total sales by the previous period total sales amount of each industry. The natural logarithm of industry growth was transformed. Industry dummy variables were included to control possible effects of the firm's industry. We coded *industry dummy* as 1 if the firm is in the electronic industry and as 0 if otherwise. Finally, a dummy variable for the year, *year dummy*, was included. We also drew the research framework to show the relationship between variables (see Figure 1).

Figure 1 about here

Results

Table 1 displays the correlations and descriptive statistics for the main variables in this study. In our sampled companies, on average, a firm has 4464.7 employees and has been established for 18.51 years. We mean-centered the main variable and moderating variables before building the interaction terms to avoid a high correlation between them. As indicated by the matrix in Table 1, all the pairwise correlations were low.

Table 1 about here

The endogeneity problem may result in a possible causality between faultlines and strategic change. Some specific TMT backgrounds may be associated with the strength of the faultlines, affecting strategic change. We adopted the Heckman selection model to address endogeneity. In the first stage, a probit model was used to estimate the probability of an observation. The inverse Mills ratio was generated to account for potential biases. We added the inverse Mills ratio in the second stage to correct for possible biases; the inverse Mills ratio should be insignificantly related to strategic change. TMT size (measured as the number of TMT members) and the average industry TMT functional background diversity were included in the first stage. The task-related faultlines among the members are affected by the size of the TMT. For a larger number of managers, the probability of having members with divergent viewpoints is higher; thus, subgroups are more likely to form. Moreover, the functional background heterogeneity of TMTs affects the level of faultlines; this heterogeneity may vary between industries. We control the two variables that may influence members to form subgroups in the TMT but may not directly affect strategic change. The correction revealed in Table 1 showed that TMT size and industry functional background diversity were not significantly correlated with strategic change, which represents statistically appropriate exclusion restrictions (see Table 1). Furthermore, the regression results in Table 2 indicate that the inverse Mills ratios generated from the first-stage regression model were insignificantly correlated with strategic change in the second stage.

Model 1 is the baseline model that includes the control variables. We run ordinary least squares regression to test the proposed hypothesis. The results indicated that firm performance was negatively associated with strategic change ($\beta = -.194, p < .001$),

implying that an underperforming company was more likely to implement a strategic change. We also found that firm size was negatively associated with strategic change ($\beta = -.022, p < .001$). This result indicates that smaller firms are more flexible and likely to initiate strategic change. In Model 2, we included the control variables and the independent variable, TMT task-related faultlines, in the analysis. CEO-TMT similarity and power disparity were included as moderating variables in Model 4 and Model 5, and Model 6 is the full model, including all variables.

The result in the Model 2 shows the coefficient of TMT task-related faultlines was positively related to strategic change ($\beta = .022, p < .1$). The findings for Model 3 suggested that CEO-TMT similarity was positively related to strategic change ($\beta = .173, p < .05$), and CEO-TMT power disparity was negatively associated with strategic change ($\beta = -.013, p < .001$). The full model in Model 6 includes all independent variables and moderating variables. The sign of each variable was the same as that of the corresponding variable in each prior model, representing consistent results across models. In Model 6, The result indicates that a firm with greater task-related faultlines is more likely to implement a strategic change ($\beta = .023, p < .1$). Therefore, H1 was supported. The findings also indicate that the moderating effect of TMT task-related faultlines and CEO-TMT similarity was insignificantly related to strategic change ($\beta = .004, p > .001$). Therefore, our H2 is not supported. This finding of the moderating effect of TMT task-related faultlines and CEO-TMT power disparity was negatively related to strategic change ($\beta = -.011, p < .01$). The result represents that the CEO-TMT power disparity may mitigate the positive relationship between TMT task-related faultlines and strategic change. Therefore, H3 is supported.

Table 2 inserts about here

Discussion

This study identified a positive relationship between task-related faultlines and strategic change. This finding is consistent with those of Hutzschenreuter and Horstkotte (2013) and Richard et al. (2019) who found that task-related faultlines shaped by functional background positively affect strategic change. The TMT task-related faultlines enable the TMTs to share their perspectives from different functional backgrounds and increase a firm's knowledge diversity. We investigated listed Chinese firms from 2015 to 2018; these data are more recent than those used by Richard et al. (2019). Our data across 2015-2018 captured the dynamic business environment in China. The TMTs may have more divergent perspectives when interpreting information from the changing business environment. Our empirical evidence suggests that, with more significant environmental changes, a greater split among the functional subgroups of TMTs could provide more diverse ideas for selecting strategic directions for responding to a rapidly changing market.

Scholars stress that the CEO-TMT interaction affects the work of TMT subgroups (Carton & Cummings, 2012). The negative effect of subgroups may be weakened due to the CEO participating in information sharing and integration at the team level, thereby fostering strategic change. However, our findings did not find the consistent results of prior studies (i.e., Georgakakis et al., 2017). Our results imply that a CEO has a closer relationship with specific subgroups due to shared similarities, which would create imbalances between subgroups, and specific subgroups may perceive favoritism from the CEO, which leads to interpersonal and relational conflicts between subgroups. This situation would increase subgroup opposition and conflicts

that may deter information sharing, communication, and teamwork, which do not allow the TMTs to initiate strategic change in a firm.

This study found that CEO-TMT power disparity was negatively related to strategic change. The result indicates that a CEO's strong interaction and mediation with managers may raise different perspectives and ideas in strategic suggestions when implementing strategic change. Such disagreements affect the TMTs' consensus, maintaining the future strategic direction. Therefore, a more significant CEO-TMT power disparity may mitigate the positive relationship between TMT task-related faultlines and strategic change.

Theoretical Implications

Our proposed relationship provides evidence supporting the claim that TMT attributes influence strategic action. The finding indicates that diverse TMTs may build task proficiency because of social identity. When a company launches a strategic change to react to a fast-changing market, recognizing the beneficial impact of TMT task-related faultlines on strategic change might increase comprehension of information exchange and communication. The study contributes to the understanding of how task-related faultlines within TMTs positively influence strategic change. It extends UET by highlighting the importance of considering TMT traits and the faultlines or subgroups that emerge based on those traits. This research expands on existing literature by demonstrating that task-related faultlines within the TMT foster constructive debate and knowledge sharing, which are essential for implementing strategic changes, which extends the prior faultlines research and sheds light on the horizontal relationship between TMTs (i.e., Richard et al., 2019). The finding is also consistent with that of Richard et al. (2019), who found a positive effect of task-

related faultlines on changes in strategic direction. Scholars have suggested that task-related faultlines must be considered when examining the influence of TMT attributes on strategic direction and performance (Barkema & Shvyrkov, 2007; Hutzschenreuter & Horstkotte, 2013).

Our research also contributes to the literature on faultlines by examining the vertical interaction between the CEO and TMT and the typical horizontal interactions among TMT members. Our study shows that power disparity moderates the relationship between TMT faultlines and strategic change. It reveals that CEO-TMT power disparity can weaken the positive effects of task-related faultlines by potentially aggravating conflicts within subgroups. A more significant power disparity can limit the effectiveness of information-sharing and strategic decision-making (Georgakakis et al., 2017). Few studies have examined the effect of TMT faultlines and CEO interactions on strategic change. We contribute by considering the vertical interactions of the CEO with the TMTs for a better understanding of how TMT divisions affect strategic change. Our research incorporated vertical perspective emphasizes the critical role of CEOs in shaping strategic outcomes, thereby extending the UET by incorporating vertical dynamics alongside traditional horizontal TMT interactions.

In addition, we also bridged the gap between UET and faultline research by integrating insights from both perspectives. It considers the CEO's pivotal role and vertical influence on TMTs, as emphasized in UET, while also accounting for the subgroup dynamics highlighted in faultline research. Our research findings provide insights into how TMT interaction dynamics influence the effectiveness of diverse managers interaction in driving strategic change.

Practical Implications

Understanding TMT task-related faultlines would enable organizations to improve their decision-making processes when initiating strategic change. Enhancing TMT task-related faultlines is essential in this process. Creating groups with diverse skill sets, task backgrounds, expertise, and specializations is essential for affecting TMT task-related faultlines. The CEO should be well acquainted with the knowledge, information, and interactive relationships of and among TMTs. Deepening and specializing functional backgrounds to shape TMT composition could support changes in strategic direction.

Creating diversity in cross-functional teams when implementing a strategic change is critical for leveraging various perspectives and skill sets. CEOs should act carefully to reduce the likelihood of conflict between subgroups due to attribute similarity, as relationship conflicts would be an obstacle to organizational change. Leaders should actively manage the interactions between these subgroups to ensure that these groups are aligned with the overall strategic direction.

Conclusion

This study examined the determinants that affect strategic changes in response to rapid environmental changes. We focused on the influence of TMT task-related faultlines and CEO-TMT interactions on strategic change. Data from listed Chinese companies from 2015 to 2018 were analyzed to demonstrate the positive impact of task-related faultlines on strategic change. We also found that CEO-TMT power disparity weakens the positive relationship between TMT task-related faultlines and strategic change.

This study has several limitations. Other factors that may affect strategic change could be investigated in future studies, such as those related to organizational design and organizational structure. We focused on the effects of functional background on task-related faultlines, but researchers could also examine the effects of faultlines based on age or gender on strategic change. In addition, we used studying-abroad experience to measure international experience; future studies can use prior work abroad experience or expatriate experience to capture international expertise. Finally, our samples were listed companies in China, and Chinese culture tends toward group harmony and the collective over the individual. Future researchers could consider conducting comparative studies across countries with different levels of power distance to enhance research generalizability.

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Table 1: Descriptive statistics and correlation matrices

	Mean	S.D.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Strategic Change	0.107	0.168	1.000									
2. Firm Performance	0.036	0.068	-0.083*	1.000								
3. Firm Age	18.510	5.087	-0.055*	-0.043	1.000							
4. Firm Size ^a	22.145	1.084	-0.146*	0.043	0.142*	1.000						
5. TMT Functional Background Heterogeneity	0.397	0.208	-0.056*	0.008	-0.134*	-0.066*	1.000					
6. Industry Growth	0.153	0.127	-0.036	-0.030	0.135*	0.133*	-0.035	1.000				
7. TMT Task-Related Faultlines	0.464	0.274	0.012	0.029	-0.126*	-0.041	0.380*	0.021	1.000			
8. CEO-TMT Similarity	0.057	0.047	0.060*	-0.003	-0.014	-0.156*	0.037	-0.011	0.111*	1.000		
9. CEO-TMT Power Disparity	8.063	1.202	-0.115*	0.122*	0.075*	0.194*	-0.042	0.032	0.046*	0.094*	1.000	
10. TMT Size	5.001	0.805	-0.021	0.004	-0.053*	0.112*	0.057*	0.019	0.030	0.046*	0.113*	1.000
11. Industry level TMT Functional Background	0.337	0.092	0.000	-0.111*	-0.109*	-0.020	0.168*	-0.031	0.076*	0.021	-0.030	-0.030

* Correlation is significant at the 0.05 level; ^a Natural logarithm was used

Table 2: Regression results for TMT task-related faultlines, CEO-TMT similarity, CEO-TMT power disparity, and strategic change

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Firm Performance	-0.200*** (-3.67)	-0.202*** (-3.72)	-0.176** (-3.22)	-0.205*** (-3.77)	-0.177** (-3.24)	-0.173** (-3.16)
Firm Age	-0.002* (-2.16)	-0.001* (-2.03)	-0.001* (-1.87)	-0.002* (-2.04)	-0.001* (-1.83)	-0.001* (-1.95)
Firm Size ^a	-0.022*** (-6.33)	-0.022*** (-6.31)	-0.018*** (-5.10)	-0.021*** (-5.95)	-0.019*** (-5.57)	-0.018*** (-5.08)
TMT Functional Background Heterogeneity	-0.058** (-3.22)	-0.069*** (-3.56)	-0.072*** (-3.76)	-0.070*** (-3.61)	-0.073*** (-3.78)	-0.072*** (-3.74)
Industry Growth	-0.039 (-1.19)	-0.042 (-1.27)	-0.044 (-1.34)	-0.043 (-1.29)	-0.045 (-1.36)	-0.043 (-1.30)
Industry Dummy	included	included	included	included	included	included
Year Dummy	included	included	included	included	included	included
Inverse Mills Ratio	0.005 (0.16)	0.005 (0.17)	0.004 (0.12)	0.007 (0.21)	0.001 (0.02)	0.003 (0.10)
TMT Task-Related Faultlines		0.022 ⁺ (1.55)	0.023 ⁺ (1.61)	0.021 ⁺ (1.45)	0.027** (1.83)	0.023 ⁺ (1.59)
CEO-TMT Similarity			0.173* (2.17)	0.167* (1.97)		0.174* (2.19)
CEO-TMT Power Disparity ^a			-0.013*** (-4.09)		-0.012*** (-3.77)	-0.012*** (-3.91)
TMT -Related Faultlines*CEO-TMT Similarity				-0.005 (-1.15)		0.004 (0.82)
TMT-Related Faultlines*CEO Power Disparity					-0.000 (-0.12)	-0.011** (-2.23)
Constant	-11.98 (-1.12)	-12.26 (-1.15)	-13.46 (-1.26)	-11.78 (-1.10)	-13.94 (-1.31)	-13.32 (-1.25)
F-value	9.19***	8.44***	8.74***	7.29***	8.30***	7.82***
Adj R ²	0.031	0.036	0.045	0.038	0.043	0.047
△Adj R ²		0.01** ^b	0.008*** ^c	0.002 ⁺ ^c	0.006** ^c	0.001 ^d 0.003*** ^e 0.007*** ^f

t statistics in parentheses; ⁺ $p < .1$; * $p < .05$, ** $p < .01$, *** $p < .001$; One tailed test; ^a Natural logarithm was used; $N = 2059$.^b Compared to model 1; ^c compared to Model 2; ^d compared to Model 3; ^e compared to Model 4; ^f compared to model 5

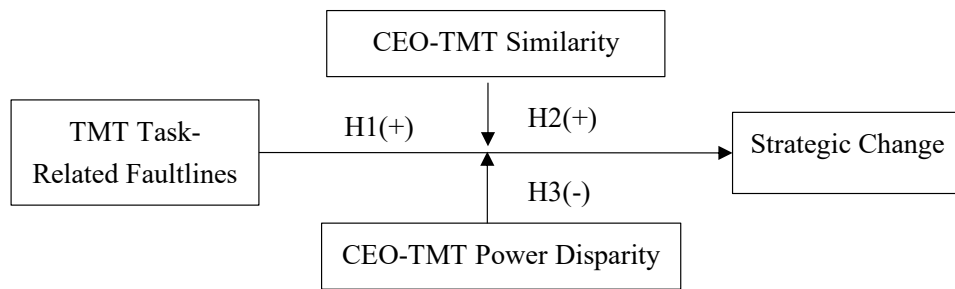


Figure 1 Research Framework