



TMT conflict, organizational structure, and entrepreneurial orientation: An attention-based view[☆]

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ABSTRACT

Drawing on the attention-based view, this study investigates the linkage of top management team (TMT) conflict to entrepreneurial orientation (EO) and the moderating effect of organizational structure in terms of formalization and centralization on the linkage. It finds that TMT cognitive conflict is positively related to EO, while affective conflict is negatively related to it. Furthermore, formalization positively moderates the linkage of TMT cognitive conflict to EO, while negatively moderates the negative linkage of TMT affective conflict to EO. Moreover, centralization does not significantly moderate the linkage of either TMT cognitive or affective conflict to EO. This study enriches our knowledge of the antecedents of EO, improves our understanding of the value of TMT conflict by distinguishing between TMT cognitive conflict and affective conflict, and introduces a novel insight—the attention-based view—to elaborate the TMT conflict-EO linkage.

1. Introduction

Entrepreneurial orientation (EO), which refers to a firm's strategic posture toward innovation, proactiveness, and risk-taking (Covin & Slevin, 1989; Miller, 1983), has been evidenced as a key source of the firm's competitive advantage (Leunbach, 2021; Pettersson, Ahl, Berglund, & Tillmar, 2017). However, there is a high variation in the manifestation of EO across firms, making what are the antecedents of EO an intriguing research question (Cao, Simsek, & Jansen, 2015; Pittino, Barroso Martínez, Chirico, & Sanguino Galván, 2018). Scholars have explored the antecedents of EO from several aspects, such as corporate governance, human resource management, leadership, social network, firm resources, and environmental factors.¹ As principal decision-makers, top management teams (TMTs) direct entrepreneurial initiatives and offer support for entrepreneurial behaviors (Wales, Covin, & Mosen, 2020). Thus, they strongly matter to EO (Boling, Pieper, & Covin, 2016). To clarify the roles of TMTs in EO, scholars have examined some TMT-related factors, such as demography, capacity, compensation, and human and social capital (Boling et al., 2016; Cao et al., 2015; Wales, Parida, & Patel, 2013). While such studies have shed light on the effect of TMTs on EO, few have considered TMT conflict,

which "is inevitable in any TMT" (Wang, Su, & Guo, 2019, p. 87), constituting a serious research gap.

To address the research gap, this study explores the linkage of TMT conflict to EO drawing on the attention-based view (ABV), which contends that a firm's strategy is the result of how the firm's decision-makers distribute their attention (Ocasio, Laamanen, & Vaara, 2018). Specifically, the ABV highlights that "what decision-makers do depends on what issues and answers they focus their attention on" (Ocasio, 1997, p. 189–190). TMT conflict affects a TMT's allocation of its attention towards entrepreneurial posture and in turn affects EO (Joseph & Wilson, 2018). TMT conflict is divided as cognitive and affective conflict. Cognitive conflict, which derives from discrepancies in perspectives, can broaden a TMT's attention scope and reconcile distributed attention (Boling & Vecchiarini, 2020; Jehn, 1995; Joseph & Wilson, 2018). Rather, affective conflict derives from personalized disaffection (Amazon, 1996). It often narrows TMTs' attention scope and aggravates distributed attention (Boling & Vecchiarini, 2020; Wang et al., 2019). Thus, this study considers both types of TMT conflict and explores how they are related to EO.

Moreover, the ABV suggests that how decision-makers allocate their attentions "depends on the particular setting they are located in"

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¹ For details, please see literature reviews of Covin and Wales (2019), Pittino, Visintin, and Lauto (2017), and Wales (2016).

(Ocasio, 1997, p. 190). Thus, the effect of TMT conflict on EO may be context-specific. Existing literature has indicated that organizational structure can “shape the noticing, interpreting, and focusing of time and effort by organizational decision makers on problems and solutions” (Joseph, Klingebiel, & Wilson, 2016, p. 1068). Thus, organizational structure, which reflects a critical context in which a TMT is embedded, may moderate the linkage of TMT conflict to EO. Formalization and centralization have been widely used as two key characteristics of organizational structure (Jansen, Van Den Bosch, & Volberda, 2006). For instance, Liu, Lv, Ying, Arndt, and Wei (2018) find that centralization and formalization moderate the effect of improvisation on innovation capability. Yang, Dess, and Robins (2019) find that formalization and centralization moderate the EO-performance linkage. Following them, we also adopt formalization and centralization to reflect organizational structure and explore their moderating effects to draw a more comprehensive picture of the linkage of TMT conflict to EO. The research model is presented in Fig. 1.

Using data of 249 manufacturing firms, this study finds a positive linkage of TMT cognitive to EO while a negative one of TMT affective conflict to EO. Moreover, formalization positively moderates the TMT cognitive conflict-EO linkage but negatively moderates the linkage of TMT affective conflict to EO. In addition, centralization does not significantly moderate either linkage. This study makes three contributions to the literature. First, it identifies TMT conflict as a novel TMT-related antecedent of EO, advancing the knowledge on both the TMT-EO linkage and the antecedents of EO. Second, through distinguishing between the implication of TMT cognitive and affect conflict to EO, this study improves our understanding of the implication of TMT conflict. Third, this study introduces the ABV into the EO research and illustrates TMTs’ attentional processing in entrepreneurial posture under different organizational structures, laying a novel avenue for the EO research.

2. Literature review and hypotheses development

2.1. EO and TMTs

While extant studies suggest that EO involves three dimensions: innovation, proactiveness, and risk-taking (Anderson, Kreiser, Kuratko, Hornsby, & Eshima, 2015), we adopt it as a unidimensional concept for two reasons. First, drawing on EO’s definition that a firm’s strategic posture toward innovation, proactiveness, and risk-taking (Covin & Slevin, 1989; Miller, 1983), EO is often taken as “a sustained firm-level attribute represented by the singular quality that risk taking, innovative, and proactive behaviors have in common” (Covin & Lumpkin, 2011, p. 863). Second, through reviewing prior EO literature, Wales, Gupta, & Mousa (2013, p. 366) find that “123 of 158 empirical studies have employed a unidimensional construct of EO”, pointing out the

popularity of combing three dimensions into a unidimensional conceptualization.

EO helps pursue new opportunities and develop sustainable advantages, and it therefore has been well evidenced as a critical source of superior performance (Calabrò, Santulli, Torchia, & Gallucci, 2021). However, firms vary significantly in the exhibitions of EO (Bureau & Zander, 2014). For instance, certain firms are proficient in performing entrepreneurially, while others behave poorly in pursuing innovation, undertaking risks, and operating proactively (Covin & Lumpkin, 2011). Hence, scholars call for identifying the origins of this variation in EO among firms (Cao et al., 2015; Pittino et al., 2018), making what are the antecedents of EO an intriguing research question.

Extant literature has examined a wide range of constructs as the antecedents of EO, such as corporate governance, human resource management, leadership, social network, firm resources, and environmental factors (Wales et al., 2013). Besides these factors, TMTs also have prominent effects on EO, because TMTs direct entrepreneurial initiatives and provide supports for entrepreneurial behaviors (Wales et al., 2020). Scholars have linked several TMT-related factors with EO, including TMT demography, capacity, compensation, social capital, human capital, and so on (Sciascia, Mazzola, & Chirico, 2013; Van Doorn, Heyden, & Volberda, 2017). While these studies have proved that TMTs have strong effects on entrepreneurial activities, it is vital to investigate the role played by more TMT-related factors to elaborate on the TMT-EO linkage. Since conflict is inevitable among top management team (Parayitam & Dooley, 2009; Wang et al., 2019), TMT conflict may matter to EO. Yet, few studies have considered TMT conflict, which reflects a serious research gap (Wales et al., 2013).

2.2. TMTs and the attention-based view (ABV)

This study posits that the ABV can shed light on how TMTs matter within a firm. Particularly, since attention is defined as the noticing, encoding, interpreting, and focusing of time and effort by decision makers, the ABV states that a firm’s strategy is a pattern of organizational attention and TMTs are the critical players in organizational attention regulation towards strategy making (Holm, Drogendijk, & Ul Haq, 2020; Ocasio et al., 2018; Ocasio, 1997). Entrepreneurial decisions are vague and complex and hence the communications and interactions among TMT members are necessary to reach a consensus on entrepreneurial decisions (Calabrò et al., 2021; Parayitam & Dooley, 2009). However, as Blankenburg Holm, Drogendijk, and Haq (2020) suggest that TMTs typically have imperfect and divergent attention patterns, they can hardly be dedicated equally to every entrepreneurial issue (Joseph & Wilson, 2018). Hence, this study suggests that the roles played by TMTs in EO depend on how much attention TMTs allocate to make and implement entrepreneurial decisions. The ABV, hence, is

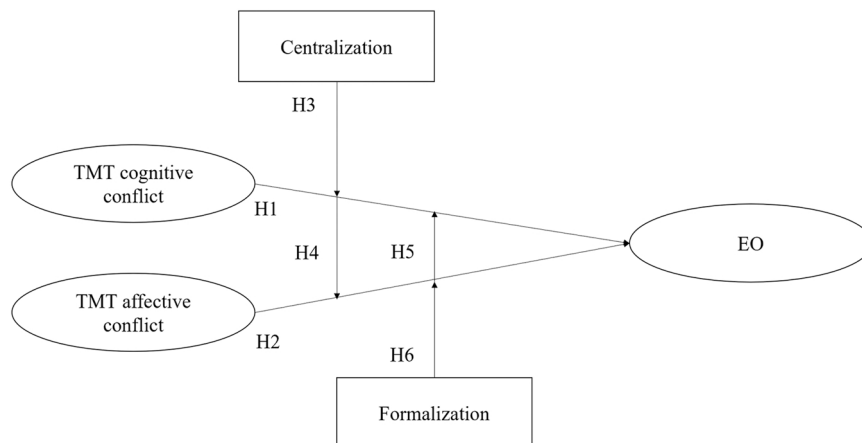


Fig. 1. The research model.

insightful to illustrate the effects of TMTs on EO, implying that it is appropriate to be adopted as the theoretical foundation of this study.

The ABV has two principles that are critical for the study. The first one reflects the “*focus of attention*”, which contends that “what decision-makers do depends on how they selectively focus on certain characteristics of the organization and its environment and ignore others” (Ocasio, 1997, p. 203). Since “...different strategic themes emerge and compete for the attention of the decision-makers...” (Ocasio et al., 2018, p. 163) and TMTs have imperfect and divergent attention patterns toward multiple entrepreneurial decisions (Joseph & Wilson, 2018), TMT conflict is not avoidable when TMTs communicate and make decisions on entrepreneurial initiatives (Parayitam & Dooley, 2009; Wang et al., 2019). Extant studies have examined the effects of TMT conflict on various decisions. For instance, Wang et al. (2019) find that TMT conflict matters to exploratory innovation. Su, Yang, and Wang (2020) suggest that conflict generated from TMT shared vision and heterogeneity may affect entrepreneurial decision-making process. Diáñez-González and Camelo-Ordaz (2016) argue that TMT conflict resulting from team heterogeneity affects a firm’s entrepreneurial potential. Overall, given that EO represents a strategic posture favoring entrepreneurial activities (Wales et al., 2013), TMT conflict, which represents the discrepancies among TMTs’ functional focuses (Wang et al., 2019), may have a prominent effect in regulating TMTs’ attention, then affecting EO. Thus, this study focuses on TMT conflict to investigate the role of TMTs in EO.

The second principle of the ABV is “*situated attention*”, arguing that “what decision-makers focus on, and what they do, depends on the particular setting they are located in” (Ocasio, 1997, p. 190). The heterogeneity of decision-makers’ attention is associated with “the characteristics of situations rather than characteristics of the individuals per se” (Ocasio, 1997, p. 190). Thus, TMTs’ attentional foci heavily depend on the situational context in which they are located; the linkage of TMT conflict to EO is, thereby, context-specific. Prior studies have indicated that organizational structure constrains how TMTs distribute their attention (Joseph et al., 2016). Thus, to elaborate on the linkage of TMT conflict to EO, drawing on the ABV, we further take the moderating effect of organizational structure into consideration (Joseph & Wilson, 2018; Ocasio, 1997; Su et al., 2019).

2.3. The impact of TMT cognitive conflict on EO

TMT cognitive conflict derives from the diversity of top managers’ perspectives on a task’s content per se, which is also named as functional, task, or constructive conflict in previous studies (Torchia, Calabro, Gabaldon, & Kanadli, 2018; Wang et al., 2019). As a fruitful source of various skills and perspectives, TMT cognitive conflict is characterized by purposeful discussions on strategic issues (Van Doorn et al., 2013). These diverse perspectives allow “the refining of goals and strategies by considering options in a more comprehensive manner” (Sanchez-Famoso, Pittino, Chirico, Maseda, & Iturralde, 2019, p. 4). Thus, cognitive conflict broadens TMTs’ attention scope and reconciles distributed attention (Van Doorn et al., 2013).

We posit that TMT cognitive conflict has a positive linkage with EO for two reasons. First, cognitive conflict makes top managers extend their attention scope to assess a greater number of entrepreneurial initiatives and guide them to act entrepreneurially (Tuggle, Schnatterly, & Johnson, 2010). Specifically, cognitive conflict encourages TMTs to exchange entrepreneurial information, gives TMTs a priority to access a broader repertoire of expertise, and enhances the availability of entrepreneurial agendas (Qian, Cao, & Takeuchi, 2013). These benefits help TMTs allocate their attention to various entrepreneurial issues and then widen their attention scope of entrepreneurial options (Su et al., 2020). The broader attention scope is critical for the enactment of EO because it allows TMTs to identify promising opportunities, assess a greater number of entrepreneurial initiatives, and facilitate innovative and risky endeavors to champion EO (Boling et al., 2016). For instance, Boling and

Vecchiarini (2020) suggest that high levels of cognitive conflict caused by TMT heterogeneity generate productive debates leading to entrepreneurial actions. Olson, Parayitam, and Bao (2007) indicate that cognitive conflict creates a conduit to appropriate the benefits of cognitive diversity to effective decision making. Hence, we suggest that TMT cognitive conflict enables a broader attention scope toward entrepreneurial initiatives and drives firms to behave more entrepreneurially.

Second, TMT cognitive conflict decreases the fragmented attention among TMTs. Characterized by comprehensive information exchange, cognitive conflict encourages problem-solving and fosters top managers to explore deeply on entrepreneurial initiatives (Parayitam & Dooley, 2009). By synthesizing various alternatives into a single decision, TMT cognitive conflict creates the potential to achieve high-quality communications (Boling & Vecchiarini, 2020). This helps reconcile distributed attention and provides a conduit to reach a stronger consensus on EO (Su et al., 2020), when TMTs are overloaded with distracting sources of entrepreneurial stimuli and suffer from distracted attention (Ren & Guo, 2011). Channeling distributed attention is especially important for TMTs to assess and exploit entrepreneurial opportunities (Van et al., 2013), because the engagement in innovative, proactive, and risky endeavors is not immediately successful but requires sustainable attention (Boling & Vecchiarini, 2020). The literature also shows that cognitive conflict stimulates entrepreneurial initiatives by integrating knowledge, capturing the benefits of cognitive diversity, and achieving a better understanding of entrepreneurial issues (Olson et al., 2007; Sciascia et al., 2013). For instance, Diáñez-González & Camelo-Ordaz (2016, p. 541) suggest that cognitive conflict can promote effective identification and creative exploitation of entrepreneurial opportunities and thus foster EO. Overall, we expect that TMT cognitive conflict reconciles distracted attention and then triggers EO.

Considering the two potential mechanisms (a wider attention scope and the decreasing distracted attention) simultaneously, we posit that TMT cognitive conflict will exhibit a positive relationship with EO.

Hypothesis 1. TMT cognitive conflict is positively related to EO.

2.4. The impact of TMT affective conflict on EO

Affective conflict derives from personalized incompatibilities, disaffection, or disputes, which is also called dysfunctional, relationship, or destructive conflict (Wang et al., 2019). TMT affective conflict produces suspicion, distrust, and animosity (Diáñez-González & Camelo-Ordaz, 2016; Su et al., 2020), which may make TMTs more likely to focus on playing politics and thereafter sabotage entrepreneurial decision-making (Mooney, Holahan, & Amason, 2007). Accordingly, this study posits that TMT affective conflict narrows attention scope and intensifies fragmentally distributed attention (Wang et al., 2019; Van Doorn et al., 2013).

We argue that TMT affective conflict has a negative linkage with EO with two reasons. On the one hand, TMT affective conflict narrows top managers’ attention scope of assessing entrepreneurial initiatives and impedes a firm implementing EO (Van Doorn et al., 2013). As critical sources of negative emotions such as annoyance and incompatibilities among team members, affective conflict impairs managerial cognitive processes (Li, Wei, Chen, & Yan, 2020). This is a great challenge for TMTs, because they need to effectively assess and utilize information to gain a better understanding of multiple entrepreneurial initiatives and formulate EO (Keh, Nguyen, & Ng, 2007). Nevertheless, given that affective conflict involves personality clashes and dissatisfaction with complex and ambiguous information, TMTs are unable to evaluate entrepreneurial information from other members in an objective manner (Diáñez-González & Camelo-Ordaz, 2016). Such information distortions make top managers’ attention scope narrower, inhibiting the identification of entrepreneurial configurations and hindering the pursuit of innovative and risky endeavors to support EO (Van et al., 2013).

Correspondingly, recent conflict management studies have also investigated the dysfunctional role of affective conflict, such as Li et al. (2020) who suggest that affective conflict within entrepreneurial team decreases entrepreneurial performance. Hence, as affective conflict occurs, TMTs are unable to acquire and utilize necessary information to champion EO due to a narrow attention scope.

On the other hand, affective conflict intensifies fragmented attention among TMTs. Affective conflict can cause the tension and hostility and aggravate TMTs' anxiety levels (Sciascia et al., 2013). This suggests that TMTs experiencing affective conflict may participate in decision making process with suspicion and prejudice against each other, damaging their effective communication and cooperation (Díáñez-González & Camelo-Ordaz, 2016; Li et al., 2020). It makes TMTs focus more attention on playing politics (such as colluding with team members and excluding dissidents) rather than implementing entrepreneurial endeavors (Li et al., 2020). In the same vein, this process intensifies TMTs' fragmented attention, results in their scattered beliefs about entrepreneurial initiatives, and thereby suppresses EO (Tuggle et al., 2010).

In sum, the combined effects of narrowing attention scope and intensifying distracted attention indicate that TMT affective conflict may exhibit a negative relationship with EO.

Hypothesis 2. TMT affective conflict is negatively related to EO.

2.5. Centralization and its moderating effects

Centralization is defined as the concentration of authority or decision-making power for all levels of employees within a firm, reversely, whether the power of decision-making can be delegated to the lower level (Jansen et al., 2006). Centralization describes concentrated control and fosters complacency, which may have implications for the effectiveness of organizational responsiveness and communication (Jansen et al., 2006). This study posits that it has a negative moderating effect on the linkage of TMT cognitive conflict to EO.

Specifically, highly centralized structures emphasize the locus of authority that fosters complacency and only allows for passive compliance from their lower-level employees (Joseph et al., 2016). On the one hand, high centralization decreases organizational flexibility and responsiveness, because it results in "the occurrence of transmission leaks, delays, distortion of intra-firm communication, and overload due to narrow communication channels" (Gentile-Lüdecke, Torres de Oliveira, & Paul, 2020, p. 13). Such narrower communication channels limit TMTs' attention under cognitive conflict directed to identify and exploit entrepreneurial opportunities, which may undermine the contributions of TMT cognitive conflict to EO. On the other hand, high centralization may increase the risk of managerial over-control, leading to insufficient communications and inadequate interactions among team members as well as impeding knowledge generation and utilization. This appears to be a greater impediment to synthesize multiple entrepreneurial beliefs from TMTs experiencing cognitive conflict, making TMTs distribute less attention into EO (Van et al., 2013). Hence, highly centralized structures impede the contributions of TMT cognitive conflict to EO.

In contrast, less centralized structures, where the authority of decision making is more dispersed, mean higher levels of team empowerment (Liu et al., 2018). This can enhance employees' responsiveness and benefit knowledge generation and utilization due to smooth information flow and accurate perceptions of meaningfulness (Hempel, Zhang, & Han, 2012, p. 493). TMTs can focus more attention on entrepreneurial initiatives and become more competent at affecting entrepreneurial strategy making (Boling et al., 2016; Miller, 1983). Accordingly, low centralization helps integrate diverse opinions from TMTs experiencing cognitive conflict into a single entrepreneurial decision, implying that low centralization strengthens the linkage between TMT cognitive conflict and EO. Overall, this study posits that centralization weakens the positive relationship between TMT cognitive conflict and EO.

Hypothesis 3. Centralization moderates the relationship between TMT cognitive conflict and EO negatively in such a way that the positive main effect will be weaker when the degree of centralization is high.

In terms of the negative linkage of TMT affective conflict to EO, this study expects that centralization positively moderates it. Particularly, high centralization emphasizes the significance of corporate hierarchy, which helps exercise control over chaos and hostility (Kaufmann, Borry, & DeHart-Davis, 2019). The hierarchy of authority can regulate TMTs' attentional focus on entrepreneurial initiatives in response to complex situations (Lin & Germain, 2003), thereby elevating consensus-making toward acting entrepreneurially as well as steering unified resource deployment (Yang, Zhou, & Zhang, 2015). This is especially the case for TMTs experiencing affective conflict because centralization may decrease unnecessary negotiations to resolve interpersonal incompatibilities and avoid ineffective communications (Gentile-Lüdecke et al., 2020). Thus, as high centralization indicates that the power of decision-making is controlled at the top (Jansen et al., 2006), it may decrease time-wasting political behaviors among TMTs under affective conflict and thereafter TMTs are more likely to switch attention away from tensions among team members (Joseph et al., 2016). In this regard, highly centralized structures makes TMTs devote more attention toward entrepreneurial configurations and reconciles inconsistent entrepreneurial beliefs about the pursuit of innovative and risky endeavors, alleviating the negative linkage of TMT affective conflict to EO.

In contrast, less centralized structures may be weak in avoiding the detrimental effects brought by TMT affective conflict. Since low centralization reflects the extent to which the decision-making discretion is shared with other hierarchical levels within the firm, it may result in lax control (Liu et al., 2018). Under such circumstances, TMTs experiencing affective conflict thereby channel attention directly toward the tension and annoyance among team members rather than entrepreneurial issues, as Lin & Germain (2003, p. 1133) suggest that low centralization "makes it difficult to avoid chaos, inconsistency, and duplicated efforts...". Furthermore, low centralization exacerbates ineffective communications and increases delays due to coordination problems (Gentile-Lüdecke et al., 2020). Therefore, in less centralized structures without the decision-making concentration, TMTs under affective conflict may behave arbitrarily and inconsistently when determining on acting entrepreneurially (Hempel et al., 2012). As such, low centralization makes the negative linkage between TMT affective conflict and EO stronger. In conclusion, centralization makes the negative impact of TMT affective conflict on EO less significant.

Hypothesis 4. Centralization will moderate the relationship between TMT affective conflict and EO positively in such a way that the negative main effect will be weaker when the degree of centralization is high.

2.6. Formalization and its moderating effects

Formalization is defined as the degree to which a firm's procedures, rules, job descriptions are formulated in written records explicitly to regulate actions and decision making (Hempel et al., 2012; Jansen et al., 2006). Characterized by "the emphasis on following concrete rules and procedures in conducting regular tasks within the organization job" (Zaltman, Duncan, & Holbek, 1973, p. 138), formalization relies on standardized and routinized procedures enabling a vast memory of routines (Foss, Lyngsie, & Zahra, 2015). This study posits that it has a positive moderating effect on the linkage of TMT cognitive conflict to EO.

Specifically, high formalization objectifies structures and processes through the adoption of corporate resource planning systems and a set of strategic plans (Foss et al., 2015; Hempel et al., 2012; Jansen et al., 2006). This helps codify organizational practices and provides memories, which allows firms to diffuse organizational capabilities, transfer knowledge, and thus enhance process efficiency (Gentile-Lüdecke et al., 2020). Indeed, high formalization will be beneficial to TMTs in assessing

diverse ideas generated from cognitive conflict and thus ensure the routinization of entrepreneurial decision-making activities by circumventing delays and hesitation (Gentile-Lüdecke et al., 2020). Another significant aspect of high formalization is that it aids TMTs experiencing cognitive conflict in identifying promising opportunities and assessing entrepreneurial agendas. This is because highly formalized rules not only improve organizational abilities to codify, transform, and exploit knowledge but also facilitate the coordination of complementary assets and actions (Foss et al., 2015; Oltra, Flor, & Alfaro, 2018). Ultimately, high formalization provides a good setting to strengthen the positive linkage between TMT cognitive conflict and EO.

Conversely, low formalization reflects the absence of procedures, roles, and regulations that serve to collect valuable information and convey the priorities of strategic issues (Oltra et al., 2018). On the one hand, without concrete guidelines that depict concrete the planning and sequence of behaviors among different hierarchical levels (Foss et al., 2015), TMTs experiencing cognitive conflict are less clear about their job roles in lowly formalized structures (Hempel et al., 2012). This leads to delays and hesitation and reduces process efficiency, making TMTs switch attention away from entrepreneurial initiatives (Gentile-Lüdecke et al., 2020). On the other hand, because low formalization cannot construct organizational memory of best practices identifying and utilizing knowledge (Lin & Germain, 2003), it impedes TMTs under cognitive conflict exploring and evaluating potential opportunities (Oltra et al., 2018). Low formalization, thereby, prevents TMTs from synthesizing diverse perspectives generated from cognitive conflict, inhibits the identification of the importance and relevance of opportunities, and then constrains entrepreneurial decision-making (Lin & Germain, 2003; Su, Xie, & Li, 2011). Hence, low formalization mitigates the positive linkage between TMT cognitive conflict and EO. To sum up, formalization strengthens the positive linkage between TMT cognitive conflict and EO.

Hypothesis 5. Formalization moderates the relationship between TMT cognitive conflict and EO positively in such a way that the positive main effect will be stronger when the degree of formalization is high.

In terms of the moderating role of formalization on the linkage of TMT affective conflict to EO, this study argues it as negative. To be particular, although high formalization works as a reference to existing knowledge, it behaves poorly in dealing with unstructured and irregular activities (Lin & Germain, 2003), especially the personalized incompatibilities and emotional chaos resulting from TMT affective conflict (Jansen et al., 2006). Instead, high formalization coerces employees into compliance, induces structural inertia, and suppresses flexibility, spontaneity, and risk-taking because of its constraint on firms' deviating behaviors (Gentile-Lüdecke et al., 2020; Hempel et al., 2012). The bureaucratic obstacles circumvent coordination across different hierarchical levels and departments and firms have to consume considerable time and efforts for overcoming such coordination problems (Foss et al., 2015). This is typically true for TMTs experiencing affective conflict who largely direct attention toward interpersonal disputes and political behaviors among team members (Mooney et al., 2007). In this regard, high formalization may not only slow down decision making on behaving entrepreneurially but also make TMTs stuck in disaffection and annoyance in response to affective conflict (Kaufmann et al., 2019), which can weaken the negative linkage between TMT affective conflict and EO.

Conversely, low formalization is associated with lower levels of stress, absences, and work alienation (Kaufmann et al., 2019), which helps mitigate the detriments of emotional chaos caused by TMT affective conflict. First, low formalization can not only reduce the presence of bureaucratic obstacles and mitigate coordination problems but also increase flexibility, innovativeness, and risk-taking (Gentile-Lüdecke et al., 2020; Hempel et al., 2012). This is of particular value for TMT under affective conflict because low formalization deals well with irregular situations by encouraging adaptive responsiveness to unstable factors and hostility (Jansen et al., 2006; Lin & Germain, 2003). Second,

less formalized systems with the absence of standards and rules will encourage the experimentation that fosters opportunity discovery and realization and allow TMTs to pursue entrepreneurial technologies and practices (Foss et al., 2015). In such a case, TMTs are less likely to suffer from the detriments of affective conflict such as disturbed attention and lack of motivation to implement entrepreneurial endeavors. Instead, low formalization can enlarge attention scope of TMTs experiencing affective conflict and harness resource flows across different departments in experimenting entrepreneurial activities that deviate from practices regulated by the formal rules (Yang, 2019). Thus, low formalization attenuates the negative relationship between TMT affective conflict and EO. Overall, formalization can aggravate the negative relationship between TMT affective conflict and EO.

Hypothesis 6. Formalization moderates the relationship between TMT affective conflict and EO negatively in such a way that the negative main effect will be stronger when the degree of formalization is high.

3. Methods

3.1. Sample and data collection

This study uses data on Chinese firms to test all hypotheses for three reasons. First, Chinese firms show a high variation in EO, providing an ideal context in which to explore its antecedents (Cao et al., 2015). Second, scholars have called for undertaking more studies on EO in emerging economies including China (Su, 2020; Wales et al., 2013). Third, due to the collectivist culture of China that values harmony and persuasion, Chinese executives prevalently tend to avoid conflict (Wang et al., 2019). However, TMT conflict occurs frequently in China and it is critical for team effectiveness and firm development, leading China to be an ideal context to test the generality of the results of TMT conflict typically generated in more individualist Western societies (Qian et al., 2013; Yang et al., 2019).

We collected data from manufacturing firms to minimize industrial confounding effects. These firms were located at six Chinese provinces (Anhui, Guangdong, Henan, Jiangsu, Shaanxi, and Shanghai), reducing regional bias. To collect data, we developed a questionnaire based on prior literature and modified it after consulting with several top managers. Then, we conducted a pilot test on 20 firms, whose responses were not included in final study. We revised the questionnaire based on the feedback from the pilot study. The questionnaire was prepared in English and then translated into Chinese. A third professional party back-translated it into English. There were no significant differences between the two questionnaires.

We randomly selected a sample of 1200 manufacturing firms from a list provided by local governments and business firms in the six provinces. To improve the response rate, we undertook pre-commitment telephone calls to verify the firms' agreements on participation. Then, we adopted a face-to-face interview rather than the common method of mail or online survey, since it guarantees the credibility of all responses by keeping executives from delegating the survey to subordinates. All interviewers were trained in terms of interview skills, background knowledge, and every item's meaning in the questionnaire in advance. When conducting interviews, the interviewers were informed about the content of the interview and the guarantee of confidential responses.

To minimize common method bias, this study required two top managers of each firm to complete the interview separately (Podsakoff & Organ, 1986). Thereafter, the two managers respectively filled out one part of the questionnaire. Specifically, the general manager such as CEO completed part A of the questionnaire, and the top manager holding the position associated with entrepreneurship and innovation completed part B of the questionnaire. The measures of TMT affective conflict, TMT cognitive conflict, formalization, and centralization were included in part A of the questionnaire. The measure of EO was included in part B of the questionnaire.

The final data was composed of 249 firms after deleting firms whose answers from two top managers are significantly different or with missing data. With respect to non-response bias, this study conducted t-tests by comparing responding and non-responding firms along major attributes such as firm size, age, and sales. All t-statistics were insignificant. Furthermore, the sample was spitted into two groups based on the time at which they agree to be interviewed (Armstrong & Overton, 1977). The differences between the two groups were also insignificant. Accordingly, this revealed that respondents were not significantly different from non-respondents.

3.2. Measures

This study used a five-point scale to measure all items with “1” representing “strongly disagree”, and “5” representing “strongly agree”. The method of using the mean value of all items, which has been widely used, is adopted to operationalize multi-item constructs (Kumar, Jones, Venkatesan, & Leone, 2011). Following Mooney et al. (2007) and Qian et al. (2013), this study respectively used four items to measure TMT cognitive and affective conflict. Centralization and formalization were respectively measured by four items drawing on Jansen et al. (2006). EO was measured by nine items adopted from Covin and Slevin (1989) and Keh et al. (2007). All items are shown in Table 1.

Control variables. Firm age, firm size, industry, technological turbulence, market turbulence, and competitive intensity were taken as control variables. Firm size was measured by the number of full-time employees on a six-point scale that ranges from “fewer than 20” to “more than 1000”. Industry was employed as dummies including metal processing, food, chemicals, textiles, electronics, and others. Technological turbulence, market turbulence, and competitive intensity were measured using items following Jaworski and Kohli (1993) and Gatignon and Xuereb (1997).

3.3. Reliability and validity

To test the inter-item consistency, composite reliability was estimated by Cronbach’s α (Cronbach, 1971) as shown in Table 1. All α values are above the benchmark of 0.70. All factor loadings are above the cut-off point of 0.70, confirming convergent validity (Nunnally, 1978). Discriminant validity was estimated by conducting χ^2 -square difference tests on all multi-item constructs in pairs (Anderson & Gerbing, 1988). All changes in χ^2 -square values were significant, evidencing discriminant validity.

Since the questionnaire was completed by two managers independently from the same firm, this study should not suffer from the problem of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). We utilized a Harman’s one-factor test on all multi-item variables. No single factor was apparent. Additionally, to minor the concern of common method bias, we conducted the latent variable approach adopted from Podsakoff et al. (2003). We loaded all items on their constructs and on a latent factor and examined the significance of the constructs with and without the latent factor. All significant relations held after controlling the latent factor, supporting that common method bias is not a serious concern.

4. Findings

Table 2 shows the basic information of all variables and their correlations. This study mean-centered all variables to minimize the concern of multicollinearity. All variance inflation factor statistics are below the 10 benchmark, evidencing that multicollinearity is not a serious problem (Neter, Wasserman, & Kutner, 1985).

Table 3 shows regression results. Model 2 finds that TMT cognitive conflict is positively related to EO, while TMT affective conflict is negatively related to it. Thus, H1 and H2 both are supported. Model 3 tests the moderating effects of centralization on these linkages above. It

Table 1
Measures and standard estimates.

Variables and Items	Loading
TMT cognitive conflict (Alpha = 0.826)	
1. TMT members often have different ideas about how things should be done.	0.823
2. TMT members often debate or discuss ideas about how things should be done.	0.798
3. TMT members often have different ideas related to the tasks at hand.	0.873
4. TMT members often debate or discuss ideas related to the tasks at hand.	0.750
TMT affective conflict (Alpha = 0.845)	
1. TMT members seldom get angry while working in the team.	0.858
2. TMT members seldom clashes with others while working in the team.	0.874
3. There is little tension among TMT members while working in the team.	0.819
4. There is little jealousy or rivalry among TMT members while working in the team.	0.753
Centralization (Alpha = 0.774)	
1. Most decisions people make here have to have their supervisor’s approval.	0.824
2. There can be little action taken here until a supervisor approves a decision.	0.793
3. A person who wants to make his own decisions would be quickly discouraged.	0.734
4. Even small matters have to be referred to someone higher up for a final decision.	0.736
Formalization (Alpha = 0.803)	
1. Whatever situation arises, written procedures available for dealing with it.	0.783
2. Rules and procedures occupy a central organizational unit.	0.831
3. Written records are kept of everyone’s performance.	0.819
4. Written job descriptions are formulated all levels in the organizational unit.	0.749
EO (Alpha = 0.915)	
1. A very strong emphasis on R&D, technological leadership, and innovations in our company	0.769
2. The changes in product lines (types/number of products) for our company are usually dramatic	0.705
3. When it comes to problem solving, we value creative new solutions more than the solutions of conventional wisdom	0.781
4. Top managers encourage the development of innovative strategies, knowing well that some will fail	0.837
5. A change in market creates a positive opportunity for us	0.742
6. A strong preference for high-risk projects with chances of very high return	0.723
7. Our company is typically the first to initiate actions to competitors, for which the competitors then respond	0.793
8. Very often, our company is the first to introduce new products, services, technologies etc	0.829
9. Owing to the nature of the environment, bold and wide-ranging acts are necessary to achieve the firm’s objectives	0.772
Technological turbulence (Alpha = 0.851)	
1. The technology in our industry is changing rapidly.	0.830
2. The rate of technology obsolescence is high in our industry.	0.871
3. It is difficult to forecast the technology development direction in our industry.	0.827
4. Technological changes provide substantial opportunities in our industry.	0.798
Market turbulence (Alpha = 0.834)	
1. Market demands change frequently over time.	0.880
2. The volume and composition of market demands are difficult to forecast.	0.821
3. The evolution of customer preference is difficult to predict.	0.811
4. New demands in the market are significant difference from existing ones.	0.758
Competitive intensity (Alpha = 0.834)	
1. Price competition is a hallmark of our industry.	0.855
2. One hears of a new competitive move almost every day.	0.832
3. Any action that a company takes, others can make a response swiftly.	0.731
4. Competition in our industry is cut-throat.	0.851

finds that neither interactive term is significant, indicating that H3 and H4 are not supported. Model 4 tests the moderating effects of formalization on these linkages. It shows that both interactive terms are significant, suggesting that H5 and H6 are both supported.

Table 2
Descriptive statistics and correlation matrix.

Variables	1	2	3	4	5	6	7	8	9	
1. Firm size	1									
2. Firm age	0.451**	1								
3. Technological turbulence	0.021	-0.008	1							
4. Market turbulence	-0.050	0.029	0.283**	1						
5. Competitive intensity	0.160*	0.086	0.327**	0.243**	1					
6. Formalization	-0.078	-0.028	0.369**	0.233**	0.213**	1				
7. Centralization	-0.097	0.036	0.190**	0.136*	0.327**	0.424**	1			
8. TMT cognitive conflict	-0.009	0.003	0.269**	0.364**	0.178**	0.518**	0.285**	1		
9. TMT affective conflict	0.021	-0.024	-0.064	-0.221**	-0.068	-0.438**	-0.351**	-0.321**	1	
10. EO	-0.002	-0.009	0.251**	0.371**	0.116	0.455**	0.243**	0.501**	-0.350**	1
Means	2.98	11.83	3.69	2.94	3.87	3.82	3.75	3.63	2.29	3.55
St. D.	1.39	11.40	0.78	0.84	0.67	0.59	0.54	0.71	0.64	0.69

Note:
* p < 0.05
** p < 0.01.

Table 3
Results of regression analysis.

	Model 1	Model 2	Model 3	Model 4	Model 5
Firm size	-0.026 (0.074)	-0.022 (0.065)	-0.042 (0.064)	-0.026 (0.062)	-0.030 (0.062)
Firm age	-0.028 (0.072)	-0.036 (0.062)	-0.023 (0.062)	-0.027 (0.059)	-0.023 (0.059)
Technological turbulence	0.043 (0.066)	0.020 (0.060)	0.017 (0.061)	-0.018 (0.057)	-0.019 (0.059)
Market turbulence	0.310 * ** (0.064)	0.113+ (0.058)	0.078 (0.058)	0.020 (0.056)	0.014 (0.056)
Competitive intensity	0.035 (0.066)	-0.036 (0.060)	-0.018 (0.060)	0.029 (0.057)	0.030 (0.057)
Centralization		0.054 (0.064)	0.035 (0.065)	0.078 (0.061)	0.070 (0.062)
Formalization		0.281 * ** (0.072)	0.316 * ** (0.071)	0.373 * ** (0.069)	0.378 * ** (0.069)
TMT cognitive conflict		0.253 * ** (0.067)	0.250 * ** (0.067)	0.159 * (0.064)	0.162 * (0.065)
TMT affective conflict		-0.141 * (0.060)	-0.133 * (0.060)	-0.110+ (0.058)	-0.107+ (0.058)
Cognitive conflict × Centralization			0.081 (0.059)		0.033 (0.058)
Affective conflict × Centralization			-0.078 (0.058)		-0.025 (0.062)
Cognitive conflict × Formalization				0.215 * ** (0.063)	0.210 * ** (0.066)
Affective conflict × Formalization				-0.146 * (0.062)	-0.142 * (0.070)
R ²	0.124	0.366	0.380	0.441	0.443
Adjusted R ²	0.083	0.325	0.334	0.400	0.397
F-value	3.043 * *	8.960 * **	8.328 * **	10.738 * **	9.596 * **

Notes: Standard errors are in parentheses. + p < 0.10, *p < 0.05, ** p < 0.01, *** p < 0.001. To save space, we did not report results on industry dummies.

5. Discussion

5.1. Contributions

This study generates three contributions to the literature. First, it identifies TMT conflict as a novel predictor of EO, enriching our knowledge on the antecedents of EO. As the antecedents of EO have attracted less attention from researchers compared to the implications of EO (Pittino et al., 2017; Wales, 2016), our understanding of what drives EO remains rather limited. Although prior studies have largely focused on surface demographic, organizational, and environmental characteristics (Covin & Wales, 2019; Pittino et al., 2017), scholars have recognized that the interactions among team members have a greater influence on entrepreneurial strategy formulation than individual entrepreneurs on it (Li et al., 2020). Moreover, many entrepreneurship scholars have called for the need to analyze how team conflict impacts corporate entrepreneurial activities (Diáñez-González & Camelo-Ordaz,

2016). For example, Boling and Vecchiarini (2020) indicate that TMT tenure affects EO. The longer TMTs work together, the higher levels of affective conflict occur because longer-tenured TMTs tend to debate agendas on personal issues rather than implementing innovative and risky initiatives. As conflict is the important mechanism whereby TMT tenure influences EO, our study not only empirically verifies the linkage of TMT conflict to EO but also more specifically elaborates on the impacts of cognitive and affective conflict as critical antecedents of EO. Moreover, Diáñez-González and Camelo-Ordaz (2016) suggest that conflict mediates the linkages of management team’s age and educational heterogeneity to EO. In line with their research, our study empirically tests the specific role of TMT conflict in EO. Overall, since prior studies mainly focuses on TMT conflict as effective mechanisms underlying corporate entrepreneurial activities, our work responds to the calls for investigating the role of TMT conflict—the tension among top team members generated from different values, beliefs, and interests as a novel antecedent of EO and thereby contributes to the research on

them (Li & Li, 2009; Li et al., 2020; Sciascia et al., 2013).

Second, this study provides deeper insights into the value of TMT conflict. On the one hand, this study contributes to the studies on conflict within the context of TMT. While an increasing number of studies have claimed that conflict is a crucial determinant of firm outcomes (Li et al., 2020), the impact of conflict arising within TMT on entrepreneurial activities has been rarely analyzed (Sciascia et al., 2013). Because TMTs play a crucial role in entrepreneurial strategic decision-making whereby team conflict is inevitable (Diáñez-González & Camelo-Ordaz, 2016), our work supports the literature stream on the implication of conflict within the context of TMT, which reflects the tensions and dynamics among team members, on entrepreneurial behaviors. Meanwhile, this study helps progress our understanding of how TMT conflict influences a significant yet underexplored entrepreneurial activity—EO. As suggested by previous studies, many efforts have been devoted to the role of TMT conflict in innovative strategy. For instance, Su et al. (2020) elucidate that TMT shared vision may reduce conflicts within the team and speed up entrepreneurial decision-making process, while TMT heterogeneity may induce conflicts and thereby hinder entrepreneurial actions. This study extends their work by not only providing empirical support for the notion that TMT conflict are critical for firms behaving entrepreneurially but also distinguishing the implication of cognitive and affective conflict for transforming TMTs' attributes. Meanwhile, Wang et al. (2019) find that TMT conflict has a significant impact on exploratory innovation. Since innovation is one of the critical components of EO, identifying opportunities to pursue innovation may aid a firm acting entrepreneurially. This study builds on the finding of Wang et al. (2019) by further positing that TMT conflict influences a firm implementing innovative and risky endeavors. In sum, as EO has become one of the most important foci in entrepreneurship literature (Covin & Wales, 2019), this study goes beyond previous studies by relating TMT conflict to EO and empirically verifying this linkage, thereby extending our knowledge on the implication of TMT conflict.

On the other hand, this paper sheds some light on prior conflict research by distinguishing cognitive conflict from affective conflict and separately assessing their differential effects. As Sciascia et al., (2013, p. 12) argue that “we do not directly measure task and relationship conflicts, but argue that they are crucial for EO efforts”, a significant area that has been the particular focus of recent discussions in the conflict research is the call for more empirical investigations on the role of two types of conflict in firm entrepreneurial actions. Furthermore, both affective and cognitive conflict have been found to have equivocal impacts on organizational outcomes (Qian et al., 2013; Torchia et al., 2018). Our work not only echoes the call but also contributes to the debate on the implication of conflict, by dividing conflict into two dimensions and separately examining their influences on EO. It finds that TMT cognitive conflict encourages firms to behave entrepreneurially while TMT affective conflict frustrates EO under different organizational structures. Through empirical analysis, this study develops a more comprehensive understanding of the linkage between TMT conflict and EO.

Third, this study provides some support for the wisdom of employing a novel insight—the ABV to elaborate the TMTs-EO linkage. Most research that investigates the influence of TMTs on firm level outcomes typically draws the insights from upper echelon or information processing perspective (Boling & Vecchiarini, 2020; Olson et al., 2007; Van Doorn et al., 2017). Blankenburg Holm et al. (2020) point out that TMTs with limited efforts selectively direct attention to different information and communication channels. Thus, TMTs' attention processing determines the selection, interpretation, and transfer of information (Ocasio et al., 2018). Our research extends previous studies by digging deeper into TMTs' attention processing as the theoretical mechanism. Specifically, we advance a new attentional perspective by proposing that TMTs' attention distribution determines the ways through which TMTs interpret information, assess entrepreneurial opportunities, and then engage in entrepreneurial endeavors. According to the principle of the

focus of attention, TMT conflict as the tension among decision makers significantly influences managerial attention patterns attended to entrepreneurial activities (Tuggle et al., 2010). Furthermore, based on the principle of situated attention, we introduce centralization and formalization as two critical contextual factors, because “organizational structures influence which issues come to the attention of top management” (Blankenburg Holm et al., 2020). In sum, this study adds a novel, attentional perspective from which we can understand the TMT conflict-EO linkage embedded within different organizational structures.

5.2. Practical implications

This study provides two suggestions for managers. First, this study finds that TMT cognitive conflict is positively linked to EO while affective conflict is negatively linked to it. Hence, a firm should utilize TMT conflict to implement its entrepreneurial strategy. On the one hand, managers need to share diverse perspectives and exchange their concerns to take advantage of cognitive conflict. On the other hand, managers should manage their relations and avoid affective conflict, in that personalized incompatibilities are harmful in entrepreneurial processes.

Second, this study finds that formalization can strengthen the positive relationship between TMT cognitive conflict and EO and improve the negative relationship of TMT affective conflict to EO. Thus, managers should recognize the double-edged sword of formalization and proactively modify organizational structure to utilize TMT conflict to enact EO. By such ways, they are able to better take advantage of cognitive conflict and suffer less from affect conflict in championing entrepreneurial strategies. Moreover, centralization doesn't significantly moderate the linkage of TMT cognitive and affective conflict to EO. As a result, a firm, no matter whether it has a highly or weakly centralized structure, should leverage cognitive conflict to support EO.

5.3. Limitations and future research

This study is subject to four limitations. First, it uses cross-sectional data to test hypotheses. While such data are acceptable, because “contemporaneous measurements can be used to test the relationship with strong theoretical foundations” (Sidhu, Commandeur, & Volberda, 2007), it is better to utilize longitudinal data in future research. Second, this study uses data from Chinese firms. Although China is an ideal context, further research should duplicate the research in other countries to ensure the generality. Third, while this study has endeavored to minimize the concern of common method bias, this bias cannot be fully eliminated. Thus, future studies should employ objective data to add credibility. Fourth, in line with most survey studies, our findings mainly rely on subjective measures, thereby suffering from common method bias. Although we have utilized previously validated measures and multiple procedural and statistical methods to mitigate the concern of common method bias (Li & Li, 2009), its potential problems cannot be fully avoided. Accordingly, it's better to use objective data or multiple data sources, or collect data at different phases by different interviewers in subsequent research.

There are four suggestions for future research. First, future studies can consider other TMT-related factors as sources of firm-level EO. Other TMT and CEO attributes (such as shared vision, social and human capital, the proportion of female directors, etc.) may help explain why some firms can perform more entrepreneurially. For example, as female directors contribute to firm innovation (Torchia et al., 2018), future research can explore how the percentage of female managers in board or TMT influences EO. Second, in addition to organizational structure, other organizational and environmental factors may also moderate the linkage of TMT conflict to EO. For instance, future researchers may wish to investigate the moderating role of competitive intensity and market and technological turbulence on the TMTs-EO linkage. Third, although this study includes firm size as a control variable and finds that it does

not have a significant effect on EO, future studies may test how firm size is associated with decentralization and formalization, as a small firm is naturally with a decentralized structure. Fourth, although our work tries to study conflict in general, future research could combine Chinese culture to figure out the specific role of TMT conflict.

6. Conclusion

This study examines the linkage between TMT conflict and EO and the moderating effect of organizational structure on this linkage drawing on the ABV. It finds that TMT cognitive conflict is positively related to EO, while TMT affective conflict is negatively related to it. Formalization positively moderates the linkage of cognitive conflict to EO but negatively moderates the linkage of affective conflict to EO. Moreover, centralization does not significantly moderate on either linkage. This study advances our knowledge on both the antecedents of EO and the implication of TMT conflict by distinguishing cognitive conflict from affective conflict. In addition, it introduces the ABV into the EO research and illustrates a TMTs' attentional processing in entrepreneurial posture under different organizational structures, laying a novel avenue for the EO research.

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