

Connecting and creating: *tertius iungens*, individual creativity, and strategic decision processes

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Research Summary: In contrast to previous research that emphasized macro-to-macro relationships, this study investigates how strategic decision characteristics shape the creative process at the organizational micro-level. Whereas individual creativity thrives on novel combinations of diverse knowledge and perspectives, we argue that the characteristics of strategic decisions influence the extent to which employees' combinatory activities enhance their creativity. Multilevel modeling results based on 638 employees from 34 organizations show that the positive relationship between *tertius iungens* (TI) orientation and creative performance is reinforced by strategic decision comprehensiveness, especially when coupled with low strategic decision speed. The results suggest that, paradoxically, when top managers consider a narrower range of options and act more quickly to respond to challenges in the external environment, they risk constraining creative processes within the organization.

Managerial Summary: To innovate, managers are often advised to make strategic decisions based on changes in their external business environment. Our research suggests that managers should also consider how strategic decision-making enables the social processes through which employees generate creative ideas essential to organizational innovation. Our results show that employees who bring people in their network and their diverse ideas together (i.e., the *tertius iungens* [TI] orientation) tend to improve creative performance. However, for those employees is it easier to develop creative ideas when strategic decisions are comprehensive and slow? Paradoxically, when top managers consider a narrower range of options and act more quickly to respond to challenges in the external environment, they

risk constraining the social processes that lead to creativity within the organization.

KEY WORDS

combinatorial efforts, creativity, strategic decision comprehensiveness, strategic decision speed, strategy-making

1 | INTRODUCTION

To keep pace in today's accelerated, competitive contexts, firms increasingly rely on their ability to innovate through the generation of novel and useful ideas (George, 2007; Shalley, Zhou, & Oldham, 2004). Strategy scholars have long emphasized that strategic decision processes create a context for innovation and other activities that help firms remain competitive in their businesses (Floyd & Lane, 2000; Hart, 1992). However, empirical studies, which have focused primarily on strategic decision comprehensiveness and speed (Eisenhardt, 1989; Souitaris & Maestro, 2010), offer mixed recommendations. One perspective emphasizes the importance of comprehensive search and analysis of various alternatives for making strategically astute decisions (Miller, Burke, & Glick, 1998; Priem, Rasheed, & Kotulic, 1995; Simons, Pelled, & Smith, 1999). The contrasting perspective suggests that instead of extensive information analyses, strategic decisions should rely on top managers' heuristic rules of thumb (Artinger, Petersen, Gigerenzer, & Weibler, 2015; Bingham & Eisenhardt, 2011) or analogies (Gavetti, Levinthal, & Rivkin, 2005). Similarly, authors who have theorized on strategic decision speed reach opposing conclusions. Researchers either urge firms to make fast strategic decisions to seize emerging opportunities before they disappear (Baum & Wally, 2003; Judge & Miller, 1991; Kownatzki, Walter, Floyd, & Lechner, 2013) or warn about the deleterious effects of high decision speed (Forbes, 2005; Perlow, Okhuysen, & Repenning, 2002).

One possible reason why research on strategic decision process characteristics has been inconclusive is that prior studies have focused almost exclusively on distal organizational outcomes, such as organizational innovation and performance. While these studies have generated many valuable insights, organization-level outcomes are heavily influenced by environmental factors exogenous to the strategy process, making the analyses complex and the findings unstable (Dean & Sharfman, 1996; Miller, Washburn, & Glick, 2013). At the same time, previous models fall short in analyzing more proximate effects of strategic decision processes at the micro-level. This is a serious limitation because the contributions of individual employees are essential for the generation of organizational outcomes. Focusing on micro-level outcomes enriches the insights into the implications of strategic decision processes, allowing the exploration of their multilevel interplay with employee characteristics. The investigation of such multilevel interplay reveals how strategic processes not only interact with macro external factors, but also intervene in the micro social processes of individuals, stimulating employees' responses that vary depending on their personal characteristics (Mintzberg & Waters, 1985). In this study, we focus on the interactive roles of strategic decision process characteristics in shaping the micro-level process leading to one critically important form of employee contribution—employee creative performance. *Creativity* refers to the development of novel and useful ideas, which originate primarily from employees (George, 2007; Perry-Smith, 2006;

Woodman, Sawyer, & Griffin, 1993). Employee creativity is the starting point for organizational innovation (Baer, 2012; Zhou, 2003), which emerges when the organization implements creative ideas into products, services, or procedures (Amabile, 1988; Anderson, Potočnik, & Zhou, 2014).

Drawing on research on the interplay between strategic decision processes and the behavioral dynamics of individuals (Floyd & Lane, 2000; Hitt & Tyler, 1991; Mollick, 2012; Perlow et al., 2002), we propose that the strategic decision process attributes are contextual variables that interact with individual characteristics to influence employees' creative outputs. Within the organization, the development of creative ideas is essentially an ongoing combinatorial process (Fleming & Sorenson, 2004; Tiwana, 2008) that is driven by encounters and interactions between individuals (Kim & Mauborgne, 1998; Turner & Makhija, 2012). The *tertius iungens* (TI) orientation construct explains this individual-level combinatorial activity. Following Obstfeld (2005), we define *TI orientation* as an individual strategic orientation toward introducing unconnected others or facilitating new coordination between previously connected actors. Individual action is the fundamental unit of analysis that underlies combinatorial processes leading to innovation (Floyd & Wooldridge, 1999; Morgeson & Hofmann, 1999). However, such individual processes are influenced by the surrounding organizational context (Morgeson & Hofmann, 1999; Turner & Makhija, 2012). In particular, the organization's strategy-making has a strong influence on how employees direct their attention and engage in various activities in the organization (Hart, 1992; Hitt, Beamish, Jackson, & Mathieu, 2007; Kownatzki et al., 2013). Due to this interaction, we examine how the characteristics of strategic decision processes at the organization's macro-level shape the effect of TI orientation on creative performance at the organization's micro-level.

By examining how macro-level strategic decision processes interact with micro-level TI orientation to influence employee creativity, this study makes three main contributions. First, we extend prior research on strategic decision processes (Forbes, 2005; Papadakis, Lioukas, & Chambers, 1998; Souitaris & Maestro, 2010) by explaining how strategic decision characteristics influence activities at the organizational micro-level. Specifically, we show that low levels of strategic decision comprehensiveness and high speed have previously unrecognized side effects of suppressing the positive effects of employees' TI orientation on creativity. These results challenge the popular recommendations to pursue fast and heuristic strategic processes in business environments where creativity plays a critical role. Second, our findings extend the micro-foundational view of strategy making by elucidating how the relationships between micro-level factors and performance outcomes are contingent on the macro-level processes within which individuals are embedded (Barney & Felin, 2013; Teece, 2007). We suggest that although individual agency underlies all organizational strategies and outcomes, these micro-level value-creation activities are enabled or constrained by macro-level strategic processes. Third, we contribute to both strategy-making and social network research by extending the understanding of the mechanisms and conditions by which networking processes rather than network structures affect strategically relevant outcomes (Obstfeld, Borgatti, & Davis, 2014).

2 | THEORETICAL FRAMEWORK

Although it is inarguably important to understand how strategic decision processes conform to the demands of the external environment, it is also important to consider how strategic decisions interact with organizational member characteristics to shape work behaviors at the micro-level (Hitt et al., 2007). Within an organization, individual employees work toward organizational objectives, solve the organization's problems, and create new ideas and initiatives that add value to the organization

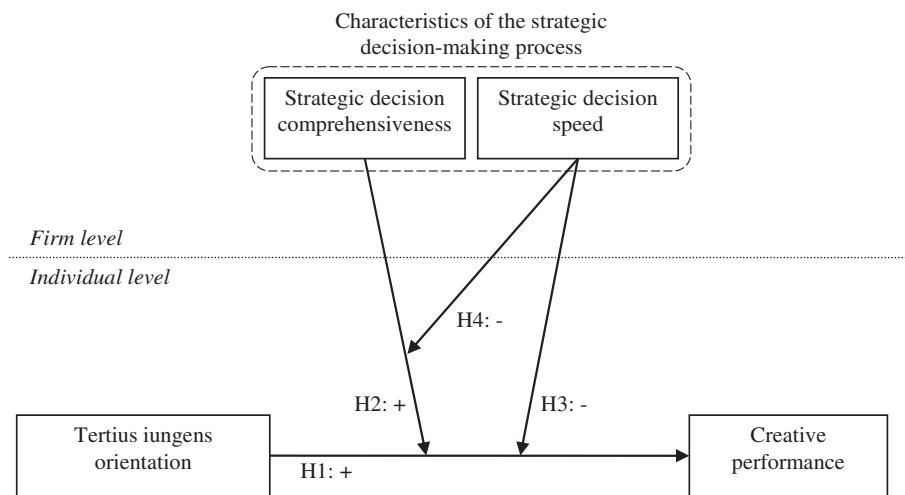


FIGURE 1 Conceptual model

(Floyd & Wooldridge, 1999; Turner & Makhija, 2012). As Barlett and Ghoshal (1993) argued, knowledge and expertise are the most focal strategic resources, and managers should therefore ensure that the organizational context is supportive of individual initiative, collaboration, learning, and creativity.

Research has underscored that creativity stems from social interactions in which people combine their unique perspectives and bits of knowledge (Fleming & Sorenson, 2004; Harvey & Kou, 2013; Perry-Smith, 2006). To combine and coordinate novel ideas and bits of knowledge that are important for innovation but dispersed across the broader social network (Floyd & Wooldridge, 1999), Obstfeld (2005) suggested that individuals with high TI orientation have a predisposition to introduce disconnected others and facilitate the collaboration between parties who are already acquainted. The author conceptualized TI orientation as individuals' strategic orientation toward connecting people in their social network.

A strategic orientation refers to the preferred means of approaching problems and pursuing goals in a social context (Levine, Higgins, & Choi, 2000), and it motivates individuals to initiate and engage in goal-directed behaviors (Frese & Fay, 2001). Orientations are individual dispositions that explain differences in behavior, remain relatively stable over time, and are not specific to a certain task or situation (Chen, Gully, Whiteman, & Kilcullen, 2000). While individual orientations are relatively stable, their influence on behavior tends to depend on situational factors (DeRue & Wellman, 2009; Hirst, Van Knippenberg, Chen, & Sacramento, 2011). Building on these insights, we suggest that whereas TI orientation is a dispositional trait-like individual difference that remains relatively stable across time and situations, TI-oriented individuals can be motivated to focus their joining efforts toward different types of activities, depending on the situational characteristics. For instance, TI-oriented individuals may concentrate only on connections that facilitate efficient implementation (Shi, Markoczy, & Dess, 2009; Tiwana, 2008) or the enhancement of their social capital (Xiao & Tsui, 2007). Similarly, TI-oriented individuals' motivation to pursue creative activities is likely to vary as a function of situational characteristics.

Research has demonstrated that the effects of orientations on employee creativity are bounded by the characteristics of the broader organizational context (Gong, Kim, Lee, & Zhu, 2013; Hirst et al., 2011). We combine these insights with the idea that the organization's strategy making influences organizational members' behavioral processes (Hart, 1992) to suggest that the characteristics

of the strategic decision context interact with individuals' TI orientation to influence creativity, as displayed in Figure 1. Specifically, we identify two ways in which the social context can motivate employees to direct their connecting efforts toward the attainment of creative outcomes. First, individuals with a disposition to connect others will focus their joining efforts toward creative initiatives if managers, or others, are likely to become aware of these initiatives. Individuals become motivated to pursue creative ideas when managers and other organizational members are exposed to their creative ideas (Brown & Baer, 2015; Shalley et al., 2004). The characteristics of strategic decisions are relevant because they affect how managers and others are exposed to and responsive to employees' creative ideas (Hart, 1992).

Second, individuals with a disposition to connect others will be motivated to focus their joining efforts toward the development of creative ideas if the social context encourages their efforts and does not penalize the pursuit of new ideas (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Kimberly & Evanisko, 1981). A firm's strategic decision-making can shape the social context to encourage or discourage employees' efforts to generate creative outcomes. Whereas in some strategic contexts employees are encouraged to exert effort toward generating and completing new initiatives or creative projects (Morrison & Phelps, 1999; Obstfeld, 2012), in other contexts, these activities can be labeled as nonconforming or deviant behaviors (Mainemelis, 2010; Yuan & Woodman, 2010). Taken together, these arguments suggest that the strategic decision context plays a significant role in regulating the relationship between TI orientation and creativity. Next, we will explain how TI orientation influences creativity and then develop our hypotheses regarding how key characteristics of strategic decision processes may shape this relationship.

3 | TERTIUS IUNGENS ORIENTATION AND EMPLOYEE CREATIVITY

While individual creativity has often been argued to be the most crucial element of organizational innovation, this type of creativity depends on the social context and relationships in which an individual is embedded (Amabile, 1988; Woodman et al., 1993). The development of new ideas and initiatives begins at the individual level, where individuals' diverse ideas, social relationships, and novel combinations of knowledge generate competing ideas to challenge existing organizational rigidities (Floyd & Wooldridge, 1999). Specifically, employees' social relationships are important sources of diverse perspectives and different bits of knowledge and skills that—when brought together—increase creativity (Hirst, Van Knippenberg, Zhou, & Quintane, 2015; Perry-Smith, 2006). The diversity of knowledge and ideas is a necessary precondition for initial creative insights, but the integration of diverse knowledge and ideas is equally important for obtaining creative performance (Fleming, Mingo, & Chen, 2007; Mors, 2010).

Although innovation is distinct from creativity, it is worth noting that Obstfeld (2005) found individual TI orientation to be an important predictor of individual involvement in innovation. His argument is that connecting others enables both the alignment of different interests and the knowledge combination necessary for organizational innovation. The alignment of interests motivates unconnected or uncoordinated others to engage in knowledge integration. Then, the combinatorial action, joining various actors and their interests, leads to the innovation found in certain organizational routines, and most notably, in creative projects (Obstfeld, 2012).

Building on the notion that creativity accrues not only from knowledge diversity, but also from collaboration and other-focused psychological processes (Reagans & Zuckerman, 2001; Tiwana, 2008; Uzzi & Spiro, 2005), we expect TI orientation to positively influence creativity. Grant and Berry (2011) demonstrated that the prosocial desire to help or contribute to other people guides employees to develop

ideas that are both novel and useful. Fleming et al. (2007) argued that joining others in common initiatives can facilitate the generation of useful new ideas by increasing mutual ownership and a deeper understanding of other actors. As individuals with a high TI orientation are focused on connecting people in their social network, they are likely to strive to identify the needs and opportunities for joining activities. That is, to introduce or revitalize interaction between parties, TI-oriented individuals need to find a structural gap where acting as a link between unconnected or uncoordinated others is meaningful. By linking otherwise unconnected or uncoordinated others, an individual is directly exposed to diverse knowledge that yields the opportunity to combine ideas, and such combinations are a primary source of creative ideas (Fleming et al., 2007; Perry-Smith, 2006).

Furthermore, after an individual brings two or more unconnected others together, he or she will also continue to participate in ongoing knowledge combination, consequently leading to greater opportunities to develop new ideas that emerge during different phases of collaboration (Shi et al., 2009). Participation in collaborative process stimulates creativity because it enables the ongoing sharing and extension of complex, tacit, and confidential knowledge over time (Amabile et al., 1996; Kogut & Zander, 1992). These types of processes typically involve brainstorming, the sharing of ideas, and joint problem solving that stimulate different parties' creativity (Uzzi & Spiro, 2005). Although the collaborative processes facilitated by TI-oriented individuals could increase network closure over time, combinations may also engender trust and reciprocity that facilitate further subsequent combinations. Obstfeld et al. (2014) noted that TI-oriented combination and re-combination can occur in both closed and open networks, allowing TI-oriented actors to generate creative ideas across different network types. Thus, we posit:

Hypothesis 1 (H1) *TI orientation is positively associated with individual creative performance.*

4 | THE ENABLING ROLE OF THE STRATEGIC DECISION-MAKING CONTEXT

To examine how characteristics of the strategic decision process shape the relationship between TI orientation and creative performance, we focus on the contextual effects of two strategic decision process dimensions, each of which has a prominent role in strategy process research: comprehensiveness and speed (Baum & Wally, 2003; Forbes, 2007; Souitaris & Maestro, 2010). Fredrickson and Mitchell (1984, p. 402) defined *strategic decision comprehensiveness* as "the extent to which an organization attempts to be exhaustive or inclusive in making and integrating strategic decisions." For strategic decisions to be comprehensive, decision-makers must consider multiple issues and criteria in making decisions, conduct multiple examinations to determine the appropriate course of action, and search extensively throughout the organization to find possible responses to strategic problems (Atuahene-Gima & Li, 2004; Miller et al., 1998). *Strategic decision speed* refers to the velocity of the strategic decision-making process from the initial moment at which possible courses of action are considered to the moment at which the commitment to act is made (Eisenhardt, 1989). Speed and comprehensiveness capture two distinct aspects of the strategic decision process (Souitaris & Maestro, 2010), and researchers have identified fast strategic decisions that are more (Eisenhardt, 1989) and less (Atuahene-Gima & Li, 2004) comprehensive.

4.1 | Moderation by strategic decision comprehensiveness

We expect comprehensive strategic decisions to facilitate the emergence of a context that motivates TI-oriented employees to focus their joining efforts toward the development of creative initiatives. There are two fundamental attributes of comprehensive strategic decisions that enhance the relationship between TI orientation and creativity. The first attribute relates to the extent to which managers engage in a broad and extensive search to collect information (Miller et al., 1998; Souitaris & Maestro, 2010). As organizations with comprehensive strategic decision processes seek and consider various ideas and perspectives from multiple sources within the organization (Goll & Rasheed, 1997), employees' initiatives to tap into diverse perspectives and generate creative ideas are more likely to become visible to management. According to Hart (1992), a comprehensive strategic decision process "combines the elements of top-management intention and organizational member initiative" (p. 340). Organizations with comprehensive strategy making are characterized by a high level of employee involvement that is supported by a formal system for considering, evaluating, and valuing creative ideas that stem from the micro-level (Hart, 1992). Even when employees have personal resources to develop creative ideas, they require support from the organizational context, which gives them the perception that their ideas can be heard and become visible at higher levels (Chang, Takeuchi, Jia, & Cai, 2014). Thus, employees with a high TI orientation will be motivated to direct their joining efforts toward developing creative ideas if they know that management scans the internal context and openly searches for inputs at all levels, becoming aware of employees' initiatives, and hence, incentivizing their development.

The second attribute of comprehensive strategic decisions is that the organization engages in extensive analyses of strategic alternatives and the development of various responses. When organizations with comprehensive strategic decisions are confronted with threats or opportunities, they seek to develop various alternative responses, consider different criteria, and examine multiple explanations for possible courses of action (Souitaris & Maestro, 2010). An environment that welcomes multiple alternative approaches to strategic issues creates a perception that creative contributions from employees are valued, encouraged and appreciated (Hirst et al., 2011). Accordingly, we argue that the organization's emphasis on the analysis and development of strategic alternatives motivates TI-oriented employees to pursue outcomes that depart from the usual. In contrast, non-comprehensive strategic decision processes are often driven by top management's entrepreneurial vision and heuristics (Artinger et al., 2015; Bingham, Eisenhardt, & Furr, 2007; Mintzberg & Waters, 1985). Organizations with less comprehensive strategic decisions may actually discourage or devalue TI-oriented members' self-initiated creative projects because these activities may produce answers to the wrong questions and may create outcomes other than those intended by top managers (Hart, 1992; Wooldridge, Schmid, & Floyd, 2008). Therefore, TI-oriented individuals will feel a lower motivation to focus their joining efforts toward creative initiatives. Accordingly, we hypothesize the following:

Hypothesis 2 (H2) *Strategic decision comprehensiveness moderates the positive relationship between TI orientation and creative performance such that the relationship is stronger when the level of strategic decision comprehensiveness is high.*

4.2 | Moderation by strategic decision speed

In contrast to the enabling role of strategic decision comprehensiveness, we suggest that strategic decision speed suppresses the effects of TI orientation on creativity. In fast strategic decision-

making, employee initiatives are often overlooked as organizations tend to focus on the insights of experienced individuals (Baum & Wally, 2003) and rely primarily on the knowledge of top executives or members of the board of directors (Eisenhardt, 1989). Bingham and Eisenhardt (2011) found that top managers tend to make fast strategic decisions using heuristics that leverage the lessons learned from experience in similar situations. Similarly, Wally and Baum (1994) found that firms facilitate strategic decision speed by using top managers' intuition and by centralizing authority to top managers. Moreover, to accelerate decision processes, top managers tend to focus their attention on task-relevant domains and selectively ignore other domains (Nadkarni & Barr, 2008). Thus, in contexts characterized by high decision speed, employees with high TI orientation may perceive that the organizational context is not open to diverse perspectives and that there are fewer opportunities to capture the attention of top management with creative initiatives. Organizational members may perceive that top management's scant time and attention indicate unresponsiveness to employees' initiatives, impairing their efforts to pursue creativity autonomously (Dutton & Ashford, 1993). Hence, fast strategic decisions may discourage TI-oriented individuals from devoting their joining efforts to creative activities, and direct their attention to something else, such as building social capital more generally.

Furthermore, an emphasis on speed in strategic decisions generates a self-reinforcing sense of urgency and time pressure in an organization that increasingly values decision speed at the expense of decision content (Perlow et al., 2002). The sense of urgency may discourage employees with a disposition toward connecting others from persistently cultivating emergent and uncertain combinatorial activities that are often necessary for creative outcomes. In fact, when management externally imposes time pressure through a sense of urgency, employees perceive the environment to be less supportive of creative combinatorial endeavors (Amabile et al., 1996). Moreover, fast decision processes may discourage TI-oriented individuals from focusing sustained joining activity toward creative initiatives because of the expectation that there will be insufficient time to allow new creative projects with novel combinations of actors and ideas to unfold. Employees could therefore perceive less control over their joining efforts, suppressing the motivation for persistent participation in creative activities (Byron, Khazanchi, & Nazarian, 2010). This is relevant because to fully realize the benefits that TI orientation offers for creativity, the employee should persist in the collaborative process after having initiated collaboration (Obstfeld, 2005; Shi et al., 2009). Finally, Beck and Schmidt (2013) found that time pressure impairs learning and makes employees more likely to avoid new situations with uncertain outcomes. As self-initiated creative projects with emerging combinations of ideas, people, and resources involve a high level of learning and risk-taking (Obstfeld, 2012), TI-oriented employees are less likely to remain actively involved in these projects when their organizational context is characterized by a high (rather than low) strategic decision speed. Hence, we propose:

Hypothesis 3 (H3) *Strategic decision speed moderates the positive relationship between TI orientation and creative performance such that the relationship is weaker when strategic decision speed is high.*

4.3 | Three-way interaction among *tertius iungens* orientation and the two characteristics of strategic decision processes

Building on our arguments, slow strategic decision processes appear to be most effective when they are simultaneously comprehensive. Slowness alone may not be particularly helpful for encouraging

TI-oriented individuals to focus on creativity if slowness is an element of a coercive bureaucracy that constrains employees' motivation to contribute to nonroutine activities and stifles their creativity (Adler & Borys, 1996). Overall, the mere availability of time has less value if executives are not receptive to the initiatives of organizational members and do not attempt to consider and integrate various perspectives into an overall strategy (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). When top management has time to pay attention to employees and there is a formal process that supports management's receptiveness to employees' self-initiated efforts, employees perceive a supportive organizational environment that empowers their efforts aimed at creative outcomes (Adler & Borys, 1996), which motivates TI-oriented individuals to focus their efforts toward creativity. Therefore, a slow decision speed may reinforce the impact of TI orientation on creativity in a particularly effective manner when the level of comprehensiveness is high.

By the same token, a slow strategic decision speed may augment the positive moderating effects of strategic decision comprehensiveness. Slow strategic decision processes may reinforce the influence of comprehensiveness by allowing adequate time to gather various perspectives, develop alternative responses, assess different options, and make integrated decisions without time pressure inhibiting employees' learning orientation and risk tolerance (e.g., Beck & Schmidt, 2013). Ohly, Sonnentag, and Pluntke (2006) elucidated that routinized processes enhance employees' self-initiated creative activities when routinization leaves employees sufficient time to think about their work. Perlow et al. (2002) demonstrated that fast strategic decision processes impede the effective functioning of comprehensive decision processes. Even when employee efforts toward joining activities are intense and well directed, they are less likely to increase creative performance if rapid strategic decision processes inhibit TI-oriented employees' persistent participation in the combinatory process. On the basis of these arguments, we predict that TI orientation will lead to the greatest increase in creative performance in contexts in which strategic decision processes are simultaneously highly comprehensive and slow.

Hypothesis 4 (H4) *There is a three-way interaction among TI orientation, strategic decision speed and strategic decision comprehensiveness in predicting creative performance: TI orientation will have the strongest positive relationship with creative performance when the level of decision comprehensiveness is high and decision speed is low.*

5 | METHODS

5.1 | Sample and data collection

Our data were collected from 638 employees and 192 middle managers from 34 organizations located in Finland. The organizations operated in a variety of sectors, including metals and machinery, food products, furniture, media, information technology, and housing services. Our research focused on organizations in various industries to improve the external validity of our results. Moreover, as employees' creative outputs that pertain to "all parts of organizations and all aspects of their operation" (Damanpour, 1991, p. 556) are relevant for organizational innovation, we chose to examine creative processes of organizational members across various functions. To recruit participants, we distributed newsletters that outlined the broad research objectives and provided instructions for participation through two focal Finnish associations that are focused on organizational development. The organizations that indicated interest in participating were then contacted and asked to provide

the researchers with a list of volunteering managers and employees along with their contact details. At time 1, we sent email invitations to respond to an online survey to 261 middle managers and 1,713 employees within the 34 participating organizations. We conducted two surveys, one for the middle managers and the other for organizational members (employees). Conducting separate surveys helped reduce potential common method variance because the firm-level independent variables and the individual-level dependent variable were obtained from different sources (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Of the contacted individuals, 192 middle managers and 1,004 employees completed the survey, yielding response rates of 74 and 59%, respectively. To collect data on our dependent variable, we sent another survey 12 months after the initial survey to employees who responded at time 1. Of these individuals, 638 employees completed the survey at time 2, which resulted in a response attrition rate of 35.5%. Thus, the final sample consisted of 638 employees nested within 34 organizations. The organization-level measures were based on the assessments of 192 middle managers. The average age of the employees in the final sample was 42 years, and they had been in their current positions for an average of five years. A slight majority of the respondents were female (53%), and 63% of them had at least a bachelor's degree. The employees most commonly had degrees in engineering and technology (38%), business and social sciences (24%), and healthcare and nursing (21%). The employees' most common responses regarding their main tasks in their organization were customer service (34%), product development (22%), and projects and operations (12%).

5.2 | Measures

All measures had been validated in previous research, and they were translated from English to Finnish (the questionnaire language) using a translation-back-translation procedure. To further increase the reliability and validity of the data, the survey instrument was pretested with a sample of 21 university students and employees before the actual data collection. The pretest resulted in only a few minor refinements in some of the item wordings. A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used for all survey items.

5.2.1 | Creative performance

We measured creative performance with the three-item self-report creative performance scale developed by Shalley, Gilson, and Blum (2009). The scale was designed to be suitable for a sample of employees in diverse occupations. The scale includes items such as "The work I produce is creative" and "The work I produce is novel" ($\alpha = .87$). Because our sample was drawn from varied occupations across 34 highly dissimilar organizations, self-reports were the only available and suitable measures of creativity. Although not immune to limitations, the self-report measure of creativity has recently been reconsidered by scholars (e.g., Baer, 2012; Bledow, Rosing, & Frese, 2013; Ng & Lucianetti, 2016; Shalley et al., 2009) and deemed appropriate to use in particular contexts (Ng & Feldman, 2012). Appendix 1 in File S1 provides a detailed explanation of the reasons why the self-report measure of creative performance is suitable to our empirical context.

5.2.2 | *Tertius iungens* orientation

We assessed our independent variable *tertius iungens* orientation using a scale developed by Obstfeld (2005), which asked employees to evaluate their TI orientation using five items. Sample items include "I introduce two people when I think they might benefit from becoming acquainted" and "I will try to describe an issue in a way that will appeal to a diverse set of interests" ($\alpha = .84$).

5.2.3 | Strategic decision comprehensiveness

Following Souitaris and Maestro (2010), we captured strategic decision comprehensiveness with a five-item scale developed by Miller et al. (1998). The survey asked managers to report agreement or disagreement with statements such as “Faced with an immediate, important, nonroutine threat or opportunity, our firm usually...considers many different criteria and issues when deciding the course of action to take” and “...searches extensively for possible responses” ($\alpha = .81$). Strategic decision comprehensiveness is a firm-level (level 2) construct, with assessments provided by managers aggregated at the firm level (on average, 5.6 managers per firm).

To justify the aggregation of managers’ ratings at the firm level, we computed the average $r_{wg(j)}$ to indicate the inter-rater agreement. We also computed interclass correlations (ICC) to examine the percentage of variance in strategic decision comprehensiveness ratings that is attributable to firm membership (ICC1) and the reliability of firm means (ICC2). Values for the indexes are as follows: average $r_{wg(j)} = 0.88$, ICC1 = 0.09 ($p = .037$), and ICC2 = 0.35. In support of aggregation, the ICC1 is significantly different from zero and within the typical range of ICC1 values reported in organization studies (Bliese, 2000). Although the ICC2 was comparable to ICC2 values reported for firm-level constructs in the literature (e.g., Bacharach & Bamberger, 2007; Lam & Mayer, 2014; Ou et al., 2014), it was smaller than ideal. This may mitigate effect sizes in cross-level relationships and make our results conservative, but is not an obstacle to aggregation (Bliese, 2000). Because ICC2 is constrained by the number of raters, relatively modest ICC2 values are typical in organization studies, where the group sizes tend to be small. Moreover, because ICC values are based on between-firm variation relative to total variation, they were constrained in this study by limited variation in firms’ strategic decision comprehensiveness. Nonetheless, a high level of inter-rater agreement and significant intra-class correlations support data aggregation at the firm level (Bliese, 2000; LeBreton & Senter, 2008).

5.2.4 | Strategic decision speed

We measured a firm’s strategic decision speed using a three-item scale developed by Souitaris and Maestro (2010). In our analysis, we omitted one of the three original items because of its low item-to-total correlation (0.22) and because its inclusion would have produced inadequate reliability ($\alpha = .61$). We suspect that the reason for the low item-to-total correlation was that the item, which was reverse-coded, did not explicitly address the speed of decision-making but rather asked about the organization’s tendency and preference to take its time when making strategic decisions. Firms that emphasize fast decision processes may also take the time they need to make decisions, whereas the reverse of the omitted item (i.e., “not taking our time when making strategic decisions”) might have negative connotations of rash rather than fast decision-making. The following two items were used to assess strategic decision speed: “In our firm, we believe in making quick strategic decisions” and “Please check the extent (1 being ‘not at all’ to 5 being ‘to a great extent’) to which your company emphasizes speed when planning or thinking about strategies” ($\alpha = .81$). Both inter-rater reliability indexes (ICC1 = 0.13, ICC2 = 0.45) and the average value of inter-rater agreement ($r_{wg(j)} = 0.78$) supported aggregating managers’ ratings at the firm level.

5.2.5 | Control variables

We controlled for key personality characteristics to mitigate the risk that the relationship between TI orientation and creativity is spurious. First, we controlled for risk propensity, which has been identified as a key determinant of creative behavior (Woodman et al., 1993). Risk propensity measures the dispositional tendency to engage in new activities with uncertain outcomes (Ng & Feldman,

2012) that could underpin both TI orientation and creative behavior. To capture risk propensity, we used four items from Colquitt, Scott, Judge, and Shaw ([2006]; e.g., "I seek adventure" and "I take risks," $\alpha = .79$). Second, we controlled for learning orientation, which is an important predictor of employees' creative behavior and a rival explanation for TI orientation (Hirst, Van Knippenberg, & Zhou, 2009). Learning orientation is another fundamental determinant of creativity because it makes individuals seek new challenges and experiences (Gong, Huang, & Farh, 2009) or the discovery of new solutions (Elliott & Dweck, 1988). This variable was measured by four items from Gong et al. (2009). Sample items include "In my job, I prefer tasks that arouses my curiosity, even if they are difficult to learn" and "In my job, I prefer tasks that really challenge me so I can learn new things" ($\alpha = .72$).

We also controlled for employee gender (0 = male, 1 = female), age (natural logarithm), position tenure, field of education, and functional area within the organization. A series of dummy variables captured the effects of the respondents' fields of education. Similarly, a series of dummy variables controlled for the respondents' primary organizational function. To control for social desirability effects, we added Yun, Takeuchi, and Liu's (2007) four-item measure of the self-enhancement motive (e.g., "It is important to me to give a good impression to others" and "I try to modify my behaviors to give good images to others;" $\alpha = .82$). Individuals with a high social-enhancement motive desire to see themselves in a positive light (Pfeffer & Fong, 2005) and may rate themselves high in both TI and creativity, causing possibly spurious relationships.

At the firm level, exogenous environmental conditions, such as technological turbulence and market growth, are likely to influence the need and opportunities for employees to initiate creative projects. We used a four-item scale to capture technological turbulence (sample items: "The technology in this industry is changing rapidly" and "It is very difficult to forecast where the technology in this area will be in the next few years") and a three-item scale to capture market growth (sample items: "The growth rate of this industry in the past three years is very high" and "The market demand in this industry is growing rapidly"). Both scales were taken from Zhou and Wu (2010),

TABLE 1 Descriptive statistics and correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8
Individual-level (N = 638)										
1. Individual creativity	3.28	0.89	1							
2. TI orientation	3.79	0.62	<i>0.28</i>	1						
3. Self-enhancement motive	3.07	0.75	<i>0.16</i>	<i>0.11</i>	1					
4. Learning orientation	4.35	0.47	<i>0.25</i>	<i>0.33</i>	<i>0.12</i>	1				
5. Risk propensity	2.48	0.76	<i>0.16</i>	<i>0.25</i>	<i>0.08</i>	<i>0.11</i>	1			
6. Gender (1 = female)	0.53	0.50	<i>-0.13</i>	<i>-0.01</i>	<i>0.07</i>	<i>0.04</i>	<i>-0.18</i>	1		
7. Age	41.71	10.39	0.01	<i>0.08</i>	<i>-0.16</i>	<i>-0.06</i>	<i>-0.17</i>	0.06	1	
8. Position tenure	1.92	0.67	<i>-0.02</i>	<i>-0.02</i>	<i>-0.08</i>	<i>-0.07</i>	<i>-0.11</i>	0.04	<i>0.45</i>	1
Firm-level (N = 34)										
1. Strategic decision comprehensiveness	3.12	0.34	1							
2. Strategic decision speed	3.08	0.53	<i>-0.01</i>	1						
3. Technological turbulence	3.29	0.61	<i>0.19</i>	<i>0.29</i>	1					
4. Market growth	3.12	0.76	0.02	<i>0.25</i>	<i>0.32</i>	1				

Notes. Italicized correlations are statistically significant at $p < .05$. Dummy variables indicating employees' educational background and functional area in the organization are excluded from the table to conserve space. These data are available from the authors on request.

and their Cronbach's alphas were .85 (technological turbulence) and .87 (market growth). Managers assessed technological turbulence and market growth, which were aggregated to form firm-level constructs. For both variables, high intra-class correlation and inter-rater agreement measures

TABLE 2 Results of hierarchical linear modeling analyses of individual creativity

Variables	Model 1			Model 2		
	CE	SE	p-Value	CE	SE	p-Value
<i>Level 1 variables</i>						
Intercept	3.27	(0.05)	.000	3.27	(0.05)	.000
Gender (1 = female)	-0.11	(0.08)	.164	-0.13	(0.08)	.119
Age (log)	0.28	(0.14)	.042	0.24	(0.12)	.053
Position tenure	0.01	(0.06)	.856	0.02	(0.06)	.746
Education 1 ^a	0.28	(0.18)	.129	0.28	(0.20)	.148
Education 2 ^a	-0.01	(0.15)	.922	0.02	(0.15)	.875
Education 3 ^a	-0.02	(0.16)	.916	-0.03	(0.15)	.844
Education 4 ^a	-0.60	(0.52)	.253	-0.65	(0.58)	.261
Education 5 ^a	-0.07	(0.26)	.786	-0.08	(0.22)	.715
Education 6 ^a	-0.14	(0.11)	.192	-0.15	(0.10)	.152
Organizational function 1 ^b	-0.14	(0.13)	.288	-0.20	(0.14)	.139
Organizational function 2 ^b	-0.35	(0.24)	.145	-0.39	(0.24)	.106
Organizational function 3 ^b	-0.17	(0.13)	.184	-0.22	(0.14)	.106
Organizational function 4 ^b	-0.44	(0.22)	.051	-0.52	(0.22)	.019
Organizational function 5 ^b	-0.72	(0.29)	.014	-0.66	(0.28)	.017
Organizational function 6 ^b	-0.10	(0.10)	.341	-0.09	(0.11)	.401
Organizational function 7 ^b	-0.02	(0.12)	.860	-0.03	(0.14)	.800
Organizational function 8 ^b	0.10	(0.11)	.395	0.06	(0.12)	.622
Self-enhancement motive	0.15	(0.04)	.000	0.14	(0.04)	.000
Risk propensity	0.09	(0.05)	.085	0.07	(0.06)	.241
Learning orientation	0.42	(0.07)	.000	0.33	(0.07)	.000
TI orientation				0.20	(0.06)	.000
<i>Level 2 variables</i>						
Strategic decision comprehensiveness	0.08	(0.15)	.587	0.09	(0.16)	.586
Strategic decision speed	-0.03	(0.12)	.833	-0.01	(0.11)	.929
Technological turbulence	-0.12	(0.11)	.296	-0.10	(0.11)	.378
Market growth	0.28	(0.10)	.006	0.29	(0.09)	.005
<i>Interactions</i>						
TIO × comprehensiveness				0.43	(0.18)	.016
TIO × speed				-0.15	(0.11)	.187
Comprehensiveness × speed				0.05	(0.30)	.864
TIO × comprehensiveness × speed				-0.52	(0.21)	.013
Pseudo R ²	0.12			0.15		

*N*_{Level 1} = 638; *N*_{Level 2} = 34.

^a Dummy variables for educational background: 1 = arts and humanities, 2 = business and social sciences, 3 = engineering and technology, 4 = behavioral sciences, 5 = natural sciences, 6 = health and social work.

^b Dummy variables for primary functional area: 1 = sales, 2 = marketing and communications, 3 = general administration, 4 = human resources, 5 = finance and accounting, 6 = customer service and support, 7 = R&D, 8 = projects and operations.

(technological turbulence: ICC1 = 0.45, ICC2 = 0.82, average $r_{wg(j)}$ = 0.88; market growth: ICC1 = 0.51, ICC2 = 0.86, average $r_{wg(j)}$ = 0.88) justified aggregation across raters.

6 | ANALYSES AND RESULTS

Before testing the hypotheses, we conducted confirmatory factor analyses to evaluate the discriminant validity of the perceptual measures. The results for the variables collected from employees indicated that the measurement model had an acceptable fit with the data ($\chi^2(160, N = 638) = 774.55, p = .001$, RMSEA = 0.078, CFI = 0.92, NNFI = 0.90, SRMR = 0.061). The measurement model based on the variables collected from the managers fit the data well ($\chi^2(71, N = 192) = 81.69, p = .180$, RMSEA = 0.028, CFI = 0.99, NNFI = 0.99, SRMR = 0.044). As the measures of TI orientation and creative performance were collected from the same source, we conducted Harman's single-factor test to estimate the extent to which common method variance was present in this relationship. The exploratory factor analysis yielded two distinct factors with all items loading on their intended constructs, with high loadings (lowest: 0.71) and low cross-loadings (highest: 0.15). Neither of the factors accounted for the majority of the covariance among the measures, indicating that significant common method variance is unlikely to be present in the data (Podsakoff et al., 2003).

Given the hierarchical nature of the data, we used two-level hierarchical linear modeling (HLM) (Raudenbush & Bryk, 2002) with the dependent and independent variables at level 1 (individual level) and the firm-level variables at level 2. We began by testing a null model for creative performance with no predictors. The null model allowed us to examine the proportion of variation in creative performance that was attributable to predictors at different levels. The analyses revealed that 11% of the variation in creative performance was between firms, and 89% was between individuals within firms. The significant ($p < .001$) variation in creative performance between firms justified the use of HLM as the appropriate analytical technique.

Descriptive statistics and correlations are reported in Table 1. Table 2 presents the results of our HLM analyses. In analyzing the model, we grand-mean-centered the predictors to avoid collinearity problems. Of the control variables, employee age, learning orientation, and self-enhancement motivation were positively and significantly related to creative performance. Employees working in finance and accounting tasks exhibited significantly lower levels of creative performance, and the negative coefficient indicating employees in human resources approached significance. Moreover, the positive association between an employee's risk propensity and creative performance was marginally significant. The firm-level variable market growth had a positive effect on employee creativity.

6.1 | Hypothesis testing

Hypothesis 1 states that an organizational member's TI orientation is positively associated with his or her creative performance. As shown in Table 2, the results of Model 2 suggest that TI orientation has a positive effect on creative performance ($\beta = 0.20; p = .000$), supporting Hypothesis 1. In Hypothesis 2, we argue that strategic decision comprehensiveness positively moderates the relationship between TI orientation and creative performance. Model 2 also shows that the interaction effect was positive and significant ($\beta = 0.43; p = .016$). The simple slopes plotted in Panel A in Figure 2 indicate that TI orientation is positively related to creativity when the organization's strategic decision comprehensiveness is high ($\beta = 0.35; p = .000$), but not when it is low ($\beta = 0.06; p = .320$). These findings lend support for Hypothesis 2. However, Hypothesis 3, which predicts that strategic

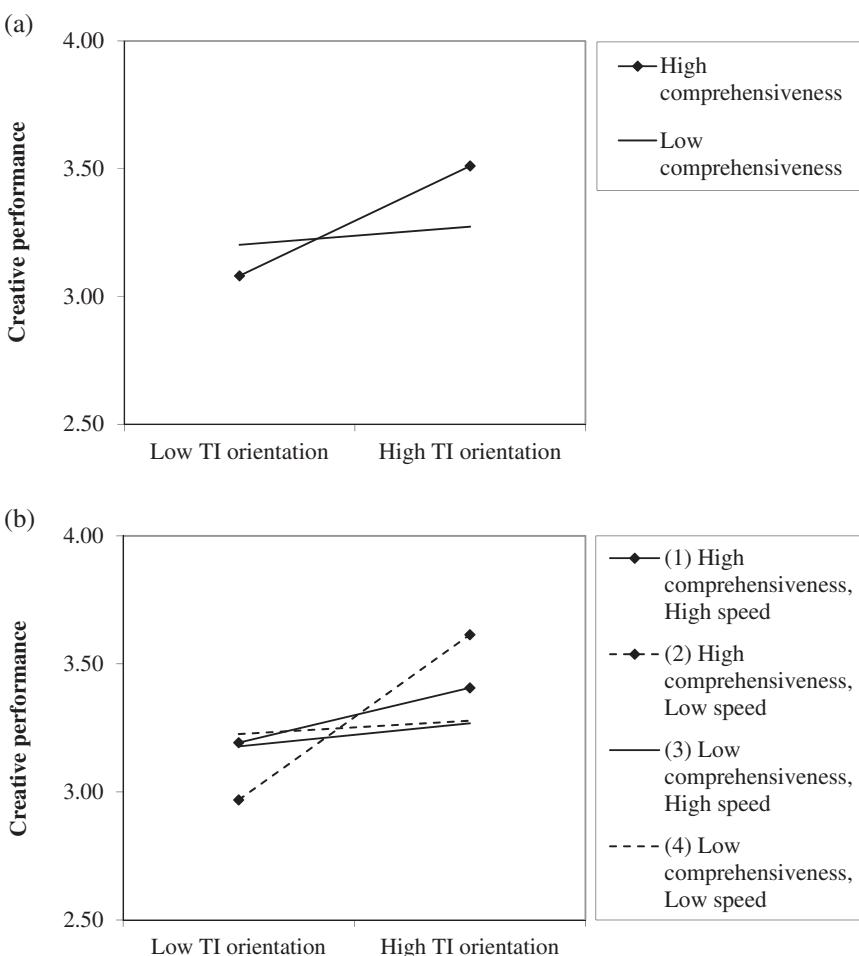


FIGURE 2 Plotted interactions for creative performance. Panel A: Interaction between TI orientation and strategic decision comprehensiveness. Panel B: Interaction between TI orientation, strategic decision comprehensiveness, and strategic decision speed

decision speed weakens the positive association between TI orientation and creative performance, was not supported: Although the interaction between TI orientation and strategic decision speed was expectedly negative, the coefficient was not significant ($\beta = -0.15$; $p = .187$).

The results in Model 2 in Table 2 further show that the coefficient for the three-way interaction was negative and significant ($\beta = -0.52$; $p = .013$). Panel B in Figure 2 illustrates the pattern of these interactions. Supporting Hypothesis 4, the plotted interactions demonstrate that employees with a high TI orientation (i.e., 1 sd. above the mean) attained the highest level of creativity when the organization's strategic decisions were simultaneously slow and highly comprehensive. Interestingly, the plotted interaction also shows that the lowest level of creativity was observed among employees who had a relatively low TI orientation (i.e., 1 sd. below the mean) and worked in organizations with a slow and comprehensive strategic decision-making style. Indeed, under slow and comprehensive strategic decision-making, employees with high TI orientation attain approximately 22% higher creative performance as compared to those with low TI orientation. Thus, depending on the TI orientation levels of organizational members, comprehensive and slow strategy making can lead to either fairly low or high levels of creativity. It is important to note that the effect sizes

depicted in plotted interactions are limited by low standard deviations of strategic decision process variables. For example, a one standard deviation increase in strategic decision comprehensiveness corresponds to only a 6.8% increase on the measurement scale, as “high” (3.46) and “low” (2.78) values are relatively close to the mean value (3.12) of comprehensiveness. Therefore, the slopes are likely to be substantially steeper when considering cases that are more representative of different sides of the measurement scale. Indeed, when plotting relationships at two standard deviations below and above variable means, employee creativity under high comprehensiveness and a low speed ranges between 2.02 (low TI orientation) and 4.57 (high TI orientation).

We also tested the significance of slopes as reported in Appendix 2 in File S1. We found that for TI orientation to improve creativity, the organization’s strategic decision comprehensiveness needs to be medium to high, and its strategic decision speed needs to be low to medium. When comprehensiveness is low, TI orientation has no positive influence on creativity regardless of the speed of strategic processes. Similarly, when strategic decision speed is high, TI orientation will not have a significant effect on creativity, irrespective of the level of comprehensiveness. Compared to all the other conditions, the condition of low speed and high comprehensiveness is significantly ($p < .001$) more supportive of the positive effect of TI orientation on creativity.

Because R^2 statistics are not available in multilevel analyses, the effect sizes are estimated using pseudo R^2 , which provides an approximate estimate of the coefficient of multiple correlations based on the proportional reduction in residual variance as a result of adding the predictors in the model (Hofmann, 1997). Our final model explains 15% of the variance in creativity, which bears a comparison with the effect sizes of extant studies examining employees’ creative performance. Similar studies of individual creative performance have reported R^2 s between 8 and 19% (Bledow et al., 2013; Chang et al., 2014; Perry-Smith, 2014) and pseudo R^2 s between 4 and 12% (Chen, Farh, Campbell-Bush, Wu, & Wu, 2013; Hirst et al., 2009, 2011). The incremental contribution of our hypothesized relationships above and beyond control variables is 3%, which is also comparable to earlier studies. However, different from most studies, our research controls for the effects of three perceptual variables, two of which are individual characteristics with moderately high correlations with TI orientation (risk propensity and learning orientation). These correlated variables are likely to partly mask the relationship between TI orientation and creativity. Finally, the effect sizes are likely to be somewhat conservative because the variability in creative performance was increased by a relatively long time lag and the heterogeneity of participants and organizational contexts. Regardless of these diluting factors, the effect sizes are highly significant and comparable to those observed in earlier research on employee creativity.

6.2 | Supplementary analyses

We undertook additional tests to ensure the robustness of our results. First, we examined the role of outlier cases of extremely low TI orientation in the results. In the distribution of TI orientation, three individuals had a reported TI orientation of 1.0, whereas the second lowest TI orientation score in the data set was 1.8. We removed the three individuals who reported the lowest TI orientation values and re-ran the analyses. These analyses produced the same results as the hypothesis tests. That is, in the full-blown model, the coefficient for TI orientation was positive and significant (H1: $\beta = 0.18$, $p = .001$), strategic decision comprehensiveness significantly moderated the effect of TI orientation (H2: $\beta = 0.52$, $p = .003$), and strategic decision speed significantly influenced creative performance through its three-way interaction with TI orientation and strategic decision comprehensiveness (H4: $\beta = -0.65$, $p = .003$). However, similarly to the analysis of the complete data set, the two-way interaction between strategic decision speed and TI orientation on creative performance was not significant (H3: $\beta = -0.06$, $p = .623$).

Second, as our model controls for the effects of individual characteristics (risk propensity and learning orientation) that correlate with TI orientation, it is possible that these variables have unintended confounding effects. When testing our model without employees' risk propensity and learning orientation, the coefficient for TI orientation is positive and significant ($\beta = 0.32, p = .000$). Compared to the research model, the incremental contribution of TI orientation to creative performance is substantially greater when risk propensity and learning orientation are excluded from the analyses (i.e., $\Delta\text{Pseudo } R^2 = 6\%$). This finding suggests that in addition to its unique effects, TI orientation explains a proportion of the same variance in creative performance with other individual characteristics. The coefficient for testing Hypothesis 2 remains significant ($\beta = 0.40, p = .027$), Hypothesis 3 remains unsupported ($\beta = -0.17, p = .109$), and the coefficient for the three-way interaction among TI orientation, strategic decision comprehensiveness, and strategic decision speed confirms Hypothesis 4 ($\beta = -0.54, p = .012$). Finally, we tested the significance of a squared term of TI orientation in the model. However, the coefficient for the squared term was low and insignificant, and its inclusion did not change the results. Overall, these supplementary analyses indicate support for the robustness of the results.

7 | DISCUSSION

Research on strategic decision-making has sought to understand how different aspects of strategic decision-making processes relate to firm performance, but these investigations have not specified exactly how these processes enable employees to perform better. This article presents a theory and evidence for how employees' TI orientation affects creative performance and how the strategic decision-making process moderates this relationship. The findings confirm the beneficial effects of TI orientation on creative performance while highlighting the enabling and constraining role of the strategic context. Whereas we found decision comprehensiveness to strengthen the relationship between TI orientation and creative performance, we did not find decision speed to have the hypothesized negative moderating effect. Then again, we found evidence for a three-way interaction in which the effect of TI orientation on creative performance was strongest when the decision process is simultaneously slow and highly comprehensive.

Our study offers a number of contributions to management research. First, whereas past research on strategic decision processes has focused on the macro-level relationships between process characteristics and firm performance (Baum & Wally, 2003; Forbes, 2007; Priem et al., 1995), we focus on how these processes influence micro-level processes to obtain creative outcomes. Our approach suggests that organizational outcomes may not only follow directly from decision processes, but rather unfold as an outcome of a more multilayered interplay between macro-level strategic decision-making and micro-level individual processes. Whereas it has been extensively debated whether or not being fast and omitting comprehensive analyses helps organizations respond effectively to exogenous changes (Bingham & Eisenhardt, 2011; Souitaris & Maestro, 2010), our results suggest that this type of strategy-making may not be the most viable option to support self-initiated creative collaboration among employees. Our finding that employees' TI orientation will improve creativity only in strategic contexts characterized by low speed and high comprehensiveness is an issue that senior managers might factor in when considering how to go about making strategic decisions given employees' voluntary efforts to promote collaboration, knowledge combination, and creative initiatives, which are key drivers of innovation in organizations (Kim & Mauborgne, 1998).

Second, we contribute to the strategy-making literature by identifying a new complementary role between the different attributes of strategic decision processes. Previous authors reached distinct

normative conclusions on how strategic decision processes should be pursued (Souitaris & Maestro, 2010). Eisenhardt (1989), for example, posited that effective organizations should have both highly comprehensive and fast decision processes. The micro-implications of strategic decision processes propose a different view: high levels of comprehensiveness alongside low speed foster micro-level innovation outcomes, as TI-oriented individuals are motivated to initiate and sustain innovation projects. However, our results are not in conflict with those of Eisenhardt. Whereas our results pertain to the outcomes of micro-level social processes, Eisenhardt studied the ability of top managers to influence firm performance. Overall, our results enrich the debate regarding the role of strategic decision-makers in shaping organizational effectiveness (Hart, 1992; Mintzberg & Waters, 1985). Interestingly, comprehensive, slower decision-making may enable a broad base of relatively spontaneous and rapidly developing innovation projects. This combination may constitute an important alternative path toward firm adaptation to environmental change and even a source of dynamic capability that may be fostered by the executive level while occurring outside of it.

Third, our work has implications for research on the micro-foundations of strategic management. This literature has typically focused on the macro-predictors of micro-level outcomes and the aggregation of micro-phenomena to macro-outcomes rather than on the interplay between macro- and micro-level variables (e.g., Barney & Felin, 2013). Although Abell, Felin, and Foss (2008) acknowledged the possibility of these cross-level interactions, little research has advanced our understanding of how micro-level processes can be enabled or constrained by factors at the firm level. Whereas underlying micro-level processes are vital for understanding the relationship between macro-level antecedents and outcomes, it is equally important to understand how macro-level factors constrain or enable micro-level activities.

Fourth, we contribute to the understanding of the relationship between network processes and creative outcomes. Our findings provide insight into the benefits of TI orientation—a process-based social network variable that complements and extends existing structure-based social network variables (Obstfeld et al., 2014). We extend Obstfeld's (2005) findings that TI orientation affects individuals' contributions to organizational innovation, by showing how TI orientation can have a positive effect on individual creativity and by demonstrating that its outcomes are contingent on the social context. Our results might also supplement research regarding the effects of network structure on creativity (Burt, 2004) by suggesting how theoretical and empirical attention not only to the network structure, but also to the network process and its impact on creativity, can enhance the study of crucial organizational outcomes.

Our findings also have implications for practitioners. The strategic decisions of top management may not only directly affect organizational outcomes, but also indirectly affect them through their influence on frontline individual creative pursuits. Normative prescriptions may vary depending on the focus on macro- or micro-factors. For instance, if organizations want to improve organizational performance through first-mover advantages, they might emphasize fast strategic decision-making and move quickly under the leadership of top management (e.g., Sull, 2009). However, organizations that seek to foster microsocial creativity might temper their strategic decision speed. More broadly, our results demonstrate to managers an important trade-off that can foster more sophisticated strategic decision-making.

The article has certain limitations that provide opportunities for future research. An ongoing debate concerns whether creative performance is most accurately measured using self-ratings or supervisor or peer ratings (e.g., Baer, 2012; Bledow et al., 2013). As is always the case with self-ratings, individuals may have inaccurate views of their own performance. However, assessments of the creative performance of other actors can also introduce bias because people may not directly observe

or be able to objectively evaluate the creative activity of others (Liao, Liu, & Loi, 2010; Shalley et al., 2009). Nevertheless, future studies using external ratings or objective indicators of creative performance would help verify the relationships found in this study. The risks of common method variance in this study were mitigated because the data on creative performance were collected 12 months after the data on TI orientation. Furthermore, the risks of common method variance did not affect the moderating hypotheses because strategic decision-making factors were measured by managers at the higher level of analysis.

As only 34 organizations were analyzed at level 2, firms scoring extremely low or extremely high on strategic decision characteristics are not represented in the data set. The lack of extreme observations is expected because of the small sample size and the normal distribution of strategic decision variables. Another limitation is that we could not aggregate individual creative performance at the firm level, limiting causal inferences regarding whether and how the study variables would contribute to organization-level creativity. This limitation is somewhat mitigated by the prevailing theoretical view that organizational creativity is an additive outcome of members' creative performances (Woodman et al., 1993); hence, it is likely safe to assume that higher creative performance by any employee will generally enhance the creativity of the entire organization. However, future research is needed to extend our model to verify the path from micro- to macro-level performance. In addition, although the *tertius iungens* measure captured the social network process, our study did not capture a measure of social network structure, which might have provided greater insight into the combinatorial dynamics that were the focus of this study.

In conclusion, this article examined how the interplay between the strategic decision-making context and individuals' propensity for orchestrating network action (i.e., the TI orientation) explains creative performance. We found that the way in which top decision-makers make strategic decisions is likely to influence employees' perceptions that self-starting creative projects are encouraged and guided by the organization and that the organization motivates its members to persistently participate in these processes. In this way, the strategic decision processes of organizations can act to enable or constrain individual behaviors, and in turn, affect the relationship between TI orientation and creativity. The article also contributes to the social network literature by placing an emergent network-as-process perspective into a broader, more macro-organizational context. Finally, our study contributes empirical insight to an important but primarily theoretical dialogue about the micro-foundations of strategy and the interactions of the micro- and macro-phenomena more broadly.

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