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Hyunjee Hannah Kim & Jin Nam Choi

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How to Translate Creative Ideas into Innovation? Differential Resources for Proactive and Responsive Team Idea Generation

Hyunjee Hannah Kim and Jin Nam Choi 

Seoul National University

ABSTRACT

A core challenge for team innovation is the successful translation of creative ideas into innovation through implementation. This study examines the tension between internal and external team resourcing behaviors that account for how teams translate their creative ideas into implemented innovation. Drawing on conservation of resource theory, we propose that motivational underpinnings of team idea generation predict team resourcing behaviors that directly affect team innovation implementation. Path analysis of a field survey data collected from 91 teams showed that teams that generated creative ideas proactively for internal interest effectively utilized internal resources but failed to acquire external resources for innovation implementation. By contrast, teams that generated ideas in response to external demands effectively acquired external resources but encountered diminished internal resources. These unbalanced resourcing patterns were partially resolved by team leadership, such that the negative indirect effect of responsive idea generation on innovation implementation via reduced internal resource utilization disappeared when internal-integration leadership was high. This study offers new theoretical insights into the transition between idea generation and implementation by identifying tension between teams' internal and external resources as the core intermediating mechanism.

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Creativity and innovation are critical to the growth and competitiveness of organizations that operate in dynamic business environments (Bledow, Frese, Anderson, Erez, & Farr, 2009). Creativity refers to the idea generation stage of the innovation process, whereas innovation refers to “the subsequent stage of implementing ideas toward better procedures, practices, or products” (Anderson, Potočnik, & Zhou, 2014). Previous studies have focused on either creativity or innovation in isolation, thus neglecting the transition from generating creative ideas to implementation (Perry-Smith & Mannucci, 2017; Škerlavaj, Černe, & Dysvik, 2014). Specifically, when discussing the challenges associated with the innovation process, much research focused on competing demands across the different stages. For example, the earlier stage of idea generation requires exploration, divergent thinking, or emergent leading styles, whereas the later stage of idea implementation requires exploitation, convergent thinking, or planned leading styles (Baer, 2012; Lee, Rho, Kim, & Jun, 2007; Lewis, Welsh, Dehler, & Green, 2002). However, not much has been explored regarding the transition of stages, which enables a translation of creative ideas into implemented products or work processes.

As organizations increasingly rely on team-based structures (Ilgen, Hollenbeck, Johnson, & Jundt, 2005), work teams have become the critical source of organizational innovation (Anderson et al., 2014). Unfortunately, team-level studies on the transition from idea generation to implementation are lacking. Only a few studies explored boundary conditions that foster the idea generation–implementation transition, such as team composition (Somech & Drach-Zahavy, 2013) or integrative group competencies (West, 2002). The present study advances this literature by theorizing and empirically investigating the team-level intervening processes that connect teams' idea generation to their implementation.

Specifically, we attend to team behaviors for managing resources as a critical connecting mechanism, because innovations involve new, non-routine, and risky tasks that require intensive acquisition and application of knowledge, human resources, and financial investment (Acar, Tarakci, & Van Knippenberg, 2018). The unique aspect of team innovation, particularly team implementation compared with individual-level implementation, is that it often requires utilizing resources effectively within a team and also securing resources from external parties outside the team boundary (Van

Knippenberg, 2017). Such a dependence on external resources may distinguish the team-level implementation of ideas from organization-level implementation, which can be relatively self-sufficient in finding and allocating resources. Accordingly, resource-related tensions in the innovation process are likely in teams because they are forced to simultaneously manage internal and external resources (Boyd, Dess, & Rasheed, 1993; Choi, 2002).

To theorize the way teams cope with the tension between internal and external resourcing behaviors during the innovation process, we resort to conservation of resource theory (COR; Hobfoll, 1989). Mainly used in stressful or tense situations, COR theory suggests that teams are motivated to obtain, retain, foster, and protect resources to achieve their goal (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014; Hobfoll, Halbesleben, Neveu, & Westman, 2018). However, when they exhaust or fail to acquire resources, teams will enter a defensive mode to preserve and resort to resources that can be easily achieved or readily available. Considering that a core driver for managing resources is motivational (Hobfoll et al., 2018), we identify a team's motivational orientation underlying idea generation as a driving force that affects the way teams manage competing demands for internal and external resources toward implementation.

Teams can be motivated to generate creative ideas as a response to address external requests or initiate proactively on the basis of their own inherent interests, which represent responsive and proactive team idea generation, respectively (Unsworth, 2001). Teams may be able to mobilize and acquire different resources depending on the motivational driver underlying idea generation, thereby enabling their implementation. For example, some teams responsively develop specific ideas to build agile practices in compliance with company-wide agile-culture initiative. Meanwhile, other teams proactively suggest building an agile culture independently to improve their work processes in the absence of company initiatives. Teams with responsive idea generation to follow company-wide agile-culture initiatives will entertain sufficient technical, financial, and managerial support from the organization (i.e., external resources). Meanwhile, teams that proactively pursue agile culture and practices will develop internal resources, such as team members' commitment, skills, and willingness to learn. Thus, initial motivational drivers at the idea generation phase shape a team's resourcing behaviors, which tend to favor either internal or external resources. This unbalanced reliance on either aspect of resources may lead to sub-optimal

implementation outcomes for proactive and responsive team idea generation. We identify this resource-related tension as a critical challenge for managing innovations in teams.

We further propose that the inherent resource-related tension can be addressed by team leaders who can rebalance a team's biased resource mobilization. Team leadership plays a critical role in team innovation by managing resources within and outside the team (Yukl, 2012). Team leaders must manage internal processes, such as sponsoring, coaching, and motivating team members toward innovation (Elkins & Keller, 2003), thereby building internal team resources. They also need to work across the team boundary to play a brokering role by acquiring and coordinating resources with external actors (Elkins & Keller, 2003), thereby mobilizing external resources needed for team innovation. Thus, we explore the possibility that team leaders play a complementary function for team resourcing behaviors and achieve a resource balance for teams to translate creative ideas into innovation.

This study contributes to teams and innovation literature in several ways. First, by investigating the intermediate mechanism connecting idea generation and implementation, this work addresses the chasm between creativity and innovation, particularly at the team level (Van Knippenberg, 2017). Second, this study addresses the tension related to balancing internal and external resources owing to disparate drivers of the innovation process (i.e., proactive and responsive team idea generation), which is a critical but neglected challenge for team innovation. Third, this study contributes to boundary-spanning and innovation research by highlighting the importance of considering internal team activities together with external activities (Marrone, 2010). Fourth, this study highlights team leaders' roles in achieving balance between internal and external resources and addresses the bias of resourcing behaviors of teams owing to their motivation. The current theoretical model was tested through a field survey with 91 team leaders and 315 team members from various industries.

Theoretical background and hypotheses

Tension between internal and external resources and conservation of resources

Innovation presents a series of disparate demands that are unpredictable and difficult to resolve and often requires paradoxical processes simultaneously (Hunter, Cushenbery, & Jayne, 2017). These

disparate demands often result in enormous tension and challenges, particularly in dealing with resources to execute such demands, which are crucial for generating and implementing creative ideas (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Sonenshein, 2014). Creativity and innovation literature has also begun to focus on the functions of resources and constraints (Acar et al., 2018; Caniëls & Rietzschel, 2015).

Considering that teams are equipped with resources that are only enough to execute routine tasks, engaging in additional, non-routine, innovative tasks inevitably requires gaining new resources from external parties or better utilizing existing internal resources (Van Knippenberg, 2017). Unlike the mostly internal team coordination needed for regular, routine tasks, implementing creative ideas may require internal and external resources because the external environment offers various types of resources that are not present within a focal team, such as extra technical support, financial support, and legitimacy (Ancona & Caldwell, 1992; Van Knippenberg, 2017). Here, a unique tension arises because, with limited capacity, teams not only engage in internal resource utilization but also in acquiring resources externally. Thus, a team's internal and external resourcing behaviors could be in competing relationships, leading teams to continuously make choices between the two resourcing behaviors (Boyd et al., 1993; Choi, 2002). Failure in balancing this tension results in sub-optimal performance and significant distress for work teams (Ancona, 1990; Marrone, 2010).

In this study, we examine the challenges of balancing two types of team resourcing behaviors, internal resource utilization and external resource acquisition, as a core intervening mechanism for teams to translate creative ideas into team innovation. We rely on COR theory to explain a team's resourcing behaviors to acquire and utilize internal and external resources. COR theory is a motivation theory particularly under stress, because it focuses on the evolutionary need to acquire and conserve resources for survival (Hobfoll et al., 2018). Thus, we propose that a team's motivation during idea generation shapes its resourcing behaviors that lead to team innovation implementation. The overall theoretical framework is summarized in Figure 1, and specific hypotheses are detailed in the following sections.

Effects of team idea generation motives on internal and external resourcing behaviors

Researchers pointed out the limitations of treating creative ideas as a unitary concept and identified different types of creativity, such as radical and incremental creativity (Gilson & Madjar, 2011) or proactive and responsive creativity (Unsworth, 2001). As motivational underpinnings bear significance for a team's resourcing behaviors (Hobfoll et al., 2018), we focus on the distinction between proactive and responsive team idea generation. Proactive team idea generation refers to creative ideas generated by self-determined intentions of team members (e.g., challenge and enjoyment inherent to task), whereas responsive team idea generation is

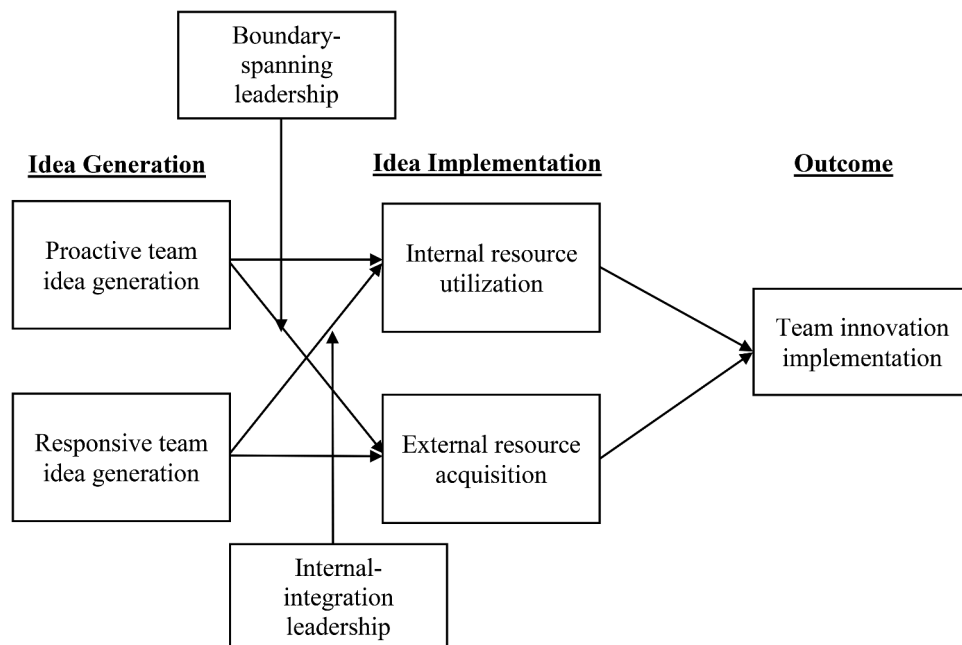


Figure 1. Conceptual framework.

creative ideas generated by externally driven intentions (e.g., demands and expectations from external actors, Sung, Antefelt, & Choi, 2017).

According to self-determination theory, human behaviors are initiated either through self-determined choices or due to external demands (Deci & Ryan, 1985). Self-determined behaviors are those that are done autonomously as an expression of oneself, such as one's own wish to be creative or a desire to solve a problem; whereas externally driven behaviors are those that are done in response to or required by environmental forces, such as requests from the management or other parties (Ryan & Deci, 2000). The literature has endorsed the importance of proactive or intrinsic motivation for innovation success over responsive or extrinsic motivation because considerable energy, direction, and persistence toward innovation can be sparked by the former rather than the latter (Gong, Wu, Song, & Zhang, 2017). Such a discounting of extrinsic motivation in the contexts of creativity and innovation is generally caused by the conception of this behavior as a spontaneous, voluntary action rather than a compliant, passive behavior (Grant & Ashford, 2008). However, from the COR perspective, teams with proactive and responsive motivation underlying their creative idea generation could face distinct advantages and disadvantages in their resourcing behaviors (Hobfoll, 1989).

Teams with proactive idea generation

When work teams proactively choose to generate creative ideas, they are more likely to fully endorse and engage in implementing those ideas (Patall, Cooper, & Robinson, 2008; Ryan & Deci, 2000). To translate creative ideas into practice, teams need to take actions to utilize their knowledge, personnel, money, or other resources, thus activating the value of such resources (Moreland & Myaskovsky, 2000). Internal resource utilization is critical for team innovation implementation because it enables teams to access, explore, and exploit resources they possess (Tiwana & Mclean, 2005). It involves the process of close collaboration among team members, thereby encouraging the flow of resources within the team (Wilson, Goodman, & Cronin, 2007). When work teams generate creative ideas proactively, the underlying proactive motivation drives team members to engage in positive group functioning and increases the flow of resources and close cooperation, which enables internal resource utilization (Eccles & Wigfield, 2002).

In addition to internal resources, work teams must actively champion their ideas to external actors to secure their support because innovation requires a multitude of resources, not all of which are available within a focal

team (Marrone, 2010; Sandberg, 2007). Moreover, teams in contemporary organizations inevitably require working interdependently with external parties spanning their boundaries (Marks, Mathieu, & Zaccaro, 2001). Securing external resources, such as support, collaboration, human resources, or financial capital, needed for implementation is a constant challenge, and work teams are known to face deficiencies in these resources during innovation (Alexander & Van Knippenberg, 2014; Leifer et al., 2000). This explains why some researchers argue that the main challenges to successful innovation implementation lie outside of the team, specifically in obtaining support from senior management and collaborating with other departments or organizations (Leifer et al., 2000).

Although work teams that proactively generate creative ideas may promote their ideas to external parties (Grant & Ashford, 2008), external resources may be limited. Given that creative ideas are, by nature, risky and challenge external parties, securing external legitimacy to acquire resources is not a simple task (Van Knippenberg, 2017). Even when teams reach out to external parties, they may encounter considerable resistance and challenges. New ideas disrupt the extant routines and status quo of others who may not buy in and regard the ideas as uninvited nuisance (Agrawal et al., 2018). According to COR theory, when teams strive to earn new resources by outstretching and exhausting their existing resources, failure to earn new resources as intended could cause serious distress and make teams enter a defensive mode to preserve their existing resources while giving up acquiring new resources (Hobfoll et al., 2018). Thus, after struggling through acquiring external resources without much success, teams with proactive idea generation may end up renouncing external resources and instead try to better utilize their internal resources that are readily available. Thus, we propose the following hypotheses.

Hypothesis 1: Proactive team idea generation is (a) positively related to internal resource utilization and (b) negatively related to external resource acquisition.

Teams with responsive idea generation

When teams generate creative ideas responsively following external demands, they may entertain greater possibilities of acquiring external resources. These teams are likely to secure the support or involvement of key external parties from the beginning, because those key constituents asked the teams to develop ideas as they see fit and thus the necessity and benefit of the ideas are straightforward (Patall et al., 2008). Even when resources are needed from extra-organizational actors

or other branches, having coalitions that share responsibilities for a given idea should facilitate the acquisition of external resources. External parties involved in the idea generation process are willing to or even feel obliged to provide resources or help teams acquire such resources for implementation.

However, when teams engage in responsive idea generation, team members are less likely to feel ownership and share responsibility regarding creative ideas for their actualization because they feel controlled or constrained by external forces coming from others' requests (Ryan & Deci, 2000). The meta-analytic review of Deci, Koestner, and Ryan (1999) showed how intrinsic motivation to perform tasks is undermined when tasks are compulsory and associated with extrinsic rewards. When teams are forced to perform certain tasks, they may be unable to achieve the same level of commitment and engagement as intrinsically motivated teams, particularly when the results are not immediately achievable, such as in the case of innovation tasks (Zhang & Bartol, 2010). Therefore, teams with responsive idea generation will hesitate or fail to activate collaborative striving toward implementing ideas requested by external actors, which could be regarded as unnecessary or unwanted extra work for them (Hu & Liden, 2015). On the basis of these arguments, the following relationships are hypothesized.

Hypothesis 2: Responsive team idea generation is (a) negatively related to internal resource utilization and (b) positively related to external resource acquisition.

Effects of team resourcing behaviors on innovation implementation

Resources are considered crucial for innovation success (Amabile et al., 1996; Sonenshein, 2014). In this study, we propose that internal resource utilization and external resource acquisition are critical in translating creative ideas into team innovation implementation. To implement ideas, teams are required to utilize internal resources by effectively exchanging, redeploying, and applying members' knowledge, work hours, and financial resources under their control within the team boundary (Perry-Smith & Mannucci, 2017; Somech & Drach-Zahavy, 2013). Given the increasing interdependence between teams and external actors, securing external resources should facilitate a team's conduct of non-routine operations. Implementing new ideas could bother external actors or require extra resources that are not available within the team boundary (Ancona & Caldwell, 1992; Marks et al., 2001). Owing to limited

resources in teams, acquiring external resources often serves as a platform for team innovation (Marrone, 2010). Thus, internal and external resources are needed for team innovation.

Hypothesis 3: (a) Internal resource utilization and (b) external resource acquisition are positively related to team innovation implementation.

Team resourcing behaviors as mediating mechanisms

We further propose that team resourcing behaviors mediate the relationship between idea generation and innovation implementation at the team level. Although idea generation and innovation implementation is known to have a positive relationship at the individual level, no significant links were found at the team level (Sarooghi, Libaers, & Burkemper, 2015). As previously hypothesized, when teams generate ideas proactively, they can utilize internal resources actively with a heightened desire for implementation, leading to higher innovation implementation. However, teams with proactive idea generation could get push back on acquiring external resources, which hinders innovation implementation via decreased supply of external resources. Hence, internal and external resourcing behaviors will constitute positive and negative pathways, respectively, for teams with proactive idea generation to implement ideas.

Hypothesis 4: Proactive team idea generation has (a) a positive indirect effect on team innovation implementation through internal resource utilization and (b) a negative indirect effect on team innovation implementation through external resource acquisition.

By contrast, teams that generate ideas responsively per external demands can acquire external resources as needed, which lead to successful team innovation implementation (Ancona & Bresman, 2002). However, these teams could suffer from lukewarm internal support from members who are not motivated to utilize internal resources, which will impair implementation. Thus, for teams with responsive idea generation, internal and external resourcing behaviors operate as negative and positive pathways, respectively, toward implementing their ideas.

Hypothesis 5: Responsive team idea generation has (a) a negative indirect effect on team innovation implementation through internal resource utilization and (b) a positive indirect effect on team innovation implementation through external resource acquisition.

Team leadership as moderating contingency

Teams with proactive and responsive idea generation resort to either internal or external resources and fail to gain full access to resources as needed, resulting in suboptimal performance in their innovation implementation. For teams to overcome their biased resourcing behaviors, we focus on the rebalancing function performed by leaders. In accordance with COR theory, resource deficiency and its accompanying stress can be addressed through social support, which helps replenish flagging resources (Hobfoll et al., 2018). In organizations, leaders can supply such support for teams with resource deficiency to achieve balance between internal and external resources. The leadership and innovation literature also highlights the importance of leaders' roles in supporting teams to overcome resource deficiency while performing innovative tasks by complementing the weaknesses of the team (Elkins & Keller, 2003).

Team leadership plays a critical role in innovation (Alexander & Van Knippenberg, 2014). Leader behaviors are traditionally categorized into consideration or relationship-oriented behaviors and initiating structure or task-oriented behaviors (Yukl, 2012). The current research extends these two categories and identify two distinct forms of leadership, namely, internal integration and boundary spanning. Internal-integration leadership deals with internal team activities by sponsoring, coaching, and motivating team members to implement creative ideas that mostly focus on relationships with members (Elkins & Keller, 2003). By contrast, boundary-spanning leadership goes beyond the team boundary and manages teams' relationships with external actors through environmental scanning, coordinating tasks, and negotiating resources, thereby mainly addressing task-related issues (Benoliel & Somech, 2014; Choi, 2002). We identify these leader behaviors as critical contextual support for teams in dealing with limited resources in translating their ideas into innovation implementation.

Boundary-spanning leadership for teams with proactive idea generation

Boundary-spanning leadership can be effective for teams with proactive idea generation by playing a complementary role in building team resources for innovation implementation (Elkins & Keller, 2003). Boundary-spanning leaders can manage external activities of a team and obtain resources and information to facilitate its effective functioning (Hirst & Mann, 2004). Typical behaviors of boundary-spanning leadership

include representing a team and promoting its reputation, lobbying for resources and assistance, and coordinating task activities with external constituents (Faraj & Yan, 2009; Yukl, 2012).

Boundary-spanning leadership may be conducive for teams with proactive idea generation, because these teams have internal resources readily available but encounter a significant challenge in gaining external support and extra resources outside the team boundary. Boundary-spanning leaders can resolve the crippled resource situation by properly managing external relationships. With the complementary function of boundary-spanning leaders, teams with proactive idea generation will replenish deficient external resources, thereby enabling them to overcome the downside of proactive idea generation. We advance the following moderated mediation hypothesis:

Hypothesis 6: Boundary-spanning leadership moderates the negative indirect effect of proactive team idea generation on team innovation implementation through external resource acquisition, such that when boundary-spanning leadership is high, the indirect effect becomes insignificant.

Internal-integration leadership for teams with responsive idea generation

To engage team members who have started the innovation process responsively through external demands, leaders need to integrate and motivate them toward idea implementation. When going through the challenge of the externally imposed innovation process, leaders need to integrate team members internally by supporting them, increasing their efficacy, and setting a clear goal and vision (Yukl, 2012).

Internal-integration leadership could encourage teams with responsive idea generation through high-quality leader-member interactions (Jansen, Kostopoulos, Mihalache, & Papalexandris, 2016). One of the most salient behaviors of internal-integration leadership is providing emotional support, such as exhibiting sympathy or liking and listening to team members who are stressed due to compulsory engagement in innovation (Rafferty & Restubog, 2010). With specific actions around emotional support and morale building, internal-integration leaders can mobilize internal resources for teams implementing ideas generated responsively. Considering these benefits, internal-integration leadership can promote the possibility that teams with responsive idea generation can generate internal resource and overcome their crippled resource situation of mostly resorting to external resources.

Hypothesis 7: Internal-integration leadership moderates the negative indirect effect of responsive team idea generation on team innovation implementation through internal resource utilization, such that when internal-integration leadership is high, the indirect effect becomes insignificant.

Method

Sample

To test the current hypotheses, data were collected from work teams in organizations in South Korea. The target companies were medium-to-large companies (employee size $\geq 1,000$) covering various sectors, such as telecommunication, financial services, manufacturing, consumer goods, and Internet-based. We intentionally included medium-to-large companies and excluded start-up companies, because work teams in medium-to-large companies generate creative ideas with diverse motivational backgrounds and work interdependently with other parties in the organization.

We distributed surveys to 112 work teams from 17 companies and received completed surveys from 99 team leaders and 356 team members (response rate = 88%). After excluding insincere answers (2 teams), incomplete responses (3 teams), and teams with less than three members (3 teams), 91 work teams (91 team leaders and 315 team members) comprised the final analysis sample. This analysis sample included teams from various industries, such as manufacturing (24.2%), telecommunication/IT (29.7%), financial services (46.1%), and consumer goods (8.8%). The sampled teams performed various functions, such as strategy (24.7%), sales (20.2%), management/planning (15.7%), operation (12.4%), R&D (10.1%), HR (9.0%), and marketing (7.9%). On average, 3.46 team members per team participated in the survey. The actual team size reported by leaders was on average 6.2 members, which makes our sample covering on average 61% of total membership. The majority of the participants were males (81.9%), which reflects the typical gender composition of industries included in this study.

Data collection procedure

The present data were collected in the following steps. Team leaders were contacted first and asked to identify a specific creative idea that was generated and implemented by their team within the past six months. Thereafter, they provided the following information about the creative idea they identified: (a) a brief

explanation of the idea, (b) idea type (i.e., work process, product/service, and IT/system, etc.), (c) initiating factors: external parties (management, other department, environment) and team members themselves, and (d) duration of implementation.

Once the target idea is identified, team leaders were instructed to write its name or title on the envelope of surveys distributed to team members. Subsequently, team members were instructed to complete the survey in reference to the creative idea or innovation project their leaders identified. To make sure all members complete the survey in reference to the same creative idea as noted on the survey, team members were asked to write down the name of the target idea two times while they completed the survey. Each team member's survey was sealed and returned directly to the research team.

Measures

All variables were assessed with multi-item measures rated on a five-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree"). Study variables reported by team members were aggregated with acceptable levels of within-group agreement (r_{wg}) and intra-class correlations (Chen, Bliese, & Mathieu, 2005).

Proactive and responsive team idea generation

We employed proactive and responsive creativity scales developed by Sung et al. (2017) to assess whether participating teams generated the specific creative idea proactively or responsively. We customized the items to the current research context by shifting the referent of scale items from "this person" to "my team members" and by specifying the "creative idea" as the target idea identified by team leaders. Team members rated the proactive initiation of the creative idea in question on a five-item scale ($\alpha = .91$, $r_{wg}(5) = .92$, $ICC(1) = .55$, $ICC(2) = .83$, $F = 6.05$, $p < .001$). The extent to which the target idea was a response to external demands was also rated by team members on a four-item scale ($\alpha = .83$, $r_{wg}(4) = .91$, $ICC(1) = .91$, $ICC(2) = .97$, $F = 4.40$, $p < .001$). Table 1 lists the full set of scale items.

Internal resource utilization

To measure internal resource utilization in translating ideas into implemented innovation, we adapted the scale developed by Akgün, Dayan, and Di Benedetto (2008). Resources were specified as financial support, human resources, knowledge, and legitimacy that are relevant for innovation implementation. Team members rated internal resource utilization on a three-item scale ($\alpha = .89$, $r_{wg}(3) = .91$, $ICC(1) = .37$, $ICC(2) = .71$, $F = 3.47$, $p < .001$).

Table 1. Exploratory factor analysis.

Variables		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	AVE	CR	Cronbach's alpha
Proactive team idea generation	When generating the target idea (specified by the leader), my team members ...	-.100	.726	-.016	-.047	-.032	-.138	.106	.610	.890	.91
	... suggest new ways of performing work in a proactive manner.										
	... voluntarily offer creative ideas during our work.	-.076	.878	.097	-.008	-.083	.125	-.078			
	... are a good source of unexpected creative solutions.	-.072	.883	.085	.078	.067	.026	-.122			
	... generate creative ideas in an independent and proactive manner.	.172	.736	-.008	-.031	-.058	-.035	-.004			
	... suggest useful ideas and solutions even without a specific problem to solve.	.137	.662	-.056	-.046	-.069	-.131	.028			
Responsive team idea generation	When generating the target idea (specified by the leader), my team members ...	.097	.079	-.105	-.033	.647	.187	-.035	.500	.770	.83
	... exert acceptable creative efforts to fulfill the external demands.										
	... suggest creative solutions only to satisfy the guidelines from external actors.	-.067	-.023	-.042	-.065	.815	-.075	-.036			
	... respond properly to the requirements of creative solutions imposed by external parties.	-.064	-.367	.084	.039	.721	-.187	-.122			
External resource acquisition	... suggest new ideas and solutions when external actors present a specific problem to solve.	-.064	.045	.123	-.012	.478	.228	.067			
	When implementing the target idea (specified by the leader), ...	-.007	-.109	.141	-.105	-.060	.982	.107	.878	.960	.95
	... my team can obtain the extra resources necessary to translate the idea into innovation.										
Internal resource utilization	... as my team needs additional resources to implement our ideas, we can usually get them.	-.058	.111	-.127	.123	-.044	.952	-.060			
	... my team has access to the resources needed for implementing our ideas.	.025	.033	-.099	.039	-.001	.872	.008			
	When implementing the target idea (specified by the leader), ...	.204	-.003	-.054	.759	.066	-.035	.062	.650	.850	.89
Boundary-spanning leadership	... team members' task-related resources are fully utilized to translate the idea into innovation.										
	... various resources held by our team members promote learning in our team.	-.075	-.065	-.014	.917	-.086	.029	-.054			
	... team members' resources are effectively utilized in solving problems we encounter.	.057	.105	.138	.725	-.013	.089	-.027			
	To gain support from external parties to implement the target idea (specified by the leader), my team leader ...	.722	-.029	.226	.061	.006	.031	-.114	.750	.920	.91
Internal- integration leadership	... solicits information and resources from outside the team.										
	... tries to influence important actors outside the team to implement the idea.	.848	-.077	.102	.018	.023	-.012	.059			
	... makes use of his/her relationships with external actors on behalf of the team.	.999	-.026	-.032	-.015	-.028	-.093	.059			
	... brings information and resources critical for implementing the idea beyond what comes through official channels.	.861	.081	-.047	-.002	-.067	.085	-.017			
Team innovation implementation	To motivate team members to implement the target idea (specified by the leader), my team leader ...	.155	.081	.834	-.017	-.003	-.029	.009	.570	.790	.85
	... influences members by developing mutual liking and respect.										
	... shows sensitivity for the needs and feelings of team members.	.197	.042	.804	-.047	.059	-.029	.095			
Team innovation implementation	... often expresses personal concerns for the needs and feelings of members.	.067	.060	.598	.237	-.131	-.060	-.100			
	By implementing the target idea (specified by the leader) ...	-.148	.067	-.036	.089	.039	-.036	.528	.620	.700	.78
	... my team's quality of product, service, or work process is improved.										
	... my team's overall performance is improved.	.099	-.004	-.140	.163	.102	-.133	.544			
Team innovation implementation	... my team's morale is enhanced.	-.085	.061	.196	.085	-.001	.047	.513			
	... my team's productivity is enhanced.	.069	-.129	.040	-.132	-.167	.087	.831			

External resource acquisition

We employed Spreitzer's (1996) three-item measure of *access to resources* and customized the items to external resources in the context of idea implementation. Again, resources were specified as financial support, human resources, knowledge, and legitimacy. Team members rated the extent to which they could acquire these resources from the environment and external actors on a three-item scale ($\alpha = .95$, $rwg(3) = .86$, $ICC(1) = .32$, $ICC(2) = .66$, $F = 2.72$, $p < .001$).

Internal-integration leadership

To measure internal-integration leadership, we adopted three items from the Conger–Kanungo Scale (CKS) of charismatic leadership (Conger, Kanungo, Menon, & Mathur, 2009). The original CKS consisted of 20 items evaluating five areas of leadership. We identified three items that assess leaders' sensitivity to members' needs and caring behavior. Team members rated internal-integration leadership on a three-item scale ($\alpha = .85$, $rwg(3) = .89$, $ICC(1) = .21$, $ICC(2) = .52$, $F = 2.10$, $p < .001$).

Boundary-spanning leadership

To measure boundary-spanning leadership, items from Faraj and Yan's (2009) scale were modified by shifting the referent from "the team" to "team leader" and by specifying the context of idea implementation. Team members reported the extent to which their leader engages in boundary spanning activities and gains external support for implementation by rating four items ($\alpha = .91$, $rwg(4) = .90$, $ICC(1) = .40$, $ICC(2) = .74$, $F = 3.78$, $p < .001$).

Team innovation implementation

To evaluate team innovation implementation, leaders were asked to assess the extent to which their teams successfully implemented the creative ideas they identified. We employed Klein, Conn, and Sorra's (2001) measure and changed the referent from "this employee" to "my team." Team leaders reported their team's success in implementing their ideas and achieving intended benefits by responding to a four-item scale ($\alpha = .78$).

Control variables

Our analysis included various control variables that may affect the relationships tested in this study. First, basic team characteristics, such as team size and industry, were controlled for any potential baseline differences in team innovation activities. The industry was represented by two industry dummies for manufacturing and telecommunication/IT services with financial and consumer services as a baseline referent. Second, we

controlled for the types of innovation (i.e., product- vs. process-related innovations) that may affect a team's approaches to acquire and utilize resources needed for implementation. Third, we included teams' task property, particularly a team's external interdependence, which prescribes the demands for external coordination and resources from external actors. External interdependence was measured by five items from Pearce and Gregersen (1991) ($\alpha = .88$, $rwg(3) = .90$, $ICC(1) = .34$, $ICC(2) = .68$, $F = 3.16$, $p < .001$).

Result

Given that the predictors were all gathered at the same time, we verified the empirical distinctiveness of the study variables by conducting exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). First, EFA was done by using oblique CF-varimax rotation with maximum likelihood extraction method, which generates a reasonable factor structure in social science (Browne, 2001). As reported in Table 1, the EFA for the scale items produced seven factors in accordance with the expectation. In addition, average variance extracted (AVE) was over .50 and composite reliability (CR) was over .70 for all seven factors, satisfying the criteria suggested by Fornell and Larcker (1981).

Second, we conducted CFA for the items indicating seven study variables. Given that the number of items used for each construct is larger than the current sample size of 91 teams, we conducted multi-level CFA analysis with MPlus using two item parcels for each construct by randomly assigning scale items. The hypothesized seven-factor model exhibited good fit to the data ($\chi^2 [481] = 11,259.49$, $p < .001$, $CFI = .96$, $RMSEA = .05$). This seven-factor model outperformed plausible alternative measurement models, in which creativity types, team resourcing behaviors, or leadership styles were combined as a single construct. Given the empirical confirmations of the current measurement structure from EFA and CFA, we proceeded to test the hypothesized relationships. Table 2 presents the descriptive statistics and correlations among the study variables.

Hypothesized structural model

To test our hypotheses, we employed a structural path analysis using Mplus v8.3 (Muthén & Muthén, 1998–2017) and a moderated mediation analysis using PROCESS macro (Hayes, 2013). Given that our sample size of 91 teams is not sufficient to attain reliable estimates of 465 parameters [$31(31 - 1)/2 = 464$], we conducted a path analysis with scale means of each construct (Bandalos & Finney, 2001).

Table 2. Descriptive statistics and correlations of variables.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Proactive team idea generation	3.69	.77	1.00												
2 Responsive team idea generation	2.89	.69	-.54***	1.00											
3 Internal resource utilization	3.73	.60	.40***	-.42***	1.00										
4 External resource acquisition	3.10	.65	-.28**	.38***	.15	1.00									
5 Boundary-spanning leadership	3.82	.65	.29**	-.22*	.56***	.19	1.00								
6 Internal-integration leadership	3.89	.54	.23*	-.15	.55***	.11	.37***	1.00							
7 Team innovation implementation	3.89	.54	.18	-.11	.45***	.25*	.29**	.24*	1.00						
8 Telecommunication/IT	.30	.46	-.10	.04	-.10	-.23*	-.14	-.05	-.37**	1.00					
9 Manufacturing	.24	.43	.20	-.08	.20	.31**	.13	.03	.27*	-.37***	1.00				
10 Financial/consumer	.46	.50	-.08	.03	-.08	-.06	.02	.02	.11	-.60***	-.52***	1.00			
11 Innovation type	.47	.50	.12	.03	.20	.09	.21*	.17	.01	-.04	-.44***	-.35***	1.00		
12 Team size	6.20	2.56	.11	-.09	.11	-.02	.12	.10	.25*	-.06	-.16	.20	-.08	1.00	
13 External interdependence	3.94	.61	.07	.02	.36***	.10	.35***	.31**	.21*	-.05	.05	-.00	-.09	.15	1.00

N = 91. * $p < .05$, ** $p < .01$, *** $p < .001$. Innovation type (1 = product-related innovation, 0 = process-related innovation).

We fit the hypothesized model that included all paths proposed in Hypotheses 1–5 as shown in Figure 2, which produced good fit to the data (Hu & Bentler, 1998) [$\chi^2 (df = 10) = 12.18, p > .05$; CFI = .98; RMSEA = .05]. As depicted in Table 3, we compared the hypothesized model with theoretically plausible alternative models. First, team idea generation and resourcing behaviors can exert parallel, independent effects on team innovation implementation instead of having a mediated relationship. This model produced worse fit than the hypothesized model [$\chi^2 (df = 13) = 25.41, p = .02$; CFI = .89; RMSEA = .10]. Second, reverse causality is possible due to the cross-sectional nature of the presented data, in which team resourcing behaviors predicted team idea generation. This model also showed unacceptable fit indices [$\chi^2 (df = 20) = 46.13, p = .00$; CFI = .86; RMSEA = .12]. Lastly, rather than resourcing

behaviors mediating the relationship between team idea generation and innovation implementation, they can interact with team idea generation to affect innovation implementation. However, this model showed an even worse fit than other alternative models [$\chi^2 (df = 18) = 76.51, p = .00$; AIC = 435.84; CFI = .60; RMSEA = .19; SRMR = .11]. Thus, the hypothesized model was identified as the best-fitting model that provides a plausible theoretical account of the observed pattern. Figure 2 summarizes the structural path analysis results.

Relationship between team idea generation and team resourcing behaviors

The path analysis in Figure 2 revealed that proactive team idea generation is positively related to internal resource utilization ($\beta = .36, p < .05$), but was not significantly related to external resource acquisition ($\beta = -$

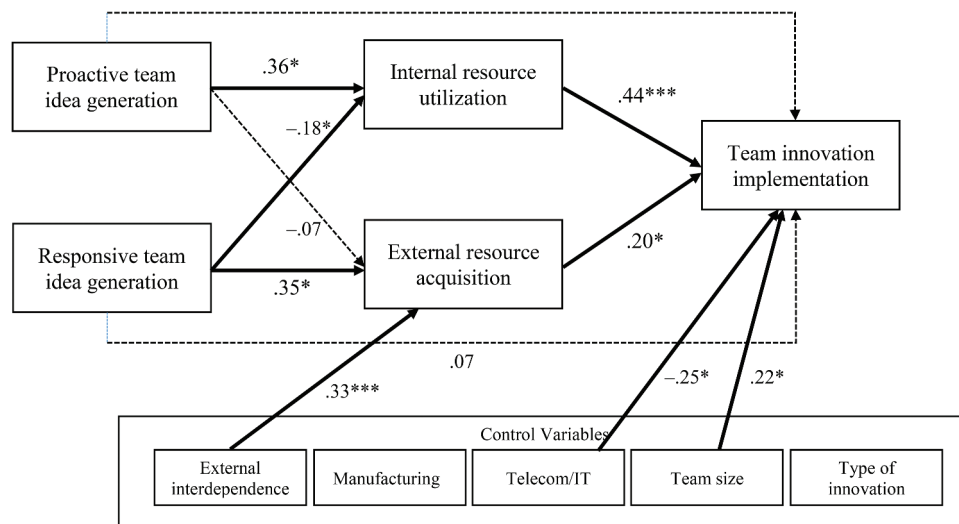


Figure 2. Final structural model predicting innovation. Thick lines represent statistically significant results. Dotted lines depict insignificant paths. Insignificant paths from control variables are not presented in the diagram. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3. Comparisons of model fit of alternative models.

Model	χ^2 (df)	<i>p</i>	AIC	CFI	RMSEA	SRMR
Hypothesized model	12.18(10)	.27	726.45	0.98	0.05	0.05
Alternative models:						
(1) Direct effect model: Team Idea Generation/Resources → Team Innovation Implementation	25.41(13)	.02	733.68	0.89	0.10	0.06
(1) Resources as antecedents: Resources → Team Idea Generation → Team Innovation Implementation	46.13(20)	.00	740.40	0.86	0.12	0.09
(1) Interaction: Interaction between Team Idea Generation and Resources → Team Innovation Implementation	76.51(18)	.00	435.84	0.60	0.19	0.11

N = 91. AIC = Akaike information criterion; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

.07, *ns.*). The results supported Hypothesis 1a but not Hypothesis 1b. Responsive team idea generation showed a negative relationship with internal resource utilization ($\beta = -.18, p < .05$) and a positive relationship with external resource acquisition ($\beta = .35, p < .05$), confirming Hypotheses 2a and 2b.

Relationship between team resourcing behaviors and team innovation implementation

Hypotheses 3a and 3b proposed that internal resource utilization and external resource acquisition are positively related to team innovation implementation. Path analysis results shown in Figure 2 confirmed that team innovation implementation is predicted by internal resource utilization ($\beta = .44, p < .001$) and external resource acquisition ($\beta = .20, p < .05$). Thus, Hypotheses 3a and 3b are supported.

Indirect effects through team resourcing behaviors

Hypotheses 4 and 5 predicted that proactive and responsive team idea generation have indirect effects on innovation implementation through internal resource utilization and external resource acquisition. In accordance with the recommended practice (Preacher & Selig, 2010), we employed a parametric bootstrapping procedure that performed 5,000 Monte Carlo replications to estimate a confidence interval (CI) around the indirect effects during the structural path analysis. Table 4 reports that the relationship between proactive team idea generation and team innovation implementation

was significantly mediated by internal resource utilization ($b = .14, 95\% \text{ CI} = .04, .25$), but not significantly mediated by external resource acquisition ($b = -.01, 95\% \text{ CI} = -.07, .04$). Thus, Hypothesis 4a is supported, but not Hypothesis 4b. The relationship between responsive team idea generation and team innovation implementation was significantly mediated by internal resource utilization ($b = -.14, 95\% \text{ CI} = -.26, -.04$) and by external resource acquisition ($b = .06, 95\% \text{ CI} = .01, .14$), thus supporting Hypotheses 5a and 5b.

Leadership as moderating contingency

To examine the moderation effects of two types of leadership, we used PROCESS macro to estimate the CI around the conditional indirect effects using 5,000 Monte Carlo replications (Hayes, 2013; Preacher & Selig, 2010). Hypothesis 6 predicted that boundary-spanning leadership would positively moderate the indirect relationship between proactive team idea generation and team innovation implementation via external resource acquisition. As reported in Table 5, the index of moderated mediation was not significant ($b = .03, 95\% \text{ CI} [-.09, .08]$), and the conditional indirect effects were not significant. Thus, Hypothesis 6 was not supported.

Hypothesis 7 posited that internal-integration leadership would positively moderate the indirect relationship between responsive team idea generation and team innovation implementation via internal resource utilization. As reported in Table 5, the index of moderated mediation was significant ($b = .13, 95\% \text{ CI} [.01, .24]$), and the negative indirect relationship between responsive team idea generation and team innovation implementation became weaker as internal-integration leadership increased and became statistically insignificant at high internal-integration leadership, supporting Hypothesis 7.

Discussion

Team innovation is becoming critical to organizations' growth and competitiveness in fast-changing environments (Gaynor, 2013; Harper, 2018). When teams develop creative ideas either proactively or responsively, they face different challenges while translating their ideas into innovation (Van Knippenberg, 2017). This study focused on tensions in teams when they balance internal and external resourcing behaviors during the innovation process, along with the complementary supporting role of team leadership. Our analysis indicated

Table 4. Bootstrapped mediation analysis of the relationship between proactive/responsive team idea generation and team innovation implementation.

Independent variables (IV)	Mediator	Dependent variables (DV)	Indirect effect	Product of coefficients			Bootstrapping bias-corrected 95% CI	
				SE	z	p	Lower limit	Upper limit
Proactive team idea generation	Internal resource utilization	Team innovation implementation	.14	.05	2.40	< .01	.04	.25
	External resource acquisition		-.01	.03	0.50	ns.	-.07	.04
Responsive team idea generation	Internal resource utilization	Team innovation implementation	-.14	.06	2.33	< .01	-.26	-.04
	External resource acquisition		.06	.04	1.50	< .05	.01	.14

N = 91.

Table 5. Regression coefficients and conditional indirect effect estimates of moderated mediation analysis.

IV	Mediator	DV	Moderator	Indirect effect	Product of coefficients		Bootstrapping bias-corrected 95% CI	
					SE	Z	Lower	Upper
Proactive team idea generation	External resource acquisition	Team innovation implementation	Boundary-spanning leadership (Low)	-.05	.04	-1.25	-.13	.01
			Boundary-spanning leadership (Medium)	-.04	.03	-1.33	-.11	.02
			Boundary-spanning leadership (High)	-.02	.03	-.67	-.09	.05
Index of Moderated Mediation				.03	.02	1.50	-.09	.08
Responsive team idea generation	Internal resource utilization	Team innovation implementation	Internal-integration leadership (Low)	-.19	.08	-2.38	-.36	-.04
			Internal-integration leadership (Medium)	-.13	.05	-2.60	-.25	-.04
			Internal-integration leadership (High)	-.06	.04	-1.50	-.15	.01
Index of Moderated Mediation				.13	.06	2.17	.01	.24

N= 91

that achieving the balance between internal and external resourcing behaviors with support from team leadership could be the core intermediate mechanism that connects team idea generation to implementation. Below we discuss the implications and limitations of the current study along with the directions for further investigations.

Tensions of balancing internal and external resourcing behaviors

A critical theoretical insight from this study involves the challenge for teams in balancing internal and external resourcing behaviors toward innovation implementation. Teams that proactively generated creative ideas were advantageous in utilizing internal resources with their heightened endorsement and engagement with the ideas (Patall et al., 2008). However, proactive idea generation did not provide teams any advantage in

acquiring external resources needed for implementing the ideas. By contrast, teams that responsively generated ideas per the request of external parties were advantageous in securing external resources, but its advantage from external resources did not spill over into internal resources. They encountered negative reactions among team members with diminished internal energy to utilize their own resources (Deci & Ryan, 1985). As such, teams, regardless of their motivational underpinnings of creative ideas, experienced unbalanced, crippled status related to internal and external resources in one way or another, leading to suboptimal innovation implementation.

The current analysis contributes to the increasing attention to the functions of resource constraints and tension, which make the innovation process unique and more complicated than other activities (Acar et al., 2018). Previous studies on innovation have identified various tensions, such as exploration and exploitation

(Hunter et al., 2017), convergent and divergent thinking (Baer, 2012), or emergent and planned leading styles (Lewis et al., 2002). These tensions could be untangled by the notion of stage; the earlier stage involves idea generation or initiation that requires exploration or learning goals, divergent thinking, and emergent leading styles; whereas the later stage involves idea implementation that favors exploitation or performance goals, convergent thinking, and planned leading styles (Perry-Smith & Mannucci, 2017; Van Knippenberg, 2017). The current study identified a distinct form of tension between internal and external resourcing behaviors that occur concurrently during the transition from idea generation to implementation.

Examining internal and external resourcing behaviors of a team also expands the teams and innovation literature (Marrone, 2010). Team boundary-spanning or external activities have gained increasing attention in relation to team performance because organizational teams do not operate in a vacuum but function interdependently with external parties (Ancona & Bresman, 2002). Considering that innovation requires extra resources beyond routine performance, understanding innovation in teams further necessitates in-depth examinations of externally directed team processes in addition to internal team functioning (Marks et al., 2001). A critical limitation of extant studies is that they examined either internal team dynamics or external activities separately (Drach-Zahavy & Somech, 2010), thus neglecting the real challenges that teams face in balancing the two aspects and managing the accompanying tension (Choi, 2002). The present analysis addressed such limitations in the literature by considering the concurrent functions of internal and external resourcing behaviors in the context of team innovation.

Initial motivation underpinning idea generation

To understand how work teams engage in internal and external resourcing behaviors, we identified two distinct motivations (i.e., proactive and responsive) that initiate idea generation. Distinct motivational drivers in generating ideas shape team resourcing behaviors and thus indirectly predict idea implementation. The current analysis indicated that proactive and responsive team idea generation lead to implementation success by mobilizing different resources in line with the prediction of COR theory (Hobfoll et al., 2018). These findings extend the literature on creativity and innovation, which has mostly focused on intrinsic or proactive motivation (Amabile et al., 1996). This study revealed that intrinsically and extrinsically driven team idea generation may develop separate resource pathways to implementation,

which may complement each other for full utilization of resources (Acar et al., 2018). Our analysis demonstrated potential setbacks of proactive or intrinsic motivation for team idea generation, which may render idea implementation resorting only to internal resources but not external resources. Likewise, idea generation based on responsive or extrinsic motivation may have benefits toward idea implementation given its advantages in securing external support. The findings present the need for reevaluating the distinct values and potential complementarity of intrinsic and extrinsic motivations in the entire innovation process.

Team leadership as moderating contingency supporting team resourcing behaviors

The current framework suggests the fundamental tension in teams with differing motivational underpinnings of idea generation in mobilizing internal and external resources for ultimate implementation of their ideas. To resolve this tension and achieve a balance between internal and external resourcing behaviors, we highlighted the significance of team leadership as critical contingency that supplements the deficiency in either internal or external resourcing behaviors. The lack of external resources associated with proactive team idea generation could be addressed by boundary-spanning leaders who reach out to external actors to negotiate resources (Yukl, 2012). However, our analysis did not support this expectation. Although boundary-spanning leadership can be beneficial for implementation as shown in the positive correlation ($r = .29, p < .01$), such leader behavior may not address the challenges of gaining external resources for teams with proactive idea generation. We speculate that external resources need to be negotiated while or before teams develop creative solutions through early involvement or seeking input from external constituents (West, 2002). This possibility needs further theoretical and empirical elaborations.

By contrast, our analysis confirmed that the deficiency of internal resources for teams with responsive team idea generation can be resolved by internal-integration leadership. The negative indirect effect of responsive team idea generation on implementation via internal resource utilization was neutralized by high levels of internal-integration leadership. Teams with externally driven responsive ideas may not exhibit negative internal morale toward innovation when leaders successfully motivate and support them, which suggests the significance of the team member–leader complementarity (Hu & Judge, 2017). This pattern reveals the way leaders can help teams achieve a balance between internal and external activities or

functions by taking up the deficiency of teams (Choi, 2002; Yukl, 2012). In line with COR theory, the tension and stress in teams with crippled resourcing behaviors can be resolved by supportive actions from leaders who complement their shortcomings (Hobfoll et al., 2018).

Limitations and future research directions

The current findings should be interpreted with some limitations in mind. First, the cross-sectional survey design may not reveal the causal or temporal flow involving the transition from generating ideas to implementing them. The process of idea generation based on differing motives leading to disparate team resourcing patterns and subsequent implementation could take place over time in a complicated manner with recursive or feedback processes among those processes (Garud, Tuertscher, & Van De Ven, 2013). In addition, team members' individual motivations and attitudes throughout the innovation process may shape teams' emergent cognitive states and their resourcing patterns (Ilgen et al., 2005). Although the current study instructed participants to focus on a case of team innovation that members experienced together recently, further studies based on qualitative case studies of a few innovations or real-time observations of current innovation projects may reveal extensive and complicated unfolding processes of team innovation. Moreover, qualitative case studies could help determine the implications of additional sub-stages of the innovation process, including idea evaluation, idea elaboration, and idea championing, which could affect team resourcing and implementation patterns.

Second, the current data included teams from diverse industries performing various functions. This diversity of teams in the current sample may be conducive to including cases of various types of innovative efforts driven by proactive and responsive motivation, which promotes external validity but could also confound the results. Although we controlled for several team and environmental factors in our analysis, the motivation and innovation processes can be prescribed by other team and organizational contextual factors that shape the needs and availability of resources for idea implementation. Thus, future studies should explore additional situational factors involving the team, organization, and environment by using them as additional controls or moderating contingencies.

Third, the current analysis specified internal and external resourcing behaviors as separate, independent team activities that may compete for the time and

efforts of team members. However, in reality, internal and external resourcing behaviors may form a cycle and mutually influence each other and thus are heavily intertwined to be differentiated. Similarly, proactive and responsive motivation underlying team idea generation may not be completely opposing separate processes but function in combination across team tasks and projects. Despite the overall benefit of adopting creative ideas as the level of analysis instead of teams in general, we acknowledge the copresence and simultaneous operation of the two motivational forces and potential conflict between them. Further theoretical and empirical endeavors should be directed to these mutual influences between internal and external resourcing behaviors and proactive and responsive motivation for team idea generation, which could compete but also complement or reinforce one another.

Finally, the current study sets the important moderating effect of team leadership in terms of internal or external social support. However, this aspect is only one facet of leadership that could impact team innovation process. Numerous studies have identified varying leadership roles in leading teams for innovation, such as ambidextrous (Rosing et al., 2011), transformational (Jiang & Chen, 2018), and participative/directive (Somech, 2006) leadership. Future research should be directed to test alternative team leadership styles that could facilitate the translation of team ideas into innovation.

Despite these potential shortcomings and need for further investigations, this study contributed to understanding the functions and tensions between internal and external resourcing behaviors while translating creative ideas into innovation in teams. Also, the current analysis revealed how motivational drivers of idea generation affect team resourcing behaviors that directly predict implementation, and how team leadership complements a team's resourcing patterns to achieve a balance between internal and external resources. Future research should extend the current study and explore "the black box" operating in the transition between idea generation and implementation in organizations.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ORCID

Jin Nam Choi  <http://orcid.org/0000-0001-7890-3195>

References

- Acar, O. A., Tarakci, M., & Van Knippenberg, D. (2018). Creativity and innovation under constraints: A cross-disciplinary integrative review. *Journal of Management*, 45(1), 96–121. doi:10.1177/0149206318805832
- Agrawal, A., Catalini, C., Goldfarb, A., & Luo, H. (2018). Slack time and innovation. *Organization Science*, 29(6), 1056–1073. doi:10.1287/orsc.2018.1215
- Akgün, A. E., Dayan, M., & Di Benedetto, A. (2008). New product development team intelligence: Antecedents and consequences. *Information & Management*, 45(4), 221–226. doi:10.1016/j.im.2008.02.004
- Alexander, L., & Van Knippenberg, D. (2014). Teams in pursuit of radical innovation: A goal orientation perspective. *Academy of Management Review*, 39(4), 423–438. doi:10.5465/amr.2012.0044
- Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39(5), 1154–1184.
- Ancona, D. G. (1990). Outward bound: Strategic for team survival in an organization. *Academy of Management Journal*, 33(2), 334–365. doi:10.5465/256328
- Ancona, D., & Bresman, H. (2002). The comparative advantage of X-teams. *MIT Sloan Management Review*, 43(3), 33–39. doi:10.5465/256328
- Ancona, D. G., & Caldwell, D. F. (1992). Bridging the boundary: External activity and performance in organizational teams. *Administrative Science Quarterly*, 37(4), 634–665. doi:10.2307/2393475
- Anderson, N., Potočník, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management*, 40(5), 1297–1333. doi:10.1177/0149206314527128
- Baer, M. (2012). Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journal*, 55(5), 1102–1119. doi:10.5465/amj.2009.0470
- Bandalos, D. L., & Finney, S. J. (2001). Item parceling issues in structural equation modeling. In George A. Marcoulides and Randall E. Schumacker (Eds.), *New developments and techniques in structural equation modeling* (pp. 269–296). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Benoliel, P., & Somech, A. (2014). The role of leader boundary activities in enhancing interdisciplinary team effectiveness. *Small Group Research*, 46(1), 83–124. doi:10.1177/1046496414560028
- Bledow, R., Frese, M., Anderson, N., Erez, M., & Farr, J. (2009). Extending and refining the dialectic perspective on innovation: There is nothing as practical as a good theory; nothing as theoretical as a good practice. *Industrial and Organizational Psychology*, 2(3), 363–373. doi:10.1111/j.1754-9434.2009.01161.x
- Boyd, B. K., Dess, G. G., & Rasheed, A. M. (1993). Divergence between archival and perceptual measures of the environment: Causes and consequences. *Academy of Management Review*, 18(2), 204–226. doi:10.2307/258758
- Browne, M. W. (2001). An overview of analytic rotation in exploratory factor analysis. *Multivariate Behavioral Research*, 36(1), 111–150. doi:10.1207/S15327906MBR3601_05
- Caniëls, M. C. J., & Rietzschel, E. F. (2015). Organizing creativity: Creativity and innovation under constraints. *Creativity and Innovation Management*, 24(2), 184–196. doi:10.1111/caim.12123
- Chen, G., Bliese, P. D., & Mathieu, J. E. (2005). Conceptual framework and statistical procedures for delineating and testing multilevel theories of homology. *Organizational Research Methods*, 8(4), 375–409. doi:10.1177/1094428105280056
- Choi, J. N. (2002). External activities and team effectiveness: Review and theoretical development. *Small Group Research*, 33(2), 181–208. doi:10.1177/104649640203300202
- Conger, J., Kanungo, R. N., Menon, S. T., & Mathur, P. (2009). Measuring charisma: Dimensionality and validity of the Conger-Kanungo scale of charismatic leadership. *Canadian Journal of Administrative Sciences*, 14(3), 290–301. doi:10.1111/j.1936-4490.1997.tb00136.x
- Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125(6), 627–668. doi:10.1037/0033-2909.125.6.627
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY: Plenum Press.
- Drach-Zahavy, A., & Somech, A. (2010). From an intrateam to an interteam perspective of effectiveness: The role of interdependence and boundary activities. *Small Group Research*, 41(2), 143–174. doi:10.1177/1046496409356479
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53(1), 109–132. doi:10.1146/annurev.psych.53.100901.135153
- Elkins, T., & Keller, R. T. (2003). Leadership in research and development organizations: A literature review and conceptual framework. *The Leadership Quarterly*, 14(4), 587–606. doi:10.1016/S1048-9843(03)00053-5
- Faraj, S., & Yan, A. (2009). Boundary work in knowledge teams. *Journal of Applied Psychology*, 94(3), 604–617. doi:10.1037/a0014367
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobserved variable and measurement error. *Journal of Marketing*, 18(Feb), 6–21. doi:10.2307/3151312
- Garud, R., Tuertscher, P., & Van De Ven, A. H. (2013). Perspectives on innovation processes. *The Academy of Management Annals*, 7(1), 775–819. doi:10.5465/19416520.2013.791066
- Gaynor, G. H. (2013). The challenges of bottom-up innovation. *IEEE Engineering Management Review*, 41(4), 5–7.
- Gilson, L. L., & Madjar, N. (2011). Radical and incremental creativity: Antecedents and processes. *Psychology of Aesthetics, Creativity, and the Arts*, 5(1), 21–28. doi:10.1037/a0017863

- Gong, Y., Wu, J., Song, L. J., & Zhang, Z. (2017). Dual tuning in creative processes: Joint contributions of intrinsic and extrinsic motivational orientations. *Journal of Applied Psychology, 102*(5), 829–844. doi:10.1037/apl0000185
- Grant, A. M., & Ashford, S. J. (2008). The dynamics of proactivity at work. *Research in Organizational Behavior, 28*, 3–34.
- Halbesleben, J. R. B., Neveu, J.-P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the “COR”: Understanding the role of resources in conservation of resources theory. *Journal of Management, 40*(5), 1334–1364. doi:10.1177/0149206314527130
- Harper, D. A. (2018). Innovation and institutions from the bottom up: An introduction. *Journal of Institutional Economics, 14*(6), 975–1001. doi:10.1017/S174413741800019X
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.
- Hirst, G., & Mann, L. (2004). A model of R&D leadership and team communication: The relationship with project performance. *R&D Management, 34*(2), 147–160. doi:10.1111/j.1467-9310.2004.00330.x
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44*(3), 513–524. doi:10.1037/0003-066X.44.3.513
- Hobfoll, S. E., Halbesleben, J., Neveu, J.-P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior, 5*(1), 103–128. doi:10.1146/annurev-orgpsych-032117-104640
- Hu, L.-T., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods, 3*(4), 424–453. doi:10.1037/1082-989X.3.4.424
- Hu, J., & Judge, T. (2017). Leader-team complementarity: Exploring the interactive effects of leader personality traits and team power distance values on team processes and performance. *Journal of Applied Psychology, 102*(6), 935–955. doi:10.1037/apl0000203
- Hu, J., & Liden, R. C. (2015). Making a difference in the teamwork: Linking team prosocial motivation to team processes and effectiveness. *Academy of Management Journal, 58*(4), 1102–1127. doi:10.5465/amj.2012.1142
- Hunter, S. T., Cushenbery, L. D., & Jayne, B. (2017). Why dual leaders will drive innovation: Resolving the exploration and exploitation dilemma with a conservation of resources solution. *Journal of Organizational Behavior, 38*(8), 1183–1195. doi:10.1002/job.2195
- Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From input-process-output models to IMO models. *Annual Review of Psychology, 56*(1), 517–543. doi:10.1146/annurev.psych.56.091103.070250
- Jansen, J. P., Kostopoulos, K. C., Mihalache, O. R., & Papalexandris, A. (2016). A socio-psychological perspective on team ambidexterity: The contingency role of supportive leadership behaviours. *Journal of Management Studies, 53*(6), 939–965. doi:10.1111/joms.12183
- Jiang, Y., & Chen, C. C. (2018). Integrating knowledge activities for team innovation: Effects of transformational leadership. *Journal of Management, 44*(5), 1819–1847. doi:10.1177/0149206316628641
- Klein, K. J., Conn, A. B., & Sorra, J. S. (2001). Implementing computerized technology: An organizational analysis. *Journal of Applied Psychology, 86*(5), 811–824. doi:10.1037/0021-9010.86.5.811
- Lee, K., Rho, S., Kim, S., & Jun, G. J. (2007). Creativity-innovation cycle for organisational exploration and exploitation: Lessons from Neowiz - a Korean internet company. *Long Range Planning, 40*(45), 505–523. doi:10.1016/j.lrp.2007.06.009
- Leifer, R., McDermott, C. M., O’Connor, G. C., Peters, L. S., Rice, M. P., & Veryzer, R. W., Jr. (2000). *Radical innovation: How mature companies can outsmart upstarts*. Boston, MA: Harvard Business Press.
- Lewis, M. W., Welsh, M. A., Dehler, G. E., & Green, S. G. (2002). Product development tensions: Exploring contrasting styles of project management. *Academy of Management Journal, 45*(3), 546–564.
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *26*(3), 356–376. doi:10.5465/amr.2001.4845785
- Marrone, J. A. (2010). Team boundary spanning: A multilevel review of past research and proposals for the future. *Journal of Management, 36*(4), 911–940. doi:10.1177/0149206309353945
- Moreland, R. L., & Myaskovsky, L. (2000). Exploring the performance benefits of group training: Transactive memory or improved communication? *Organizational Behavior and Human Decision Processes, 82*(1), 117–133. doi:10.1006/obhd.2000.2891
- Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user’s guide* (Eighth ed.). Los Angeles, CA: Muthén & Muthén.
- Patall, E. A., Cooper, H., & Robinson, J. C. (2008). The effects of choice on intrinsic motivation and related outcomes: A meta-analysis of research findings. *Psychological Bulletin, 134*(2), 270. doi:10.1037/0033-2909.134.2.270
- Pearce, J. L., & Gregersen, H. B. (1991). Task interdependence and extrarole behavior: A test of the mediating effects of felt responsibility. *Journal of Applied Psychology, 76*(6), 838–844. doi:10.1037/0021-9010.76.6.838
- Perry-Smith, J. E., & Mannucci, P. V. (2017). From creativity to innovation: The social network drivers of the four phases of the idea journey. *Academy of Management Review, 42*(1), 53–79. doi:10.5465/amr.2014.0462
- Preacher, K. J., & Selig, J. P. (2010). Monte Carlo method for assessing multilevel mediation: An interactive tool for creating confidence intervals for indirect effects in 111 multilevel models [Computer software].
- Rafferty, A. E., & Restubog, S. L. D. (2010). The impact of change process and context on change reactions and turnover during a merger. *Journal of Management, 36*(5), 1309–1338. doi:10.1177/0149206309341480
- Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The leadership quarterly, 22*(5), 956–974. doi:10.1016/j.leaqua.2011.07.014

- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67. doi:10.1006/ceps.1999.1020
- Sandberg, B. (2007). Enthusiasm in the development of radical innovations. *Creativity and Innovation Management*, 16(3), 265–273. doi:10.1111/j.1467-8691.2007.00440.x
- Sarooghi, H., Libaers, D., & Burkemper, A. (2015). Examining the relationship between creativity and innovation: A meta-analysis of organizational, cultural, and environmental factors. *Journal of Business Venturing*, 30(5), 714–731. doi:10.1016/j.jbusvent.2014.12.003
- Škerlavaj, M., Černe, M., & Dysvik, A. (2014). I get by with a little help from my supervisor: Creative-idea generation, idea implementation, and perceived supervisor support. *The Leadership Quarterly*, 25(5), 987–1000. doi:10.1016/j.leaqua.2014.05.003
- Somech, A. (2006). The effects of leadership style and team process on performance and innovation in functionally heterogeneous teams. *Journal of Management*, 32(1), 132–157. doi:10.1177/0149206305277799
- Somech, A., & Drach-Zahavy, A. (2013). Translating team creativity to innovation implementation: The role of team composition and climate for innovation. *Journal of Management*, 39(3), 684–708. doi:10.1177/0149206310394187
- Sonenshein, S. (2014). How organizations foster the creative use of resources. *Academy of Management Journal*, 57(3), 814–848. doi:10.5465/amj.2012.0048
- Spreitzer, G. M. (1996). Social structural characteristics of psychological empowerment. *Academy of Management Journal*, 39(2), 483–504. doi:10.5465/256789
- Sung, S. Y., Antefelt, A., & Choi, J. N. (2017). Dual effects of job complexity on proactive and responsive creativity: Moderating role of employee ambiguity tolerance. *Group & Organization Management*, 42(3), 388–418. doi:10.1177/1059601115619081
- Tiwana, A., & Mclean, E. R. (2005). Expertise integration and creativity in information systems development. *Journal of Management Information Systems*, 22(1), 13–43. doi:10.1080/07421222.2003.11045836
- Unsworth, K. (2001). Unpacking Creativity. *The Academy of Management Review*, 26(2), 289–297. doi:10.2307/259123
- Van Knippenberg, D. (2017). Team innovation. *Annual Review of Organizational Psychology and Organizational Behavior*, 4(1), 211–233. doi:10.1146/annurev-orgpsych-032516-113240
- West, M. A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied Psychology*, 51(3), 355–387. doi:10.1111/1464-0597.00951
- Wilson, J., Goodman, P. S., & Cronin, M. A. (2007). Group learning. *The Academy of Management Review*, 32(4), 1041–1059. doi:10.5465/amr.2007.26585724
- Yukl, G. (2012). Effective leadership behavior: What we know and what questions need more attention. *Academy of Management Perspectives*, 26(4), 66–85. doi:10.5465/amp.2012.0088
- Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of Management Journal*, 53(1), 107–128. doi:10.5465/amj.2010.48037118