

PUTTING CREATIVITY TO WORK: THE IMPLEMENTATION OF CREATIVE IDEAS IN ORGANIZATIONS

MARKUS BAER

Washington University in St. Louis

The production of creative ideas does not necessarily imply their implementation. This study examines the possibility that the relation between creativity and implementation is regulated by individuals' motivation to put their ideas into practice and their ability to network, or, alternatively, the number of strong relationships they maintain. Using data from 216 employees and their supervisors, results indicated that individuals were able to improve the otherwise negative odds of their creative ideas being realized when they expected positive outcomes to be associated with their implementation efforts and when they were skilled networkers or had developed a set of strong "buy-in" relationships.

"Ideas are useless unless used" (Levitt, 1963: 79). Although few would dispute the validity of this statement, studies that directly examine the conditions that determine when creative ideas are converted into actual innovations, that is, implemented or used, are relatively rare. This lack of systematic attention is especially surprising given that innovation, particularly in dynamic contexts, is widely recognized as being critical to the growth and competitiveness of organizations (e.g., Roth & Sneider, 2006; Tellis, Prabhu, & Chandy, 2009) and, as a consequence, has been of longstanding interest to scholars and practitioners alike (e.g., Damanpour, 1991; Kanter, 1983; Peters & Waterman, 1982; Rogers, 2003; Schumpeter, 1942).

Individual innovation refers to the "development and implementation of new ideas by people who over time engage with others within an institutional context" (Van de Ven, 1986: 591). Creativity can be viewed as the first stage of an innovation process. Creativity refers to the development of ideas that are both novel and useful, either in the short or the long term (e.g., Amabile, 1996; Oldham & Cummings, 1996), whereas idea implementation describes the process of converting these ideas into new and improved products, services, or ways of doing things (e.g., Kanter, 1988; West, 2002; Woodman, Sawyer, & Griffin, 1993). Thus, innovation can be conceptualized as encompassing two different activities: the development of novel, useful ideas and their implementation.

Presumably reflecting the importance of the initial development of new ideas for innovation to

unfold, work on creativity has proliferated over the past decades (see George [2008] and Shalley, Zhou, and Oldham [2004] for recent reviews). This body of work has provided valuable insights into the factors that shape the production of novel, useful ideas in organizations. However, because idea implementation, in contrast to creativity, is primarily a social-political process (e.g., Frost & Egri, 1991; Van de Ven, 1986), the implications of this work for scholars' understanding of when creative ideas are ultimately implemented are limited.

Although a growing body of work examines innovation more directly (see Anderson, De Dreu, and Nijstad [2004] and Hülsheger, Anderson, and Salgado [2009] for recent reviews), this research also suffers from a number of limitations. First, despite acknowledging that innovation encompasses both creativity and idea implementation and that each activity may be shaped by different personal and contextual forces, numerous studies have not made this distinction between idea generation and implementation, either in their conceptual arguments or in their empirical analyses (e.g., Scott & Bruce, 1994; Yuan & Woodman, 2010). Second, those efforts that have distinguished between idea generation and implementation have typically focused not so much on the creativity of employees' ideas but rather on their quantity (e.g., Axtell, Holman, Unsworth, Wall, Waterson, & Harrington, 2000; Frese, Teng, & Wijnen, 1999). However, the nature of the relation between the mere production of ideas and implementation may be qualitatively different from the link between creativity and implementation. Finally, research on the emergence of change agents (e.g., Howell & Higgins, 1990; Kanter, 1983) and the ways in which they attract the attention of important decision makers (e.g.,

Editor's note: The manuscript for this article was accepted for publication during the term of *AMJ's* former editor-in-chief, R. Duane Ireland.

Dutton & Ashford, 1993) has provided important insights into the tactics that surround the implementation of innovation in organizations. However, this work typically has ignored the outcome side of this process—that is, the extent to which the various actions of change agents actually result in implementation of new initiatives. Thus, understanding of the factors determining the extent to which individuals are able to improve the odds of successfully realizing their ideas still remains incomplete. Given the overall state of the research on individual innovation, it appears then that Van de Ven's observation (1986) that the conversion of ideas into actual innovations is one of the central problems in the study of innovation appears to be as true today as it was more than a quarter century ago. The goal of the present study was to tackle this issue by addressing the limitations of this previous research.

Acknowledging that idea generation and implementation are two distinguishable elements of the innovation process, the current study examines the relation between these two activities. In contrast to some earlier work, however, the focus here is not on the extent to which individuals develop ideas, irrespective of their novelty and usefulness, but rather on the overall creativity of these contributions. Given this focus, it is argued that ideas that are useful yet novel are likely to produce uncertainty and, as a result, are likely to be met with skepticism and hesitation (e.g., Janssen, Van de Vliert, & West, 2004; Levitt, 1963; Wolfe, 1995). Thus, although there may be forces in an organization that promote the implementation of creative ideas (e.g., an organizational mandate to be innovative), the very nature of these ideas is likely to generate reluctance about their implementation. As a result, it is suggested that the generation of creative ideas by no means guarantees their implementation (Sohn & Jung, 2010).

Idea implementation, however, is largely a social-political process (e.g., Van de Ven, 1986; Yuan & Woodman, 2010). Consequently, people—provided they are motivated to engage in the risky endeavor of pursuing their ideas and provided they possess the abilities or social relationships that allow them to involve and draw upon the resources of important supporters in their organization—should be able to influence this social-political process, thereby improving the otherwise negative odds that their creative contributions will eventually be realized (e.g., Dutton & Ashford, 1993; Kanter, 1983). Reflecting this logic, the present examination considers both people's motivation to engage in idea implementation (implementation instrumentality) and their ability to cultivate and use their social networks (networking

ability) or, alternatively, the strength of their actual relationships (number of strong buy-in ties) as joint moderators of the link between creativity and implementation. This logic is consistent with the notion that performance (P) can be thought of as a multiplicative function of both motivation (M) and ability (A) of the form ($P = f[M \times A]$) (Vroom, 1964).

The contributions of this study are twofold. First, in examining *creativity* vis-à-vis implementation, rather than the mere production of ideas irrespective of their novelty and usefulness, the present study provides important insights into the link between the nature of people's ideas and the extent to which these ideas are ultimately realized. Second, this study is the first to theorize and test the effects of creativity, individuals' instrumentality beliefs regarding implementation, and the ability to cultivate and use social networks (consisting of strong buy-in ties) in jointly shaping idea implementation. Thus, the current research provides an important first step toward identifying the conditions that determine whether creative ideas are ultimately converted into innovations. I assume a person-centric perspective on innovation, thereby offering a valuable complement to previous work, which has often dismissed the importance of personal factors for implementation in favor of more macrolevel drivers (e.g., Axtell et al., 2000; Axtell, Holman, & Wall, 2006). Although there is evidence supporting the importance for innovation of a range of different personal factors, such as risk taking and achievement (Howell & Higgins, 1990), the contribution of the present study lies in identifying the most critical factors and then hypothesizing and testing how they *jointly* shape implementation.

LITERATURE OVERVIEW AND THEORETICAL DEVELOPMENT

Previous Research on Individual Innovation

Research on innovation has flourished in recent decades. Despite the widespread agreement that creativity and implementation are two distinguishable activities of an innovation process with potentially different antecedents (e.g., Axtell et al., 2000), this growing body of work has not always made this distinction. Indeed, both earlier research and more recent efforts have treated creativity and implementation as indicative of the same underlying concept—innovation. A variety of factors have been identified as important antecedents to this umbrella concept, including climate and culture (e.g., Miron, Erez, & Naveh, 2004; Scott & Bruce, 1994), leadership (e.g., Janssen, 2005; Janssen & Van Yperen, 2004; Yuan & Woodman, 2010), group

characteristics (e.g., Hülshager et al., 2009), job requirements (e.g., Bunce & West, 1994; Janssen, 2000: 2001), and personal attributes (e.g., Bunce & West, 1995; Ng, Feldman, & Lam, 2010). Although this research has made important strides toward providing a comprehensive understanding of the contextual and individual factors that shape innovation in organizations, in treating innovation as a unitary concept it reveals little about the link between creativity and implementation and the conditions affecting it.

Not all empirical research on innovation has followed this path, however. A few investigations have considered creativity and implementation as separate activities and examined their unique antecedents (e.g., Axtell et al., 2006; Clegg, Unsworth, Epitropaki, & Parker, 2002; Frese et al., 1999). This research has generally concluded that personal and job variables promote the suggestion of ideas, whereas organizational variables contribute to their implementation. For example, Axtell et al. (2000) showed that although autonomy and self-efficacy were most strongly related to idea generation, participation in decision making and support for innovation emerged as the most powerful predictors of implementation.

Although this work has significantly advanced understanding of the factors that differentially promote idea generation and implementation, the factors that shape the relation between *creativity* and idea implementation still remain largely unknown. This is because research in this vein has typically focused not on the nature of employees' ideas—that is, the creativity of ideas—but rather on their quantity. For example, Frese et al. (1999) conceptualized and measured creativity as referring to the number of ideas employees generated and suggested, irrespective of whether these ideas were novel and useful. In keeping with the notion that unless creative ideas have been generated, implementation cannot occur, this work generally has shown positive associations between suggestions and implementation—relations that are often quite substantial. However, creativity implies not only the generation of ideas but also that these ideas satisfy the criteria of novelty and usefulness (e.g., Baer, 2010; Oldham & Cummings, 1996). Thus, although informative, research that has separated innovation into suggestions and implementation provides only limited insights into the conditions that shape the relation between idea creativity, rather than idea quantity, and implementation.

Research on how people effect change in organizations also has made important advances in illuminating the dynamics that surround idea implementation in organizations (e.g., Howell & Shea,

2001; Kanter, 1988). For example, work on “issue selling,” a perspective that highlights the importance of change agents and their actions in bringing certain issues to the attention of top management (Dutton & Ashford, 1993), has both theoretically and empirically examined the actions that constitute issue-selling (Dutton, Ashford, O'Neill, & Lawrence, 2001) and the contextual forces that affect a person's willingness to engage in issue selling in the first place (Ashford, Rothbard, Piderit, & Dutton, 1998; Dutton, Ashford, O'Neill, Hayes, & Wierba, 1997). This research has developed a rich portrait of the issue-selling process and the conditions that shape it, but it has paid relatively scant attention to the outcomes of this process—that is, whether a person's attempts to effect change (i.e., to get a new idea heard and implemented) are successful or not. The sparse knowledge that does exist about whether certain behaviors enhance the probability of successfully selling an issue comes from qualitative work (e.g., Dutton et al., 2001).

From previous research, then, it is not at all clear how (1) creativity relates to idea implementation, (2) what factors are most likely to improve the otherwise probably negative odds of creative ideas actually being implemented, and (3) how these factors combine to jointly shape idea implementation. The remainder of this introduction addresses these three points.

Creativity and Idea Implementation

Previous research has consistently documented that the production of ideas is a positive predictor of idea implementation (Axtell et al., 2000, 2006; Frese et al., 1999). For example, in their study of design engineers in two large aerospace companies, Clegg et al. (2002) found a positive association of .57 between the number of ideas employees had suggested and the extent to which these ideas were eventually implemented. However, the link between *creativity* and implementation may not be as positive and straightforward as this earlier work implies. Indeed, a number of commentators have cautioned that creativity and idea implementation may be only loosely coupled. According to these voices, the production of creative ideas is far more prevalent than their conversion into actual innovations (e.g., Levitt, 1963; West, 2002). The reason for this rather loose connection between creativity and implementation may be found largely in the novelty dimension of the concept of creativity. Although usefulness is a necessary requirement for ideas to be considered creative, the skepticism and resistance with which new ideas are often met is likely to be attributable more to variations in nov-

elty rather than to differences in usefulness. Thus, as long as the usefulness criterion is satisfied, the novelty aspect is likely to be the reason why the production of creative ideas does not invariably result in their ultimate implementation.

As creative ideas imply departures from or extensions of existing products, services, or ways of doing things, uncertainty is a signature feature of most creative ideas (e.g., Kanter, 1988; Pelz, 1985; Wolfe, 1995). Unfortunately, uncertainty often provokes disputes caused by differences in viewpoints among those who are affected by the ideas, and such conflicts, in turn, may result in unnecessary delays in implementation or its ultimate failure (Frost & Egri, 1991; Green, Welsh, & Dehler, 2003). Moreover, pressing for the implementation of new ideas typically implies challenging established power structures in an organization, which causes resistance (Janssen et al., 2004; Kanter, 1988). In contrast to ideas of limited novelty, which typically can be accommodated within existing structures, creative ideas tend to be associated with more substantive changes—changes in roles, power, and status—and, as a consequence, they have a greater likelihood of being rejected (Damanpour, 1988; Green, Gavin, & Aiman-Smith, 1995). Regardless of how promising an idea may be, its implementation will likely conflict with some interests and jeopardize some alliances (Kimberly, 1981). Thus, the opposition that creative ideas likely encounter may have less to do with their merit than with the organizational and personal consequences they imply (Wolfe, 1995).

Given their potential to elicit controversy and to alter the dynamics in an organization, creative ideas, compared to ideas that are more mundane, are naturally disadvantaged in harvesting the resources (funds, materials, etc.) necessary for their implementation (Damanpour, 1988; Norman, 1971). However, because a decision to allocate or redirect resources often involves multiple constituents who are likely to disagree about the value of an idea, especially one that is novel and inherently ambiguous, this process is open to social-political maneuvers, and sponsorship and advocacy are natural mechanisms for influencing decisions in such circumstances (Green et al., 2003). As Kanter noted, “The features of successful ideas have more to do with the likelihood of gathering political support than with the likelihood of the idea to produce results” (1988: 186). Thus, individuals who are able to mobilize the support of key allies should be in a position to sway important resource allocation decisions in their favor, thereby improving the odds that even their more creative ideas may be realized (Howell & Higgins, 1990; Van de Ven, 1986).

Taken together, the above points suggest that although the generation of ideas is a prerequisite for their ultimate implementation, creativity may exhibit a qualitatively different relation with implementation. Specifically, rather than facilitating idea implementation, an idea’s high degree of creativity, in the absence of certain mitigating factors, should make it less likely that the idea finds its way into practice. However, in circumstances in which people are driven to pursue their ideas and possess the abilities or social relationships that allow them to involve and draw upon the resources of important supporters in their organization, the odds of creativity resulting in idea implementation should increase. This line of argumentation suggests that the effects of creativity on implementation depend on the presence (or absence) of certain moderating factors. In addition, it suggests that to comprehensively describe the effects of creativity on implementation, it is necessary to consider all of these factors in concert. It is to this discussion that I now turn.

Implementation Instrumentality and Networking Ability as Moderators of the Creativity-Implementation Relation

Innovation is a risky endeavor. For example, Janssen (2003) showed that innovative behavior, especially among employees who were deeply involved in their jobs, often created conflict with coworkers that, in turn, resulted in less satisfactory relationships with those individuals. In addition, ideas may fail to produce anticipated returns; as a consequence, people may suffer losses of reputation as well as a withdrawal of the trust of friends and sponsors (Yuan & Woodman, 2010). Given these prospects, people are unlikely to mobilize sponsorship and obtain advocacy in an effort to sway important resource allocation decisions unless they believe that such efforts offer significant returns (Dutton & Ashford, 1993). Indeed, people have long been known to act upon the expected consequences of their actions (Vroom, 1964). Thus, the extent to which individuals expect positive outcomes to be associated with their implementation efforts—a concept referred to as *implementation instrumentality*—is likely to serve as an important moderator of the relation between creativity and idea implementation.

Miron et al. (2004) provided some indirect evidence for implementation instrumentality serving as a potential moderator of the association between creativity and innovation. These authors showed that creative individuals were rated as more innovative when they were also highly determined to realize their ideas. Yuan and Woodman (2010) ob-

tained additional support for the logic that “outcome expectations” are powerful motivating forces shaping innovative behavior. These authors argued and showed that innovation is determined, at least partially, by both performance and image outcome expectations, defined as employees’ beliefs that their innovative efforts will bring about performance improvements and also result in certain image gains (or risks). Similar to the notion of outcome expectations as conceptualized by Yuan and Woodman (2010), implementation instrumentality captures the extent to which employees believe that their innovative efforts will result in certain (desirable) outcomes. In contrast to the outcome expectations concept, however, implementation instrumentality focuses on the outcomes expected to be associated with idea implementation specifically, rather than on innovation more generally, and it captures not only the more extrinsic outcomes (e.g., image gains) of individuals’ implementation efforts but also the intrinsic benefits flowing from such efforts.

Although the expectation of positive outcomes being associated with their implementation efforts may motivate people to seek the support and obtain the advocacy necessary to improve the odds of their creative ideas being put into practice, the ability to network is equally important to successfully navigate the social-political process of innovation (e.g., Kanter, 1983). Mobilizing sponsorship and advocacy requires that individuals have cultivated the types of social relationships—close connections to trusted friends and allies—that provide access to such assets (Obstfeld, 2005). Thus, without the ability to develop close connections and forge beneficial alliances, the motivation to implement may not improve the odds of realizing creative ideas after all. *Networking ability*, defined as the extent to which people are skilled in developing and using social networks to effect change at work (Ferris et al., 2005; Ferris, Treadway, Perrewé, Brouer, Douglas, & Lux, 2007), may therefore be expected to regulate the extent to which implementation instrumentality allows employees who develop creative ideas to improve the odds of these ideas ultimately being realized.

Previous theoretical and qualitative research has provided some support for the importance of the ability to involve others and build coalitions in selling issues and ideas to decision makers in organizations. For example, Dutton and Ashford (1993) theorized that assembling an alliance of potential supporters should allow issue sellers to better attract the attention of top management. Similarly, on the basis of her qualitative work, Kanter (1983) concluded that the ability to build effective

coalitions is critical for successful innovation. Although these previous efforts have not explicitly addressed the role of networking ability in regulating, alongside motivation, the relation between creativity and actual idea implementation, they nevertheless have highlighted the importance of individuals’ abilities to craft and utilize effective social networks in an effort to effect change in organizations.

Although I expected both implementation instrumentality and networking ability to be integral to overcoming the unfavorable odds that truly creative ideas are likely to face when being considered for implementation, the realization of ideas that are of limited creativity should depend to a lesser extent on the presence of these moderating factors. Given that ideas of limited creativity (ideas that are more mundane) tend to preserve the status quo rather than challenge it (Subramaniam & Youndt, 2005), they tend to be naturally favored and, as a result, more likely to harvest the resources needed for their implementation. In other words, motivation and networking ability are expected to offer fewer advantages when creativity is relatively low, and the fate of ideas is less likely to depend on their creators mobilizing trusted allies and obtaining of important resources such as sponsorship and advocacy.

Overall, then, these arguments suggest that creativity should combine with both implementation instrumentality and networking ability to jointly affect idea implementation. In the absence of both motivation and ability, idea implementation should become less likely as creativity increases. Thus, when implementation instrumentality and networking ability are both low, the relation between creativity and implementation is expected to be negative. Relative to people who lack the motivation to implement their ideas and the ability to cultivate and use their social networks, those who are motivated or possess the requisite networking abilities should be more likely to realize their creative ideas, with the best odds belonging to those employees who are both driven to implement their ideas and gifted at networking. However, even under these optimal circumstances, it may not be possible to achieve implementation rates for highly creative ideas that are higher than those that can be expected for less creative ideas, which are likely to get implemented without much opposition anyway. Thus, although high levels of both moderating factors should significantly improve the odds of highly creative ideas finding their way into practice, this does not necessarily imply that the relation will be positive. Thus,

Hypothesis 1a. Implementation instrumentality and networking ability jointly moderate the relation between creativity and implementation; relative to individuals who lack implementation instrumentality and ability to network, the relation should be less negative for those who possess either instrumentality or the ability to network, and least negative for those who possess both instrumentality and networking ability.

Strong Social Ties as Alternative Moderator to Networking Ability

Given that part of individuals' success at implementing their creative ideas is rooted in their ability to forge the type of social relationships that provide access to resources such as sponsorship and advocacy, these social ties may also be considered as a potential moderator (along with implementation instrumentality) of the link between creativity and idea implementation.

Networking ability is likely to allow people to cultivate different types of social relationships and network constellations depending upon the needs of the circumstances in which they operate (Ferris et al., 2005, 2007). In other words, when people are primarily concerned with being able to access a wide range of different information, networking ability may translate into very different types of relationships than they do when employees are primarily concerned with getting new initiatives implemented. Thus, examining the nature of the relationships through which networking ability exerts its moderating effect (alongside instrumentality) on the link between creativity and implementation provides some clarification as to the social-structural mechanism involved during idea implementation.

The social ties that are the focus of the present examination are individuals' *buy-in relationships*, which are ties to others whose backing may allow successful pursuit of initiatives within their organization (Podolny & Baron, 1997). Resources such as sponsorship and advocacy typically flow from buy-in networks primarily consisting of strong ties (i.e., ties to close colleagues or friends) (Coleman, 1988; Granovetter, 1973; Perry-Smith & Shalley, 2003). Hence, the number of strong buy-in ties is considered as a potential moderator regulating the joint effects of creativity and implementation instrumentality on idea implementation.

To mobilize sponsorship and advocacy, individuals may approach a wide range of contacts, including subordinates, peers, managers of related functions, and others. Although individuals may

occasionally be in a position to offer their network contacts something tangible in exchange for their buy-in, more often than not such exchanges involve less tangible assets—support in the future in exchange for the contacts' sponsorship now (Kanter, 1983). Such implicit agreements, however, require the existence of mutual trust and norms of reciprocity, assets that are more likely to be developed when the ties connecting individuals to their buy-in contacts are strong rather than weak (Coleman, 1988; Obstfeld, 2005; Podolny & Baron, 1997). Thus, the number of strong buy-in ties may be expected to improve the odds that motivated individuals are able to implement their creative ideas.

Taken together, these arguments suggest that creativity should combine with both implementation instrumentality and the number of strong buy-in ties to jointly affect idea implementation. In the absence of both the motivation to pursue ideas and multiple strong relationships, idea implementation should become less likely as creativity increases. Thus, when implementation instrumentality and the number of strong buy-in ties are both low, the relation between creativity and implementation is expected to be negative. Relative to people who lack implementation instrumentality and possess only a few strong buy-in ties, those who are motivated or who possess many strong ties should be more likely to realize their creative ideas, with the best odds belonging to those employees who *both* are motivated to implement their ideas and have cultivated a large number of strong buy-in relationships. Thus,

Hypothesis 1b. Implementation instrumentality and strong buy-in ties jointly moderate the relation between creativity and implementation; relative to individuals who lack implementation instrumentality and possess relatively few strong buy-in ties, the relation should be less negative for those who possess either high levels of instrumentality or many strong ties, and least negative for those who possess both high levels of instrumentality and many strong ties.

METHODS

Research Setting and Participants

Hypotheses were tested in a sample of employees from a large global agricultural processing firm. Employees from different divisions, including accounting, finance, processing, and R&D, and from different hierarchical levels (nonsupervisory employees, supervisors, etc.) were approached for participation. Information on individuals' creativity,

implementation instrumentality, networking ability, and buy-in networks was assessed via web-based surveys from participating employees. To avoid problems of common source variance, I obtained information on implementation via supervisor ratings. Finally, background information was obtained from archival records. A human resource management liaison identified all potential participants and their supervisors and provided a list of their names along with basic demographic information. In total, 531 employees and 111 supervisors were identified.

Out of the 531 employees invited to participate in the study, a total of 238 completed all sections of the survey, for a response rate of 45 percent. In the employee sample, 151 people were men and 87 were women, and 94 percent were white. The mean age was 40.58 years (s.d. = 11.52), and average company tenure was 8.16 years (s.d. = 7.95). The median number of years of post-high school education was 4 years (i.e., bachelor's degree). Out of the 111 supervisors invited to participate in the study, a total of 98 provided employee ratings, for a response rate of 88 percent. Of the supervisor sample, 86 were male, 25 were female, and 92 percent were white. The mean age was 46.55 years (s.d. = 8.57), and average company tenure was 14.39 years (s.d. = 9.10).

Characteristics of employee respondents and nonrespondents were generally similar. Specifically, there were no significant differences in terms of age ($t[488] = .02, p > .05$), gender ($\chi^2[1] = .89, p > .05$), or race ($\chi^2[1] = .28, p > .05$). However, there were significant differences on company tenure ($t[523] = 2.81, p < .01$); the average tenure of respondents (mean = 8.16 years) was significantly lower than the average tenure of nonrespondents (mean = 10.17 years), suggesting that shorter-tenured individuals may have been overrepresented in my sample. Because a number of supervisors of nonparticipating employees had provided ratings of implementation, it was possible to establish whether respondents and nonrespondents differed in terms of their engagement in this activity. No significant differences emerged for this variable ($t[405] = -0.22, p > .05$).

The final sample size dropped from 238 to 216 because, for 22 participating employees, it was not possible to obtain the necessary ratings. The ratings for this final sample were provided by 87 supervisors, each of whom rated a median number of 2 employees.

Measures

Creativity. This was measured with three items derived from those developed by Subramaniam and Youndt (2005): “developed ideas that imply

substantial departures from existing product and service lines”; “developed ideas that make existing knowledge about current products/services obsolete”; “developed breakthrough ideas—not minor changes to existing products/services.” In keeping with research using self-reports of creativity (e.g., Axtell et al., 2000; Shalley, Gilson, & Blum, 2009), employees indicated the extent to which each of the three statements was characteristic of the work they had produced over the past year using a scale ranging from 1 (“not at all characteristic”) to 7 (“extremely characteristic”). I averaged the three items to create a scale ($\alpha = .87$).

Implementation instrumentality. According to Vroom (1964), perceived instrumentality refers to the degree to which a person sees an outcome (e.g., the implementation of an idea) as leading to the attainment of other, second-level outcomes (e.g., praise, monetary rewards). Although expectancy theory requires that the instrumentality scores be weighted by the valence (i.e., desirability) of each secondary outcome and then be multiplied by the probability that a certain action (typically referring to a person's level of effort) will indeed be followed by the outcome in question, research has shown that weighting instrumentality perceptions by valence adds little to the predictive power of the theory (Mitchell, 1974; Nadler & Lawler, 1983). Thus, unweighted instrumentality scores were used in the present study.

Typically, the second-level outcomes that follow the outcome in question are selected by researchers and then presented to employees for rating. Naturally, this carries the risk that some outcomes may be irrelevant to the employee, whereas other, relevant outcomes may be omitted (Van Eerde & Thierry, 1996). To ensure that all outcomes were indeed relevant to the sample under investigation, after selecting items from the extant literature (e.g., Kanter, 1983), I discussed the list of outcomes with representatives from each of the participating divisions and made adjustments based on their comments. Nine outcomes were selected, and representatives indicated that these outcomes constituted a comprehensive list of relevant consequences of idea implementation at the organization.

To derive the instrumentality scores, I asked participants to report the extent to which they perceived each of the nine outcomes to be associated with the pursuit of idea implementation. Specifically, employees first read the item stem, “Here are some things that could happen to people if they tried to turn their ideas into a new product, process, or procedure that is actually brought to market or implemented at [organization]. How likely is it that each of these things would happen if YOU

tried to implement one of your ideas?" They then responded to the following items using a scale that ranged from 1 ("not at all likely") to 7 ("extremely likely"): "My supervisor will praise me and my work"; "I will enhance my reputation as someone who can get things done"; "I will get a bonus or pay increase"; "I will get a promotion or a better job"; "I will get the feeling that I have accomplished something worthwhile"; "I will be given chances to learn new things"; "I will have more freedom in my job"; "I will encounter resistance or active opposition" (reverse-scored); "I will get the resources necessary to tackle other, even bigger projects." Values were averaged across the nine items ($\alpha = .85$).

Networking ability. This was measured via the six-item networking ability scale of the Political Skill Inventory (PSI; Ferris et al., 2005). Sample items include "I am good at using my connections and networks to make things happen at work" and "I have developed a large network of colleagues and associates at work who I can call on for support when I really need to get things done." Items were rated on a scale that ranged from 1 ("strongly disagree") to 7 ("strongly agree") and then averaged ($\alpha = .89$).

Strong ties. Employees first received a name generator question: "Most people turn to others for support when they try to get something done in their organization, such as implementing a new idea or changing a work procedure. Please write down the names, nicknames, or initials of all people whose support you can count on to move your ideas forward" (e.g., Rodan & Galunic, 2004). In view of discussions with representatives from the participating divisions, I limited the number of contacts participants could list to 15. However, participants could add additional contacts if they felt it was necessary, and two participants did so. The number of buy-in contacts reported ranged from 1 to 17, and the average was 4.79 (s.d. = 3.78).

After listing their buy-in contacts, participants responded to a set of name interpreter questions for each contact. In accordance with the theoretical arguments, I operationalized tie strength via (emotional) closeness (Granovetter, 1973): "How close are you with each person?" (1 = "acquaintance," 2 = "distant colleague," 3 = "friendly colleague," 4 = "close colleague," 5 = "very close colleague"). To construct a measure of strong ties, I categorized ties into *strong* (i.e., close colleague and very close colleague) and *weak* (i.e., acquaintance, distant colleague, and friendly colleague) ties and then counted the number of strong ties (Marsden & Campbell, 1984; Perry-Smith, 2006).

Implementation. This was measured via three items developed for this study. On a scale that

ranged from 1 ("never") to 7 ("always"), supervisors rated the frequency with which an employee's ideas had reached certain stages of implementation: "Please rate the frequency with which, in the past, employee's ideas (1) have been approved for further development; (2) have been transformed into usable products, processes, or procedures; (3) have been successfully brought to market or have been successfully implemented at [organization]." I averaged responses to create an indicator of idea implementation ($\alpha = .95$).¹

To establish convergent validity for this measure, I asked participants to describe a few ideas they had worked on in the past and to estimate the extent to which each idea had been successfully implemented: "Think about the last 2–3 ideas that you have developed (alone or in collaboration with others but with major input from you) and that you tried to get implemented at [organization]. How successful were these implementation efforts in each case?" The item was rated on a scale ranging from 1 ("not at all successful—idea was never considered for implementation") to 7 ("extremely successful—idea was brought to market or implemented"). About 60 percent of participants provided information on this measure. To derive an indicator of implementation from the employee perspective, I averaged scores across all ideas reported by each participant ($\alpha = .88$). Providing evidence of convergent validity, this indicator of implementation significantly and positively correlated with the measure of implementation provided by supervisors ($r = .26, p < .01$), with the size of the correlation being comparable to those in previous research (e.g., Janssen, 2000, 2001; Scott & Bruce, 1994).

Control variables. According to Ibarra (1993), both personal sources of power, such as education and experience (e.g., tenure), and structural

¹ Most supervisors rated only two employees on their idea implementation. However, problems associated with nonindependence of observations may still arise. Although the parameter estimates in Table 2 are accurate, Bliese and Hanges (2004) noted that in models including only individual-level variables (as is the case here), potential nonindependence may result in too many type II errors—a loss of power. Given the significance of the present findings, however, any loss of power is unlikely to have affected the results. Nevertheless, I repeated all analyses adjusting standard errors for correlations of error terms due to clustering within supervisors. Results of these analyses were virtually identical to those presented in Table 2, supporting the conclusion that the present findings were not significantly affected by nonindependence and are likely to be conservative estimates of the true effect.

sources, such as subunit membership and formal rank, affect the process of bringing new ideas into use. Following this model and accounting for the possibility that any observed effects may be partially attributable to these variables (e.g., Cross & Cummings, 2004; Mumford & Gustafson, 1988; Obstfeld, 2005; Unsworth, Wall, & Carter, 2005), I included the following as control variables: education (years of post-high school education), tenure (years in organization), divisional membership (a series of dummy variables with "audit" as the default group), and position (1 = "nonsupervisory/individual contributor," 2 = "supervisor/coordinator and/or technical expert," 3 = "manager/director," 4 = "senior management"). In addition, to control for the possibility that effects might be due not to the creativity of employees' ideas but rather to the number of ideas generated, I also included frequency of idea generation as a control variable. Using a response scale ranging from 1 ("once a year or less") to 5 ("every week"), employees indicated how often, on average, they came up with a new idea.

RESULTS

Table 1 summarizes means, standard deviations, and correlations among the study variables. The relation between creativity and implementation was statistically nonsignificant ($r = .13, p > .05$), providing some support for the notion that the production of creative ideas does not invariably result in their implementation.

Hypothesis 1a states that implementation instrumentality and networking ability jointly moderate the relation between creativity and implementation in such a way that, relative to individuals who lacked both implementation instrumentality and the requisite networking skills, the relation is less

negative for those who are either motivated or skilled networkers, and least negative for those who are both motivated and skilled at crafting effective social relationships. Consistently with this hypothesis, the creativity by implementation instrumentality by networking ability three-way interaction entered in the last step of model 1 is negative and statistically significant ($\beta = -.18, p < .05$). Table 2 presents results of the regression analyses.

Providing initial support for Hypothesis 1a, simple slope analyses indicated that the relation between creativity and implementation was only negative and statistically significantly different from zero when employees lacked both the motivation to implement their ideas and the ability to network ($\beta = -.90, t[190] = -1.85, p < .05$). In all other cases, the slopes between creativity and implementation did not differ statistically significantly from zero (β s = $-.22, -.08, .04$; t 's[190] = $-1.01, -0.36, 0.38$; all p 's $> .05$) for low instrumentality/high ability, high instrumentality/low ability, and high instrumentality/high ability, respectively). These slopes are displayed in Figure 1.

Hypothesis 1a further postulates that the slopes for the relation between creativity and implementation generated when either instrumentality or networking ability is low are different (i.e., less negative) from the slope generated when both instrumentality and ability are low. In addition, Hypothesis 1a says that the slope existing when both instrumentality and ability are high significantly differs (i.e., is less negative) from the slopes when either or both of these factors were low. To accurately test Hypothesis 1a, I used the slope difference test proposed by Dawson and Richter (2006). In support of the hypothesis, results of this test showed that the slopes for the relation between creativity and implementation

TABLE 1
Means, Standard Deviations, and Correlations among All Variables^a

Variables	Mean	s.d.	1	2	3	4	5	6	7	8
1. Education	4.49	2.44								
2. Position	0.79	0.72	-.01							
3. Tenure	8.24	8.01	-.31**	.19**						
4. Number of ideas	2.43	1.07	.19**	.23**	-.08					
5. Creativity	2.47	1.30	.22**	.24**	-.05	.41**				
6. Implementation instrumentality	4.25	1.07	.00	.01	-.08	-.06	.01			
7. Networking ability	4.07	1.12	-.13	.19**	.15*	.07	.17*	.23**		
8. Strong ties	2.20	2.25	-.16*	.10	.13	.12	.26**	.00	.18**	
9. Implementation	3.62	1.43	.03	.10	.05	.11	.13	.05	.02	.07

^a $n = 207$ (listwise deletion).

* $p < .05$

** $p < .01$

TABLE 2
Results of Regression Analyses for Implementation^a

Variables	Model 1		Model 2	
	Entry β	Final β	Entry β	Final β
<i>Control variables</i>				
Accounting	0.14	0.14	0.14	0.13
Finance	0.29**	0.29**	0.29**	0.30**
Processing	0.04	0.04	0.04	0.05
R&D	0.30**	0.27*	0.30**	0.28*
Sales	0.07	0.08	0.07	0.08
Education	0.01	0.03	0.01	0.01
Position	0.10	0.06	0.10	0.07
Tenure	0.08	0.09	0.08	0.07
Number of ideas	0.15*	0.12	0.15*	0.15*
ΔR^2	0.11		0.11	
ΔF	2.73**		2.73**	
<i>Main effects</i>				
Creativity	0.05	0.11	0.04	0.05
Implementation instrumentality	0.05	0.09	0.05	0.08
Networking ability	0.01	0.00		
Strong ties			0.04	0.09
ΔR^2	0.01		0.01	
ΔF	0.40		0.52	
<i>Two-way interactions</i>				
Creativity \times implementation instrumentality	0.05	0.08	0.03	0.06
Creativity \times networking ability	-0.06	-0.04		
Creativity \times strong ties			-0.02	0.01
Implementation instrumentality \times networking ability	-0.01	0.01		
Implementation instrumentality \times strong ties			0.02	0.12
ΔR^2	0.00		0.00	
ΔF	0.29		0.07	
<i>Three-way interactions</i>				
Creativity \times implementation instrumentality \times networking ability	-0.18*	-0.18*		
Creativity \times implementation instrumentality \times strong ties			-0.25**	-0.25**
ΔR^2	0.03		0.04	
ΔF	5.58*		9.65**	
R^2		0.15		0.16
F		2.02*		2.29**

^a $n = 207$ (listwise deletion). Divisional membership coded as a series of dummy variables with audit as the default group.

* $p < .05$

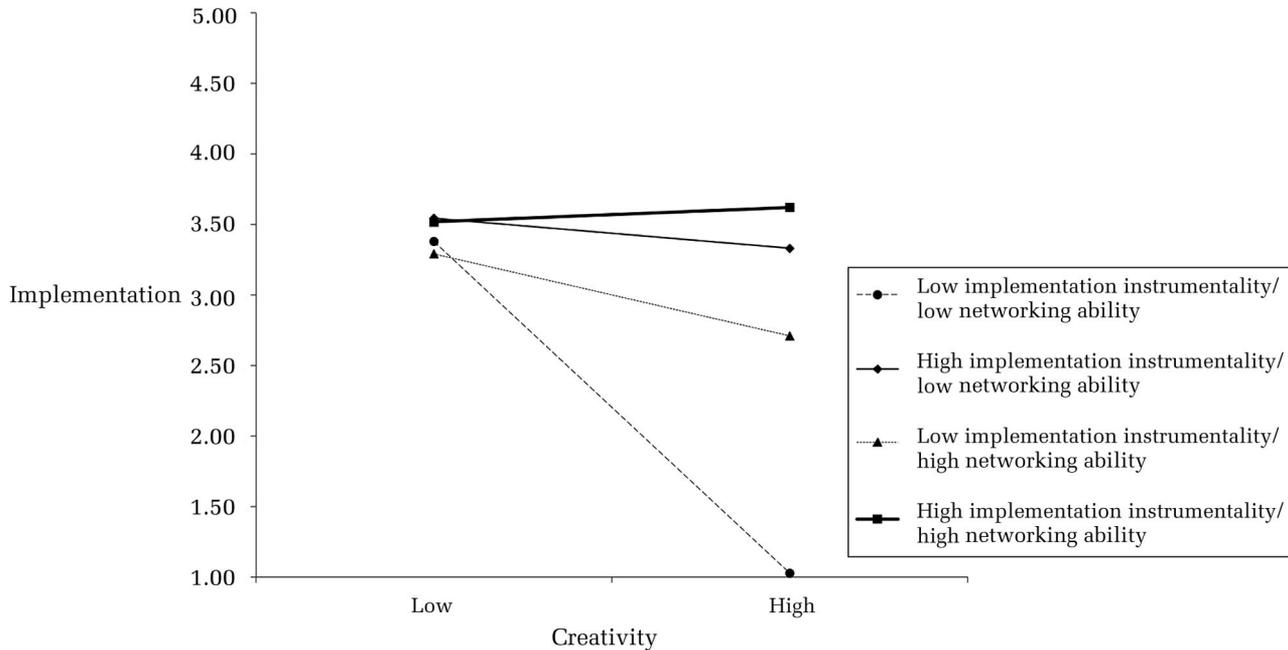
** $p < .01$

generated when either instrumentality or ability was low were indeed statistically significantly less negative (i.e., the difference was positive) than the slope when both factors were low (t 's[190] = 2.41 and 1.84, p 's < .01 and .05 for high instrumentality/low ability and low instrumentality/high ability, respectively). Table 3 presents the results of paired tests of slopes (t 's). Also supportive of the proposed pattern of relations, results revealed that the slope generated when both instrumentality and ability were high was statistically significantly less negative than both the slope representing low values on both variables (t [190] = 2.10, $p < .05$) and the slope representing low instrumentality and high ability (t [190] = 1.63, $p < .05$). However, failing to support Hypothesis 1a, no statistically significant

difference emerged between the slope for high instrumentality and high ability and the slope for high instrumentality and low ability (t [190] = .67, $p > .05$). Thus, support for Hypothesis 1a was only partial.

Hypothesis 1b states that implementation instrumentality and strong buy-in ties jointly moderate the relation between creativity and implementation in such a way that, relative to the relation for individuals who lack both instrumentality and many strong buy-in ties, the relation is less negative for those who are either motivated or possess many strong ties, and it is the least negative for those who are both motivated and possess many strong ties. In keeping with this hypothesis, the creativity by implementation instrumentality by strong tie three-way interaction

FIGURE 1
Interaction Effect of Creativity, Implementation Instrumentality, and Networking Ability on Implementation



entered in the last step of model 2 was negative and statistically significant ($\beta = -.25, p < .01$) (see Table 2).²

Providing initial support for Hypothesis 1b, simple slope analyses indicated that the relation between creativity and implementation was only neg-

ative and statistically significantly different from zero when employees lacked both the instrumentality to implement their ideas and numerous strong buy-in ties ($\beta = -.55, t[190] = -2.02, p < .05$). In all other cases, the slopes between creativity and implementation did not significantly differ from zero (β s = $-.10, -.12, .01$; t 's[190] = $-0.50, -0.91, \text{ and } 0.10$, all p 's $> .05$), for low instrumentality/high strong ties, high instrumentality/low strong ties, and high instrumentality/high strong ties, respectively). These slopes are displayed in Figure 2.

² Providing additional support for Hypothesis 1b, repeating this analysis using a measure of the number of weak ties (i.e., acquaintances, distant colleagues, and friendly colleagues) did not produce a statistically significant three-way interaction ($p > .05$).

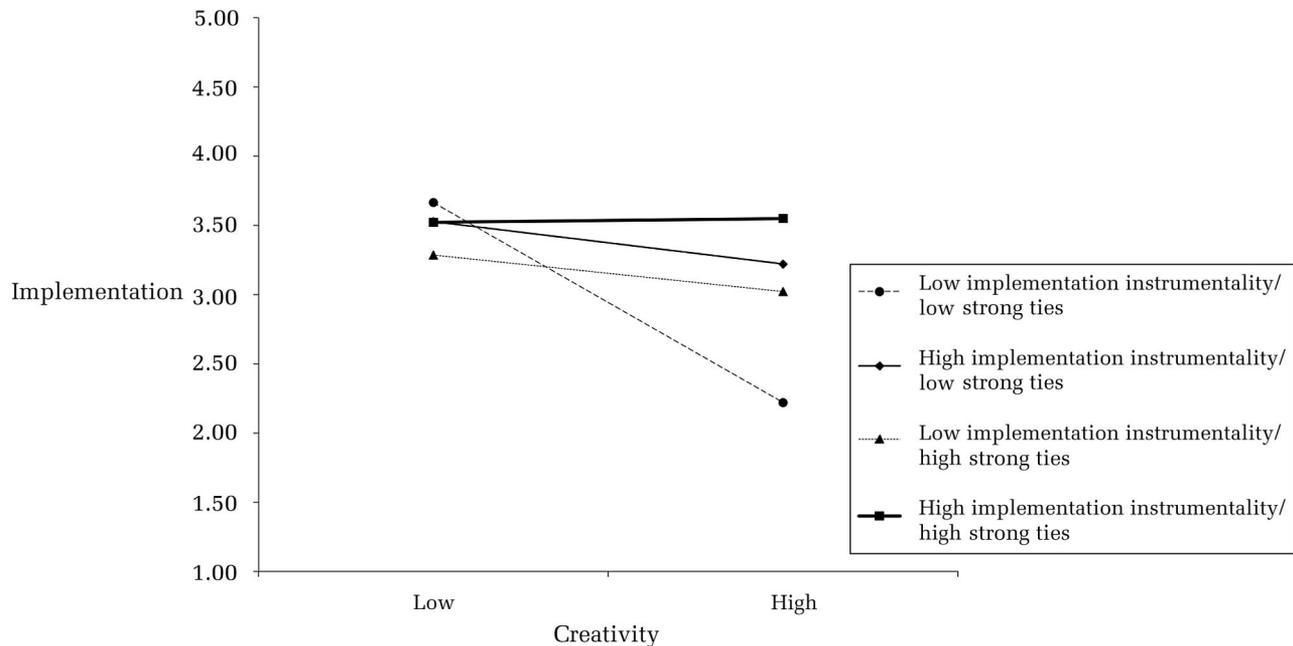
TABLE 3
Results of *t*-Tests of Slope Differences

Slope Pairs	Networking Ability	Strong Ties
Implementation instrumentality _{high} and networking ability/strong ties _{high} vs. implementation instrumentality _{high} and networking ability/strong ties _{low}	0.67	1.65*
Implementation instrumentality _{high} and networking ability/strong ties _{high} vs. Implementation instrumentality _{low} and networking ability/strong ties _{high}	1.63*	0.79
Implementation instrumentality _{high} and networking ability/strong ties _{high} vs. implementation instrumentality _{low} and networking ability/strong ties _{low}	2.10*	2.48**
Implementation instrumentality _{high} and networking ability/strong ties _{low} vs. implementation instrumentality _{low} and networking ability/strong ties _{high}	0.61	-0.11
Implementation instrumentality _{high} and networking ability/strong ties _{low} vs. Implementation instrumentality _{low} and networking ability/strong ties _{low}	2.41**	2.32*
Implementation instrumentality _{low} and networking ability/strong ties _{high} vs. implementation instrumentality _{low} and networking ability/strong ties _{low}	1.84*	2.78**

* $p < .05$

** $p < .01$

FIGURE 2
Interaction Effect of Creativity, Implementation Instrumentality, and Strong Ties on Implementation



Hypothesis 1b further postulates that the slopes for the relation between creativity and implementation generated when either instrumentality or strong ties is low are significantly different (i.e., less negative) from the slope created when both instrumentality and strong ties are low. In addition, Hypothesis 1b states that the slope when both instrumentality and strong ties are high significantly differs (i.e., is less negative) from the slopes when either or both of these factors are low. In support of the hypothesis, results of Dawson and Richter's (2006) test showed that the slopes for the relation between creativity and implementation when either instrumentality or strong ties was low were indeed statistically significantly less negative than the slope when both factors were low (t 's[190] = 2.32 and 2.78; p 's < .05 and < .01, for high instrumentality/low strong ties and low instrumentality/high strong ties, respectively) (see Table 3). Also supportive of the proposed pattern of relations, results revealed that the slope when both instrumentality and strong ties were high was statistically significantly less negative than the slope when both factors were low (t [190] = 2.48, p < .01) and than the slope for high instrumentality and low strong ties (t [190] = 1.65, p < .05). However, failing to support Hypothesis 1b, no statistically significant difference emerged between the slope when both instrumentality and strong ties were high and the slope when instrumentality was low and strong

ties was high (t [190] = 0.79, p > .05). Thus, Hypothesis 1b was only partially supported.^{3, 4}

³ Repeating all analyses substituting number of ideas for creativity did not produce any significant three-way interactions (all p 's > .05).

⁴ Given that networking ability should partially determine the extent to which individuals are able to cultivate networks of strong buy-in ties, I also examined the possibility that the moderating effect of networking ability on the joint association between creativity and instrumentality, and implementation, was mediated by the number of strong buy-in ties (see Grant and Berry [2011] for another case in which one moderating variable mediates the effect of another). Providing initial support for this logic was a positive relation between networking ability and strong ties (r = .18, p < .01). In addition, simultaneously entering the three-way interaction involving networking ability and the three-way interaction involving strong ties into an equation predicting implementation (controlling for all relevant two-way interactions) revealed that the mediating interaction involving strong ties remained statistically significant (β = -.20, p < .05), while the previously significant interaction involving networking ability became nonsignificant (β = -.14, p > .05). The indirect effect was statistically significant according to Sobel's (1982) test (z = 2.04, p < .05), supporting the notion that networking ability (in concert with creativity and implementation instrumentality) only impacted implementation to the extent that it allowed actors to develop and maintain strong buy-in relationships.

DISCUSSION

The findings of this study provide general support for the proposed framework. Consistently with Hypothesis 1a, results indicated that although creativity may often be negatively received, squelching its chances for successful implementation, individuals can significantly improve their odds of implementing creative ideas when they are highly motivated to move their ideas forward to realization and/or when they are skilled networkers. In support of the arguments presented earlier, a lack of implementation instrumentality and networking ability indeed significantly hampered the implementation of creative ideas. However, the lack of difference between the slope representing high implementation instrumentality and networking ability and the slope for high instrumentality but low networking indicates that once employees were motivated to push their ideas toward implementation, networking ability was of little importance. These results suggest that although a lack of both implementation instrumentality and networking ability significantly reduces the likelihood that creative ideas will be implemented, once individuals gain implementation instrumentality, *networking ability* has only limited marginal benefits.

Further solidifying the general framework proposed here, results for Hypothesis 1b indicated that, similarly to networking ability, the number of strong buy-in ties combined with implementation instrumentality to jointly affect the relation between creativity and implementation. In keeping with earlier arguments, individuals who reported low levels of implementation instrumentality and who had cultivated only few strong buy-in relationships were significantly less likely to see their creative ideas come to fruition than individuals who were highly motivated to engage the implementation process, who had cultivated a larger net of strong buy-in relationships, or both. However, the lack of difference between the slope depicting high levels of both implementation instrumentality and strong ties and the slope depicting high strong ties but low instrumentality indicates that once the number of strong ties reached a certain count, implementation instrumentality was of limited additional benefit. These results suggest that although a lack of both implementation instrumentality and a sufficient number of strong buy-in ties significantly reduces the likelihood that creative ideas will be realized, once individuals have established a critical mass of close buy-in relationships, *motivation* has only limited marginal benefits.

This conclusion is contrary to the earlier findings suggesting that networking ability may be less im-

portant than the motivation to implement ideas. The difference between networking ability and number of strong ties may explain this discrepancy. Although both concepts are functionally equivalent in capturing the potential of employees to mobilize support and obtain advocacy, the number of strong ties is a more direct indicator of access to such resources than the more distal measure of networking ability. The finding that the moderating effect of networking ability was mediated by the moderating effect of strong ties (see footnote 5) supports this conclusion. Thus, although both concepts are functionally equivalent and are empirically related, the fact that the number of strong buy-in ties is a more proximal indicator of access to sponsorship and advocacy than networking ability may have resulted in stronger findings for this measure and the conclusion that motivation may have only limited marginal benefits as compared to the number of close buy-in relationships.

Theoretical Contributions

The findings presented here contribute to the innovation literature in a number of ways. First, they contribute to the emerging stream of research recognizing that creativity and idea implementation are two different activities within the innovation process. Although some previous work has treated creativity and implementation as reflective of the same underlying concept or has focused on idea generation, not creativity, as a predictor of implementation (e.g., AxteLL et al., 2000; Clegg et al., 2002; Frese et al., 1999; Janssen, 2001; Scott & Bruce, 1994), the results of the present study suggest that when creativity is defined in terms of the nature of people's ideas, not their quantity, creativity and implementation are neither synonymous nor necessarily positively related. In fact, results of the regression analyses revealed that although number of ideas and implementation were positively related, as expected, creativity and implementation were significantly negatively related when both instrumentality and networking ability/strong ties were low. Thus, in contrast to previous research, the findings of this study suggest that the mere production of creative ideas does not ensure that these ideas are eventually implemented.

In addition to highlighting that creativity and implementation are only loosely connected, the present study also advances knowledge of the nature of this connection by suggesting that the link between creativity and implementation cannot be properly understood without considering the simultaneous influence of both personal and relational contingencies. Supporting this general framework, findings suggest that the motivation to

implement one's ideas and the ability to network—or, alternatively, the strength of one's actual network relationships—serve as moderating factors that jointly determine the extent to which creative ideas are eventually realized. Providing insights into the functional pattern of this interplay, the current findings indicate that, on the one hand, a lack of both implementation instrumentality and network ability/strong ties significantly hampers the implementation of creative ideas; on the other hand, possessing *either* the instrumentality to implement ideas *or* network ability/strong ties *or both* significantly helps. In addition, results suggest that when individuals are primarily involved in the development of ideas of relatively low creativity, idea implementation is largely independent of their motivation and networking ability/strong ties. Although previous work on the social-political perspective on innovation has acknowledged the importance of involving others during innovation processes and discussed some of the factors examined here (e.g., Dutton & Ashford, 1993; Frost & Egri, 1991; Kanter, 1983), the present study extends this work by identifying the factors that are most critical to ensuring others' involvement and by examining how these factors, along with creativity, jointly shape actual idea implementation.

Finally, consistently with accounts highlighting the importance of outcome expectations in affecting employee innovation (Farr & Ford, 1990; Frese et al., 1999; Yuan & Woodman, 2010), the results of the present study suggest that the implementation of creative ideas is not only influenced by intrinsic motivational considerations (e.g., sense of accomplishment, increased autonomy), which have been the focus of previous research in the area of creativity (e.g., Amabile, 1996; Oldham & Cummings, 1996), but also by extrinsic motivational considerations, such as monetary, career, and reputational benefits.⁵ As hypothesized, however, these motivational forces did not directly shape idea implementation but only did so in conjunction with the creativity of people's ideas as well as certain abilities or relational features. Thus, in addition to highlighting the benefits of both intrinsic and extrinsic interests for innovation in the workplace, the findings of this study extend earlier work by advocating and demonstrating the validity of a more nuanced perspective separating creativity from implementation and considering motivation as a mod-

erator of the link between creativity and idea implementation.

Limitations and Suggestions for Future Research

Despite these contributions, the study is not without its limitations. First, I have interpreted results in accordance with the hypothesized causal order, whereby creativity along with instrumentality and networking ability or numerous strong buy-in ties result in different levels of idea implementation. The cross-sectional nature of my study design, however, limits the ability to determine causality. For example, it is possible that the implementation of creative ideas influences a person's instrumentality in pursuit of the realization of ideas in the future, which is likely to affect not only subsequent levels of implementation but also the subsequent production of creative ideas. In addition, it is conceivable that engaging in idea implementation also shapes a person's future networking ability and access to sponsorship via strong buy-in ties. Thus, future studies employing longitudinal designs are now needed not only to examine the relations posited in the present study but also to explore potential reciprocal relations.

In addition, examining only one organization may limit the generalizability of the results presented here. Naturally, it is possible that different results may have been obtained if organizations from a wide range of industries had been included. Although I sampled locations from all major divisions (even those that are not traditionally considered hotbeds of innovation) of a large, global organization, it is nevertheless possible that the results, because of potentially idiosyncratic features of the focal organization, are not generalizable to organizations in other industries or organizations in general. Future research sampling a wide range of organizations in different industries is needed to address this issue.

Next, I focused on individuals' ability to cultivate network relationships as a means to mobilize the support and advocacy needed to bring creative ideas to fruition. Although innovation in organizations has often been characterized as a social-political process (e.g., Van de Ven, 1986; Yuan & Woodman, 2010), thereby justifying this focus on social skills, idea implementation may be impacted not only by individuals' ability to network but also by their ability to design or structure ideas in such a way that they are particularly likely to be implemented. Domain-relevant skills have been suggested to be integral to the development of creative ideas (Amabile, 1996), and such skills may also be relevant when actors attempt to implement their contributions. Future research therefore may want

⁵ Additional analyses separating implementation motivation into its extrinsic and intrinsic components revealed that both motivational orientations produced similar patterns of results.

to capture expertise, technical skills, and other relevant talents in addition to networking skills when examining the factors that enhance the conversion of new ideas into innovations.

Finally, the current examination assumed a person-centric perspective on innovation in organizations. In contrast to previous work, which has highlighted the importance of organizational variables as antecedents to idea implementation (e.g. Axtell et al., 2000, 2006), the focus of this study was on personal (motivation, ability) and relational (strength of buy-in ties) factors. Although the results support the importance of these more micro influences, it may nevertheless be possible that more macro elements, such as organizational and team support for innovation, may additionally regulate the link between creativity and implementation. Although the present findings are encouraging in suggesting that when employees are savvy networkers and driven to implement their ideas, even their most creative ideas (those with the greatest potential to disrupt the status quo) are as likely to be implemented as their less controversial contributions, it may be possible that certain contextual factors further enhance the chances of creative ideas ultimately making it into practice. Considering both personal/relational and organizational factors may therefore prove to be a fruitful avenue for future research.

Practical Implications

These limitations notwithstanding, the results of this study have some interesting practical implications. One of these is that, because the odds of implementing creative ideas can be rather small, organizations and managers need to be aware that some of their potentially most productive ideas may never be realized and that social-political dynamics, rather than issues related to the ideas themselves, may be responsible (Levitt, 1963; Mintzberg, 1983). Although there may be good reasons for organizations to focus their efforts on contributions of lower creativity, given the potential for more highly creative ideas to cause conflict and create disruptions, the results of this study suggest that the implementation of creative ideas is a fragile endeavor that requires systematic attention to a number of conditions if it is to be successfully executed.

To promote the development of instrumentality perceptions associated with implementation activities, managers need to establish a systematic approach to acknowledging and rewarding their employees' implementation efforts. Although the benefits of providing both intrinsic and extrinsic rewards in stimulating creativity are well documented

(e.g., Amabile, 1996; Eisenberger & Armeli, 1997; Eisenberger, Armeli, & Pretz, 1998), creating outcome expectations with respect to implementation activities that satisfy both intrinsic and extrinsic motives appears to be equally as important. Thus, managers need to develop an intimate understanding of their employees to discern, among the wide range of potentially relevant intrinsic and extrinsic factors, those that are likely to motivate each individual's implementation efforts. Once these are identified, managers need to establish a systematic approach to rewarding such efforts in a balanced manner.

To promote networking ability and the cultivation of strong ties to players willing to support others' implementation efforts—the second necessary condition improving the odds of creative ideas being eventually realized—managers may want to focus their efforts not only on selecting individuals who fit a certain personality profile (e.g., extraverted, agreeable) or who are skilled networkers but also on providing individuals with opportunities allowing them to develop their networking skills (Ferris et al., 2007). For example, providing individuals with role models promoting the emulation of certain behaviors, such as networking, may be one way. Assigning talented and socially savvy mentors who observe employees' behaviors and, at regular time intervals, provide developmental feedback may be another way for an organization to cultivate networking skills among its workforce. Together with initiatives aimed at enhancing individuals' implementation instrumentality, such efforts are then likely to improve the odds that even creative ideas are eventually realized.

Conclusions

Throughout this article, I have argued that the relation between the creativity of ideas and their implementation may be less straightforward than the relation between idea quantity and implementation. The findings of this study support this argumentation and suggest that unless actors are motivated to push for the realization of their ideas and skilled at developing strong buy-in relationships, creativity is likely to be lost.

REFERENCES

- Amabile, T. M. 1996. *Creativity in context*. Boulder, CO: Westview.
- Anderson, N., De Dreu, C. K. W., & Nijstad, B. A. 2004. The routinization of innovation research: A constructively critical review of the state-of-the-science. *Journal of Organizational Behavior*, 25: 147–173.

- Ashford, S. J., Rothbard, N. P., Piderit, S. K., & Dutton, J. E. 1998. Out on a limb: The role of context and impression management in selling gender-equity issues. *Administrative Science Quarterly*, 43: 23–57.
- Axtell, C. M., Holman, D. J., Unsworth, K. L., Wall, T. D., Waterson, P. E., & Harrington, E. 2000. Shopfloor innovation: Facilitating the suggestion and implementation of ideas. *Journal of Occupational and Organizational Psychology*, 73: 265–285.
- Axtell, C., Holman, D., & Wall, T. 2006. Promoting innovation: A change study. *Journal of Occupational and Organizational Psychology*, 79: 509–516.
- Baer, M. 2010. The strength-of-weak-ties perspective on creativity: A comprehensive examination and extension. *Journal of Applied Psychology*, 95: 592–601.
- Bliese, P. D., & Hanges, P. J. 2004. Being both too liberal and too conservative: The perils of treating data as though they were independent. *Organizational Research Methods*, 7: 400–417.
- Bunce, D., & West, M. A. 1995. Self-perceptions and perceptions of group climate as predictors of individual innovation at work. *Applied Psychology: An International Review*, 44: 199–215.
- Bunce, D., & West, M. 1994. Changing work environments: Innovating coping responses to occupation stress. *Work and Stress*, 8: 319–331.
- Clegg, C., Unsworth, K., Epitropaki, O., & Parker, G. 2002. Implicating trust in the innovative process. *Journal of Occupational and Organizational Psychology*, 75: 409–422.
- Coleman, J. S. 1988. Social capital in the creation of human capital. *American Journal of Sociology*, 94: S95–S120.
- Cross, R., & Cummings, J. N. 2004. Tie and network correlates of individual performance in knowledge-intensive work. *Academy of Management Journal*, 47: 928–937.
- Damanpour, F. 1988. Innovation type, radicalness, and the adoption process. *Communication Research*, 15: 545–567.
- Damanpour, F. 1991. Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, 34: 555–590.
- Dawson, J. F., & Richter, A. W. 2006. A significance test of slope differences for three-way interactions in moderated multiple regression analysis. *Journal of Applied Psychology*, 91: 917–926.
- Dutton, J. E., & Ashford, S. J. 1993. Selling issue to top management. *Academy of Management Review*, 18: 397–428.
- Dutton, J. E., Ashford, S. J., O'Neill, R. M., Hayes, E., & Wierba, E. E. 1997. Reading the wind: How middle managers assess the context for selling issues to top managers. *Strategic Management Journal*, 18: 407–425.
- Dutton, J. E., Ashford, S. J., O'Neill, R. M., & Lawrence, K. A. 2001. Moves that matter: Issue selling and organizational change. *Academy of Management Journal*, 44: 716–736.
- Eisenberger, R., & Armeli, S. 1997. Can salient reward increase creative performance without reducing intrinsic creative interest? *Journal of Personality and Social Psychology*, 72: 652–663.
- Eisenberger, R., Armeli, S., & Pretz, J. 1998. Can the promise of reward increase creativity? *Journal of Personality and Social Psychology*, 74: 704–714.
- Farr, J. L., & Ford, C. M. 1990. Individual innovation. In M. A. West & J. L. Farr (Eds.), *Innovation and creativity at work: Psychological and organizational strategies*: 63–80. Chichester, UK: Wiley.
- Ferris, G. R., Treadway, D. C., Kolodinsky, R. W., Hochwater, W. A., Kacmar, C. J., Douglas, C., & Frink, D. D. 2005. Development and validation of the Political Skill Inventory. *Journal of Management*, 31: 126–152.
- Ferris, G. R., Treadway, D. C., Perrewé, P. L., Brouer, R. L., Douglas, C., & Lux, S. 2007. Political skill in organizations. *Journal of Management*, 33: 290–320.
- Frese, M., Teng, E., & Wijnen, C. J. D. 1999. Helping to improve suggestion systems: Predictors of making suggestions in companies. *Journal of Organizational Behavior*, 20: 1139–1155.
- Frost, P. J., & Egri, C. P. 1991. The political process of innovation. In L. L. Cummings & B. M. Staw (Eds.), *Research in organizational behavior*, vol. 13: 229–295. Greenwich, CT: JAI.
- George, J. M. 2008. Creativity in organizations. In J. P. Walsh & A. P. Brief (Eds.), *Academy of Management annals*, vol. 1: 439–477. New York: Erlbaum.
- Granovetter, M. S. 1973. The strength of weak ties. *American Journal of Sociology*, 78: 1360–1380.
- Grant, A. M., & Berry, J. W. 2011. The necessity of others in the mother of invention: Intrinsic and prosocial motivations, perspective taking, and creativity. *Academy of Management Journal*, 54: 73–96.
- Green, S. G., Gavin, M. B., & Aiman-Smith, L. 1995. Assessing a multidimensional measure of radical technological innovation. *IEEE Transactions on Engineering Management*, 42: 203–214.
- Green, S. G., Welsh, M. A., & Dehler, G. E. 2003. Advocacy, performance, and threshold influences on decisions to terminate new product development. *Academy of Management Journal*, 46: 419–434.
- Howell, J. M., & Higgins, C. A. 1990. Champions of tech-

- nological innovation. *Administrative Science Quarterly*, 35: 317–341.
- Howell, J. M., & Shea, C. M. 2001. Individual differences, environmental scanning, innovation framing, and champion behavior: Key predictors of project performance. *Journal of Product Innovation Management*, 18(1): 15–27.
- Hülsheger, U. R., Anderson, N., & Salgado, J. F. 2009. Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology*, 94: 1128–1145.
- Ibarra, H. 1993. Network centrality, power, and innovation involvement: Determinants of technical and administrative roles. *Academy of Management Journal*, 36: 471–501.
- Janssen, O. 2000. Job demands, perceptions of effort-reward fairness, and innovative work behavior. *Journal of Occupational and Organizational Psychology*, 73: 287–302.
- Janssen, O. 2001. Fairness perceptions as a moderator in the curvilinear relationship between job demands, and job performance and job satisfaction. *Academy of Management Journal*, 44: 1039–1050.
- Janssen, O. 2003. Innovative behaviour and job involvement at the price of conflict and less satisfactory relations with co-workers. *Journal of Occupational and Organizational Psychology*, 76: 347–364.
- Janssen, O. 2005. The joint impact of perceived influence and supervisor supportiveness on employee innovative behavior. *Journal of Occupational and Organizational Psychology*, 78: 573–579.
- Janssen, O., Van de Vliert, E., & West, M. 2004. The bright and dark side of individual and group innovation: A special issue introduction. *Journal of Organizational Behavior*, 25: 129–145.
- Janssen, O., & Van Yperen, N. W. 2004. Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal*, 47: 368–384.
- Kanter, R. M. 1983. *The change masters: Innovation for productivity in the American corporation*. New York: Simon & Schuster.
- Kanter, R. M. 1988. When a thousand flowers bloom: Structural, collective, and social conditions for innovation in organization. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior*, vol. 10: 169–211. Greenwich, CT: JAI.
- Kimberly, J. R. 1981. Managerial innovation. In P. Nystrom & W. Starbuck (Eds.), *Handbook of organizational design*: 84–104. New York: Oxford University Press.
- Levitt, T. 1963. Creativity is not enough. *Harvard Business Review*, 41(3): 72–83.
- Marsden, P. V., & Campbell, K. E. 1984. Measuring ties strength. *Social Forces*, 63: 482–501.
- Mintzberg, H. 1983. *Power in and around organizations*. Englewood Cliffs, NJ: Prentice-Hall.
- Miron, E., Erez, M., & Naveh, E. 2004. Do personal characteristics and cultural values that promote innovation, quality, and efficiency compete or complement each other? *Journal of Organizational Behavior*, 25: 175–1999.
- Mitchell, T. R. 1974. Expectancy models of job satisfaction, occupational preference and effort: A theoretical, methodological, and empirical appraisal. *Psychological Bulletin*, 81: 1053–1077.
- Mumford, M., & Gustafson, S. 1988. Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin*, 103: 27–43.
- Nadler, D. A., & Lawler, E. E. 1983. Motivation: A diagnostic approach. In R. Hackman, E. Lawler, & L. Porter (Eds.), *Perspectives on behavior in organizations*: 67–73. New York: McGraw Hill.
- Ng, T. W. H., Feldman, D. C., & Lam, S. S. K. 2010. Psychological contract breaches, organizational commitment, and innovation-related behaviors: A latent growth modeling approach. *Journal of Applied Psychology*, 95: 744–751.
- Norman, R. 1971. Organizational innovativeness: Product variation and reorientation. *Administrative Science Quarterly*, 16: 203–215.
- Obstfeld, D. 2005. Social networks, the tertius iungens orientation, and involvement in innovation. *Administrative Science Quarterly*, 50: 100–130.
- Oldham, G. R., & Cummings, A. 1996. Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39: 607–634.
- Pelz, D. C. 1985. Innovation complexity and the sequence of innovating stages. *Science Communication*, 6: 261–291.
- Perry-Smith, J. E. 2006. Social yet creative: The role of social relationships in facilitating individual creativity. *Academy of Management Journal*, 49: 85–101.
- Perry-Smith, J. E., & Shalley, C. E. 2003. The social side of creativity: A static and dynamic social network perspective. *Academy of Management Review*, 28: 89–106.
- Peters, T., & Waterman, R. 1982. *In search of excellence: Lessons from America's best-run companies*. New York: Harper Row.
- Podolny, J. M., & Baron, J. N. 1997. Resources and relationships: Social networks and mobility in the workplace. *American Sociological Review*, 62: 673–693.

- Rodan, S., & Galunic, C. 2004. More than network structure: How knowledge heterogeneity influences managerial performance and innovativeness. *Strategic Management Journal*, 25: 541–562.
- Rogers, E. M. 2003. *Diffusion of innovations*. New York: Free Press.
- Roth, E. A., & Sneader, K. D. 2006. *Reinventing innovation at consumer goods companies*. <http://www.mckinseyquarterly.com/home.aspx>. Accessed October 2, 2008.
- Schumpeter, J. A. 1942. *Capitalism, socialism, and democracy*. New York: Harper & Brothers.
- Scott, S. G., & Bruce, R. A. 1994. Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37: 580–607.
- Shalley, C. E., Gilson, L. L., & Blum, T. C. 2009. Interactive effects of growth need strength, work context, and job complexity on self-reported creative performance. *Academy of Management Journal*, 52: 489–505.
- Shalley, C. E., Zhou, J., & Oldham, G. R. 2004. The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management*, 30: 933–958.
- Sobel, M. E. 1982. Asymptotic intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology 1982*: 290–315. San Francisco: Jossey-Bass.
- Sohn, S. Y., & Jung, C. S. 2010. Effect of creativity on innovation: Do creativity initiatives have significant impact on innovative performance in Korean firms? *Creativity Research Journal*, 22: 320–328.
- Subramaniam, M., & Youndt, M. A. 2005. The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, 48: 450–463.
- Tellis, G. J., Prabhu, J. C., & Chandy, R. K. 2009. Radical innovation across nations: The preeminence of corporate culture. *Journal of Marketing*, 73(1): 3–23.
- Unsworth, K. L., Wall, T. D., & Carter, A. 2005. Creative requirement: A neglected construct in the study of employee creativity? *Group & Organization Management*, 30: 541–560.
- Van de Ven, A. H. 1986. Central problems in the management of innovation. *Management Science*, 32: 590–607.
- Van Eerde, W., & Thierry, H. 1996. Vroom's expectancy models and work-related criteria: A meta-analysis. *Journal of Applied Psychology*, 81: 575–586.
- Vroom, V. 1964. *Work and motivation*. New York: Wiley.
- West, M. A. 2002. Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation in work groups. *Applied Psychology: An International Review*, 51: 355–424.
- Wolfe, R. A. 1995. Human resource management innovations: Determinants of their adoption and implementation. *Human Resources Management*, 34: 313–327.
- Woodman, R. W., Sawyer, J. E., & Griffin, R. W. 1993. Toward a theory of organizational creativity. *Academy of Management Review*, 18: 293–321.
- Yuan, F., & Woodman, R. W. 2010. Innovative behavior in the workplace: The role of performance and image outcome expectations. *Academy of Management Journal*, 53: 323–342.



Markus Baer (baer@wustl.edu) is an associate professor of organizational behavior at the Olin Business School, Washington University in St. Louis. He earned his Ph.D. from the University of Illinois at Urbana-Champaign. His current research examines the determinants and outcomes of the various activities (i.e., problem formulation, idea generation, solution implementation) underlying creativity and innovation in organizations.

