ABSTRACT

Title of Document: VALUE IN THE EYE OF THE BEHOLDER: THE MODERATING EFFECTS OF MANAGERS' SOCIAL NETWORKS ON THEIR IDEA VALUATION AND IMPLEMENTATION DECISION-MAKING

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Doctor of Philosophy, 2019

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Many of employees' novel ideas often cannot get appreciated or valued by their managers, thus precluding the opportunity for innovation. Drawing on the social-information-processing theory and the situated evaluation perspective, this paper investigates the moderating roles of managers' social networks in the innovation process of idea evaluation and implementation decision-making. Through a field study with 85 managers in a ceramic company, I found that when managers evaluated product ideas proposed by employees, they manifested a disfavor to novelty. That is, idea novelty had a negative relationship with managers' perceived value of the focal idea regarding the idea's potential operational efficiency, likelihood of social support, and strategic fit. However, I also found that both managers' advice network diversity and friendship network centrality mitigated the negative effect of idea novelty on their perceived value of the proposed product ideas. In addition, I found managers' perceived value of the idea mediated the relationship between idea novelty and their decisions to implement the idea. Theoretical contributions and empirical strategies are discussed.

VALUE IN THE EYE OF THE BEHOLDER: THE MODERATING EFFECTS OF MANAGERS' SOCIAL NETWORKS ON THEIR IDEA VALUATION AND IMPLEMENTATION DECISION-MAKING

By

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Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2019

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Table 1. Descriptive Statistics and Correlation Matrix

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1	Perceived idea value	3.74	0.55	(0.91)											
2	Willingness to implement	3.94	0.55	0.69**	(0.92)										
3	Idea novelty	3.97	0.19	0.07	0.06										
4	Advice network diversity	0.54	0.23	-0.02	-0.12**	0.00									
5	Friendship network centrality	0.27	0.06	0.08†	0.17**	-0.00	0.15**								
6	Idea usefulness	4.06	0.18	0.30**	0.20**	0.44**	-0.00	0.00							
7	Gender	0.21	0.74	-0.13**	-0.11*	0.00	0.17**	-0.01	-0.00						
8	Age	4.90	0.41	0.08†	0.06	-0.00	0.23	-0.15**	0.00	-0.20**					
9	Education	0.41	0.49	-0.11*	-0.11*	0.00	-0.07	0.11**	-0.00	0.03	-0.09*				
10	Organizational tenure	8.71	3.31	0.05	-0.02	0.00	0.19**	0.09*	-0.00	0.04	-0.08†	-0.06			
11	Openness to experience	5.31	0.73	0.15**	0.10*	-0.00	-0.12**	0.15**	0.00	-0.08†	0.01	-0.03	-0.26**	(0.81)	
12	Risk aversion	4.30	0.81	-0.03	0.03	0.00	-0.09*	0.02	-0.00	0.02	-0.02	-0.04	0.09*	-0.38**	(0.67)

Note: Evaluations or Ratings (Level 1) $N = 510$. Manager N (Level 2) = 85. Product Idea N (Level 2) = 6. Scores of Level 2 variables were disaggregated to the Level 1 for calculating correlations between Level 1 and Level variables. Reliabilities of each measure displayed on the diagonal of the matrix (in parentheses). Gender (0=male; 1=female). Education (0=below college degree, 1=college degree or above). †p< .10 (two-tailed) ; *p < .05 (two-tailed); **p < .01 (two-tailed).

Table 2. Hierarchical Linear Modeling (HLM) Results: Main and Interactive Effects of Idea Novelty and Managers' Social Network Diversity and Centrality

	Perceived Value of the Idea					Willingness to Implement								
Predictors	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Intercept	3.81**	3.81**	3.81**	3.81**	3.81**	4.00**	4.00**	3.96**	4.00**	3.95**	4.00**	3.96**	4.00**	3.96**
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)
Control variables														
Idea usefulness	0.90**	1.00**	1.00**	1.00**	1.00**	0.60**	0.64**	-0.01	0.64**	-0.01	0.64**	-0.01	0.64**	-0.00
	(0.13)	(0.11)	(0.11)	(0.11)	(0.11)	(0.10)	(0.11)	(0.09)	(0.11)	(0.09)	(0.11)	(0.09)	(0.11)	(0.09)
Gender	-0.14	-0.14	-0.14	-0.14	-0.13	-0.12	-0.12	-0.03	-0.09	0.01	-0.11	-0.02	-0.06	0.03
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)	(0.10)	(0.07)	(0.10)	(0.07)	(0.09)	(0.07)	(0.09)	(0.07)
Age	0.01	0.01	0.01	0.01	0.01	0.00	0.00	-0.00	0.01	0.00	0.00	0.00	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)
Education	-0.10	-0.10	-0.02	-0.11	-0.12	-0.10	-0.10	-0.04	-0.11	-0.04	-0.13	-0.05	-0.14	-0.07
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.08)	(0.08)	(0.06)	(0.08)	(0.06)	(0.08)	(0.06)	(0.08)	(0.05)
Organizational tenure	0.02	0.02	0.02	0.01	0.01	0.00	0.00	-0.01	0.00	-0.01	-0.00	-0.01	0.00	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Openness to experience	0.13*	0.13*	0.13*	0.12*	0.12*	0.09	0.09	0.01	0.08	-0.01	0.06	-0.02	0.04	-0.04
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.04)	(0.06)	(0.04)	(0.06)	(0.04)	(0.06)	(0.04)
Risk aversion	0.02	0.02	0.02	0.01	0.01	0.05	0.05	0.04	0.04	0.03	0.04	0.03	0.02	0.01
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)
Independent variables														
Idea novelty		-0.22*	-0.22*	-0.22*	-0.22*		-0.10	0.05	-0.10	0.04	-0.10	0.04	-0.10	0.04
		(0.11)	(0.11)	(0.11)	(0.11)		(0.11)	(0.08)	(0.11)	(0.08)	(0.11)	(0.08)	(0.11)	(0.08)
Advice network diversity			-0.03		-0.08				-0.29	-0.27*			-0.42*	-0.37*
			(0.17)		(0.17)				(0.18)	(0.13)			(0.18)	(0.13)
Novelty × diversity			1.05*		0.90*				1.15**	0.46			1.02	0.44
			(0.42)		(0.43)				(0.42)	(0.33)			(0.42)	(0.33)
Friendship network centrality				0.61	0.68						1.63*	1.23**	2.00**	1.56**
				(0.62)	(0.64)						(0.65)	(0.47)	(0.65)	(0.46)
Novelty × centrality				4.33**	3.79*						3.64*	0.82	3.03	0.58
				(1.63)	(1.64)						(1.62)	(1.26)	(1.63)	(1.27)
Idea valuation								0.66**		0.65**		0.65**		0.65**
								(0.03)		(0.03)		(0.03)		(0.03)
Log-likelihood	-338.19	-336.53	-337.45	-332.54	-330.22	-341.21	-340.79	-201.27	-335.89	-198.25	-335.25	-197.72	-329.68	-192.74
R^2	0.000	0.001	0.015	0.017	0.027	0.003	0.005	0.412	0.022	0.414	0.017	0.412	0.03	0.415

Note. Managers' Evaluations or Ratings *N* (Level 1) = 510, Manager *N* (Level 2) = 85. Product Idea N (Level 2) = 6. All numerical predictors have been grand-mean centered. Gender (0=male; 1=female). Education (0=below bachelors' degree; 1=bachelors' degree or above). Standard errors are in parentheses. R-square values indicate percentage of variance in the dependent variables accounted by each of the models (Snijders & Bosker, 1999). †p < .10 (two-tailed); *p < .05 (two-tailed); **p < .01 (two-tailed).

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Figure 1: The Conceptual Model

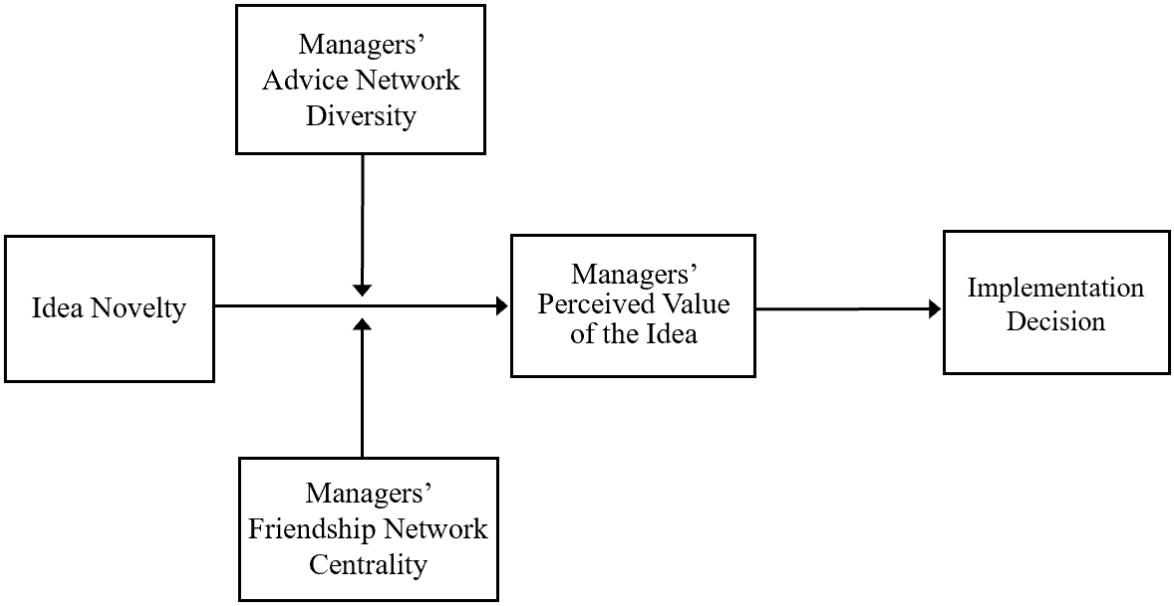


Figure 2: The interactive Effect of Idea Novelty and Managers' Advice Network Diversity on Idea Valuation.

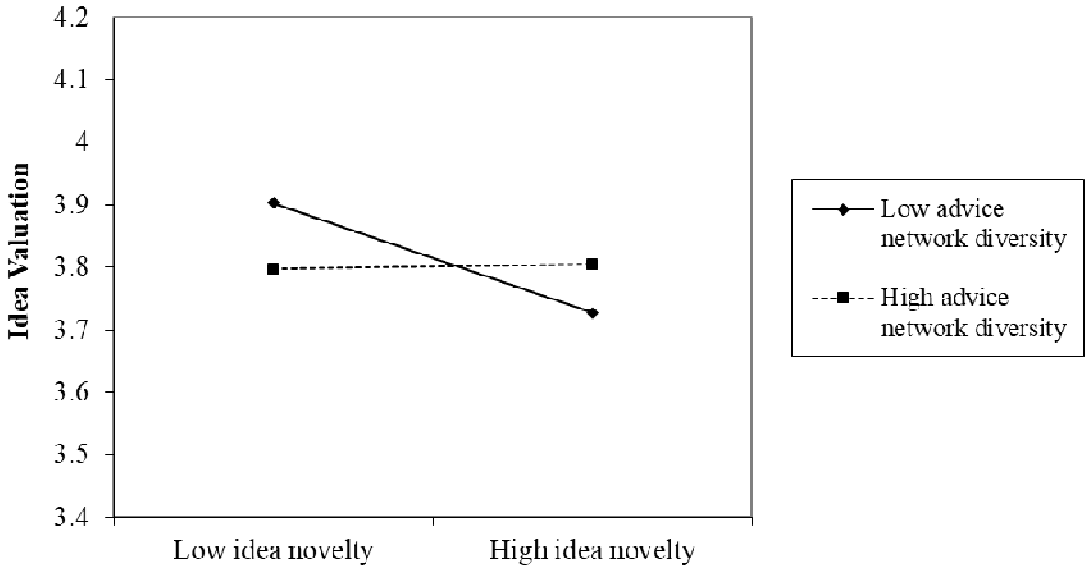
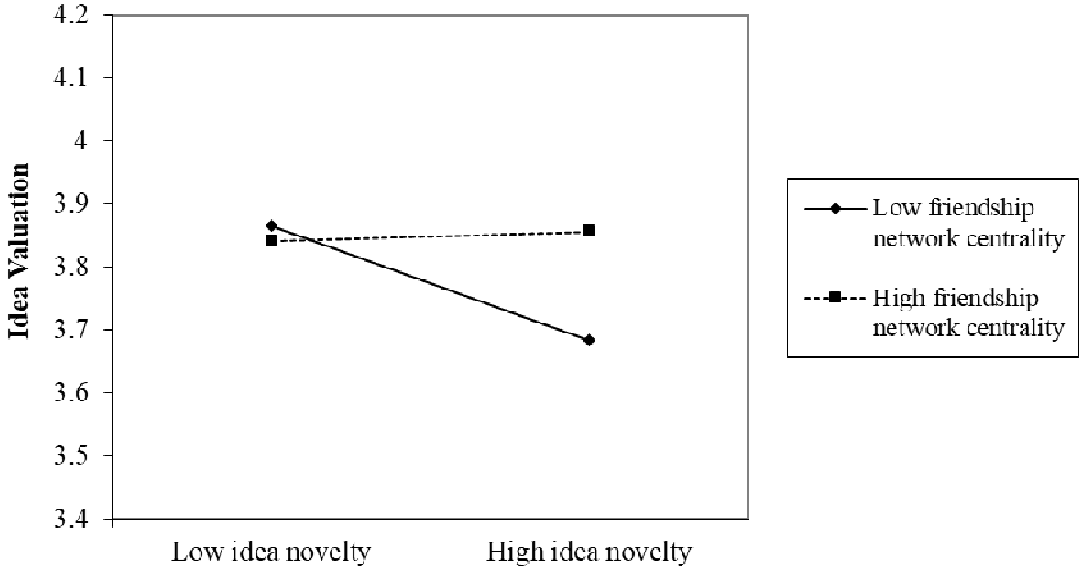


Figure 3: The interactive Effect of Idea Novelty and Managers' Friendship Network Centrality on Idea Valuation.



Chapter 1: Introduction

Creativity and innovation in the workplace have become increasingly important for organizational performance, success, and longer-term survival (Anderson, De Dreu, & Nijstad, 2004; West, 2002; Zhou & Shalley, 2003). They are also critical sources of organizational competitive advantage in an increasingly changing environment (Dess and Picken, 2000; Tushman and O'Reilly, 1996). While creativity has been conceived of as the generation of novel and useful ideas (Amabile, 1996; Oldham & Cummings, 1996), innovation includes both the production of creative ideas as the first stage and implementation as the second stage in which ideas are converted into new and improved products, services, or ways of doing things (Baer, 2012; Mumford & Gustafson, 1988). Thus, creativity represents a necessary but not sufficient condition for innovation. In fact, some scholars (e.g., Sharma, 1999; Mumford, Lonergan, & Scott, 2002) argue that the main reason why many companies struggle with innovation is not that these companies lack for creative ideas, but that so few of the proposed new ideas are ever turned into useful products or "see the light of day" (Huber, 1998; Levitt, 1964).

This failure of converting new ideas into innovation is in part attributable to the idea evaluation and selection process, because managers often cannot fully appreciate the value of a new opportunity and thus have a tendency to reject them (March, 1991; Garud, Tuertscher, Van de Ven, 2013). History is full of such cases where creative ideas were not readily appreciated by decision makers, thus precluding innovation. For example, the production of the first Star Wars film was denied by United Artists, Airbnb was initially rebuffed by investors in Silicon Valley, the digital

camera was initially rejected by Kodak, and the first personal computer design was ignored and underinvested in by Xerox (Burkus, 2013). This managerial tendency to downgrade the value of novel ideas is detrimental to organizations, because it not only wastes the efforts and resources already spent on idea generation and idea searching, but the resulting slow rate of innovation would also pose a threat to the organization's survival in a fast-changing business environment (Tripsas, 1997).

In order to seek solutions to overcome managers' tendency to devalue novel ideas, some scholars have investigated the conditions that affect whether novel ideas are more positively (or negatively) assessed and valued. For instance, Berg (2016) and Mueller et al. (2017) argue that assuming decision-makers' roles triggers convergent thinking or an economic mindset that disfavors the recognition of novel ideas. Similarly, Boudreau et al.'s (2016) work suggests that managers tend to apply their existing mental schemas in assessing novel ideas, thereby precluding positive value recognition. Conversely, Zhou et al.'s (2016) work shows that when the focal managers are promotion-focused rather than prevention-focused, they are more likely to see the value of novel ideas. Although these studies have greatly advanced our understanding on creative idea valuation, they mainly adopt an actor-centered approach without considering the social context in which actors are embedded. The broader social context may play an important role in shaping managers' valuation of novel ideas for innovation because value is often socially constructed (Zuckerman, 2012; Rindova, Petkova, 2007) and innovation itself is a social-political process (Baer, 2012; Frost & Egri, 1991; Van de Ven, 1986). An examination of idea

evaluation without considering the role of the social context in influencing such judgments provides an incomplete picture at best.

To gain insights on how managers' social context affects their valuation of novel ideas, this dissertation examines how the characteristics of their social network may influence such assessments. A social network approach suggests that people are involved in dynamic, complex, and multilayered networks of relationships, and their perceptions and points of view can be shaped by the flows of information, influence, or affect through these networks (Brass, 2011; Ibarra & Andrews, 1993). Using a network approach to study idea valuation is also supported by social-information-processing (SIP) theory (Salancik and Preffer, 1978) and the situated evaluation perspective on creativity (e.g., Harvey and Kou, 2013; Mumford et al., 2002; Mueller et al., 2017; Elsbach & Kramer, 2003). SIP theory argues that people's attitudes and perceptions are derived from the social context in which they are formulated. When facing ambiguous or novel problems, people tend to rely on social and contextual cues to make judgments. Similarly, the situated evaluation perspective argues that a new idea cannot be evaluated as an entity unto itself. Instead, evaluation occurs by apprising the idea in context. This means that when forming initial perceptions of value, managers not only consider the property of the idea itself, but also simultaneously consider other contextual factors in the work unit/organization to understand its appropriateness, fit and feasibility in the given context. I propose that this is especially likely when evaluating novel or unfamiliar ideas and proposals. Several scholars (e.g., Dougherty & Hardy, 1996; Mumford, Lonergan, & Scott, 2002) have suggested that three broad criteria are important when considering the

value of ideas and their innovation potential—resource or operational efficiency, likelihood of social approval or support and strategic fit. Yet, the extent to which idea novelty raises managers' concerns over these criteria is unknown. Thus, I first examine the direct relationship between idea novelty and managers' perceived idea value, operationalized as a three-dimensional construct consisting of these criteria. Specifically, I propose that the value of novel ideas may not be positively perceived by managers because novel ideas raise uncertainty regarding their potential operational efficiency, likelihood of receiving social approval or support, and strategic fit with existing organizational goals. Next, in examining how such devaluation of novel ideas may be alleviated, I propose that having a diverse (i.e., in terms of expertise or functional areas) network of organizational members that one seeks advice from may help the focal manager gain a "vision advantage" (Burt, 2004) so that these concerns can be alleviated. Furthermore, I argue that managers' friendship network centrality may also help with mitigating their tendencies to devalue novel ideas, because being able to mobilize social support and create a shared vision could boost the value they place on the novel idea. Lastly, I predict a positive relationship between managers' perceived value of the idea and their implementation decisions. My overall conceptual model is shown in Figure 1.

Insert Figure 1 about here

By investigating these relationships, this study makes several contributions to the creativity, innovation, and social network literatures. First, this study recognizes the socially constructed nature of value and examines managers' perceptions of idea

value against the backdrop of their ongoing social interactions with other managers. Thus, this social approach will complement the actor-centered approach (such as the studies on individual roles, mindset, knowledge structures, or motivational states) that is prevalent in the extant creativity literature. Second, this paper contributes to the social network literature by illustrating the interactive effects between idea novelty and network features (i.e., diversity and centrality) on the idea valuation process. While prior social network research mainly focuses on how network features affect creative idea generation (e.g., Perry-Smith & Shalley, 2003; Perry-Smith; 2006; Perry-Smith, 2014), this study uniquely shows that managers' network features could also affect idea evaluation, thus demonstrating another mechanism through which social capital could benefit the innovation process. Third, this study demonstrates the mediating role of managers' initial perceptions of idea value in the relationship between idea novelty and the implementation decisions, thus addressing the need to better understand the socio-cognitive processes underlying innovation (Dougherty 1990, 2001; Hargadon & Douglas, 2001; Rindova, & Petkova, 2007; Schubert & Tavassoli, 2019). Lastly, at a broader level, while extant creativity research mainly focuses on the generative processes such as problem identification, information encoding and gathering, and idea generation (for review, see Anderson et al., 2014; Zhou & Hover, 2014), limited research has examined how novel ideas, once generated by employees, can be positively assessed or valued by managers (Zhou, Wang, Bavato, Tasselli, & Wu, 2019). This study thus answers Zhou et al.'s (2019) call for more research on the evaluation or receiving side of creativity.

Chapter 2: Literature Review and Hypothesis Development

Idea Valuation

The innovation process often involves several stages or phases of the idea journey. Creativity scholars have focused their research on idea generation or the development of novel and useful ideas (Amabile, 1983). In contrast, innovation scholars have paid considerable attention to the implementation of ideas and its effects on the field or market (e.g., Frost & Egri, 1991; Howell & Higgins, 1990; Maidique, 1980). As a result, the idea evaluation stage which connects idea generation and idea implementation has been relatively underexplored (Berg, 2006; Mumford, Lonergan, and Scott, 2002; Byrne, Shipman, and Mumford, 2010). This evaluation stage is crucial because employees' initial ideas need to be validated and selected by managers before moving into the next implementation stage such as product development or project initiation (Campbell, 1960; Ford, 1996; Harvey, 2014; Staw, 1990).

However, creativity and innovation scholars have noted that idea evaluation is not a rational decision-making process; several cognitive barriers exist, which often lead managers or decision makers to depreciate or downgrade the value of a novel idea. Prior research has identified several reasons for why this devaluation might happen. As this research has noted (e.g., Mueller et al., 2012), part of the reason for this devaluation lies in the "novelty" aspect of an idea. Novel ideas involve notions that are not previously familiar and can be difficult to categorize and therefore, assessing them requires a considerable investment of managerial cognitive resources (Criscuolo, et al., 2017; Sweller, 1988, 1994; Van de Ven, 1986). Because novel ideas

are also difficult to communicate, grasp, and decipher (e.g., Criscuolo et al., 2017; Uzzi, Mukherjee, Stringer, & Jones, 2013; Zuckerman, 2012; Zhou et al., 2017), the processing of such novel information is likely to lead to systematic errors due to individuals' use of various heuristics in evaluating them. Other researchers have argued that this devaluation tendency can be induced by managers' attributes such as occupying managerial (as compared to innovator) roles (Berg, 2016), assuming an economic mind set (i.e., a cognitive tendency to prioritize concerns at the heart of economics such as cost-benefit analysis; Mueller et al., 2017) and having a prevention-focused motivational state (Zhou et al., 2017). Some innovation scholars (e.g., Dougherty, 1992; Drazin & Schoonhoven, 1996; Dougherty & Hardy, 1996) also place blame on institutional forces such as departmental structures, norms, and routines for managers' failure to recognize the value of novel ideas. For example, Dougherty's (1992) work documented that managers working in mature organizations tend to develop "departmental thought" and "routine-based" interpretive schemes, which blocked the value of employees' novel ideas from being recognized, captured, and utilized by the organization.

Although prior research documenting such managerial biases against novelty has suggested that this is potentially because of managers' aversion to the uncertainty associated with such novelty (e.g., Mueller et al, 2012), it has not clearly specified the particular concerns or criteria that managers consider in valuing such ideas. Idea evaluation often involves managers' or decision makers' anticipating, envisioning or forecasting the implications or potential outcomes of idea implementation against a set of standards or performance expectations (Berg, 2016; Mumford et al., 2002).

This involves a valuation process (Lamont, 2012; Zuckerman, 2012; Lepak, Smith, and Taylor, 2007) in the sense that managers base their implementation decisions on the perceived worth or value of the idea (Kennedy & Fiss, 2009).

Value is defined as a measure of a product's or an idea's worth in a particular social context (Baldwin and Clark, 2000, p.96). Boltanski and Thévenot's work (2006) points out that value is socially constructed, and people (or evaluators) resort to various "regimes of worth" depending on the "world" or polity in which they inhabit in any given situation. This view of valuation accords well with the situated evaluation perspective (e.g., Harvey and Kou, 2013; Mumford et al., 2002; Mueller et al., 2017; Elsbach & Kramer, 2003), emphasizing that when evaluating ideas, managers do not evaluate the idea in isolation, but take into account the contextual features or the socio-technical settings (Mumford, 2001) that may shape their appraisal of the idea's value.

Dougherty and Hardy (1996) identified three factors as critical innovation-related concerns that managers consider in evaluating any new idea, namely, operational efficiency, likelihood of social support or approval, and strategic fit. *Operational efficiency* concerns the extent to which the expected outcomes (such as revenue, market success, other utility) of idea implementation would outweigh the resource cost (such as money, equipment, expertise, information) needed to implement the idea. *Social support* refers to the extent to which the proposed idea would receive mutual understanding, help, approval, and support from organizational members across multiple expertise areas, functions, divisions, and product lines (Kanter, 1983, 1988; Quinn, 1985). *Strategic fit* refers to the extent to which the idea

is congruent with the organization's strategy, aligns well with the management's agenda, or helps meet the organization's performance goal. Through analyzing 15 firms, Dougherty and Hardy (1996) found that organizational members often have these concerns when they initiate innovation. Similarly, Mumford et al.'s (2002) work also points to these areas as the most commonly used performance criteria to evaluate creative ideas in companies. From an empirical standpoint, early work in Rodgers and Adhikarya (1979) found that low implementation cost, rate of return, and consistency of the idea with existing socio-technical systems were all standards influencing adoption of new ideas. Lei, Slocum, and Pitts (1999) proposed that managers evaluate and revise ideas using such standards as economic or operating efficiency. Along similar lines, Hitt, Hoskisson, Johnson, and Mosel (1996) have shown that economic return and strategy congruence shape managers' appraisals of new product development ideas.

In building on this research, I conceptualize managers' perceived value of an idea as a broader construct comprising the three dimensions of operational efficiency, likelihood of social support and strategic fit. By constructing these decision criteria that signal the idea value, I aim at offering a more precise view of how value is assessed and captured by managers when they evaluate employee ideas in order to make implementation decisions. In the following section, I argue that novel ideas are often negatively associated with managers' perceived value of such ideas as conceptualized using these three dimensions.

Idea Novelty and Managers' Idea Valuation

There are several reasons why managers may discount the perceived value of employees' novel ideas. First, novel ideas likely raise managers' concerns over their operational efficiency, which is defined as the ratio between its potential outcomes (such as revenue, market success, or other utility) and its resource cost (such as money, equipment, expertise, information). Because novel ideas involve uncertainty, people tend to discount such uncertain outcomes (such as revenue or market success) on the basis of "uncertainty aversion" (Fox and Tversky, 1995). Uncertainty aversion is a preference for known risks over unknown risks. Uncertainty-averse individuals would rather choose an alternative where the probability distribution of the outcomes is known over one where the probabilities are unknown, due to their motivation to avoid or reduce uncertainty (Han, Lerner, & Keltner, 2007; Raghunathan & Pham, 1999). Since novel ideas imply significant departures from the existing product or services (Baer, 2012), the results and the probability distribution of such innovation outcomes can never be known for certain without experimentation. In cases of such unresolvable uncertainty, managers tend to underestimate the market success of novel ideas (Berg, 2016).

Furthermore, operational efficiency also concerns resource input. Since novel ideas involve new ways of doing things, their implementation may require new types of resources (such as new technology support or new market information). This new and additional resource demand may not be compatible with the existing resource systems in organizations, which are designed to support established business and activities (e.g., Henderson & Clark, 1990). Hence, managers will find it relatively easier to mobilize resources for a familiar idea than a novel one because they can rely

on the availability of slack (i.e., extra padding, or a looseness in normal practices; Singh, 1986) which is more compatible with a familiar or conventional idea than a novel one.

In addition to the operational efficiency criterion, managers are also concerned with whether the focal idea or proposal could receive other managers' social support or approval. This is because innovation often involves managing complex social and relational structures (Garud, Tuertscher, and Van de Ven, 2013). Access to resources, information, and knowledge also depends on the social interactions between different actors. Nevertheless, such interactive processes generate considerable ambiguity or even conflict between different parties. This might be especially true for novel ideas because such ideas involve higher level of uncertainty and ambiguity and tend to provoke disputes caused by different viewpoints among those who are affected by the ideas (Frost & Egri, 1991; Green, Welsh, & Dehler, 2003). As a result, it is difficult to build a shared vision, mutual understanding, or commitment among different organizational members towards the implementation of very novel ideas. Furthermore, pressing for the implementation of novel ideas typically implies challenging established power structures in an organization, which can cause other people's resistance to the new initiative (Janssen et al., 2004; Kanter, 1988). As a consequence, they have a greater likelihood of being rejected by other people (Damanpour, 1988; Green, Gavin, & Aiman-Smith, 1995). Lastly, when evaluating ideas, managers also consider whether the focal idea is in congruence with the organization's strategic focus. Ideally, a novel idea may have the opportunity to potentially fit the organization's goal if the organization explicitly

values innovation, openly welcomes new initiatives, and clearly rewards those who successfully resolve problems using novel ways (Dougherty and Hardy, 1996). Unfortunately, innovations are often excluded from an organization's strategic goal and are not part of the management's agenda (Burgelman, 1983). This is because established firms usually privilege existing business routines over new products, avoid uncertainty in favor of the "tried and true", and emphasize control over flexibility and creativity (Dougherty & Hardy, 1996). Under such institutional forces, employee's proposal of novel ideas may be perceived as illegitimate because it violates the prevailing norms or disturbs the prevailing patterns of thinking and acting (Dougherty & Heller, 1994). On the other hand, a mundane or conventional idea may not evoke such strategic fit concerns because it can be more easily and readily incorporated in the existing organizational routine and operation system. Taken together, I propose:

Hypothesis 1: Employee's idea novelty is negatively related to manager's perceived value of the proposed idea.

A Social View of Idea Evaluation

In the previous section, I proposed that managers tend to assess novel ideas as less valuable. However, this raises the question of how such biases against novelty may be reduced. In addressing this, I borrow insights from social-information processing (SIP) theory (Salancik and Pfeffer, 1978) and the situated evaluation perspective on creativity assessment (Harvey and Kou, 2013; Mumford et al., 2002; Mueller et al., 2017; Elsbach & Kramer, 2003). The core idea of SIP is that

"individuals, as adaptive organisms, adapt attitudes, behavior, and beliefs to their social context" (Salancik and Pfeffer 1978: 226). This theory fits the innovation context well because it emphasizes that social information is important in shaping people's perceptions especially under conditions of uncertainty and ambiguity, which are inherent in novel ideas. It also posits that when judgements are hard to form, people are more likely to arrive at socially derived interpretations of events (Festinger, 1965). Early studies in support of SIP compared individual characteristics (such as gender, education, and personality) and social-structural variables (such as unit affiliation and hierarchical level), and found that it was these social-structural variables that explained individual job attitudes rather than individual variables (Herman and Hulin, 1972; Herman, Dunham, and Hulin, 1975; O'Reilly and Roberts, 1975). These studies suggest that, when facing ambiguous or novel problems, people are often limited in their information gathering and processing capacity (Groth et al., 2002) and therefore rely more on social and contextual cues to form perceptions of the problem, verify their understanding about the organizational environment, and regulate their behaviors.

Similarly, the situated evaluation perspective of creativity posits that the evaluation activity in the creative process is situated in on-going social interactions (Harvey & Kou, 2013). The value of an idea is not only determined by the idea on itself, but also affected by other social members' cognitions (e.g., Paulus & Yang, 2000), dynamics (e.g., Hirst, van Knippenberg, & Zhou, 2009), and environmental influence (e.g., Taggar, 2002). To some extent, the value of an idea is co-created by the intersections of these factors (Elsbach, Barr, & Hargadon, 2005; Hargadon &

Bechky, 2006). Taken together, both the SIP and the situated perspectives generally hinted at the possibility that social factors or influence could modify or shape people's perceptions of the value of a creative idea.

Social network theorists, nevertheless, have long argued that these social factors can be best captured by variables based on the actual interaction patterns which could provide a more adequate operationalization of individuals' social constraints, experiences, or social context (e.g., Weick, 1979; Wellman, 1983; Monge & Eisenberg, 1987). They also argued that more than one substantive process may be operational in the social influence process (Marsden & Friedkin, 1993; Ibarra & Andrews, 1993). Therefore, a social network approach can complement and enrich the SIP and the situated evaluation perspectives by being able to identify the specific sources of social influence in the idea valuation process. In the following, I examine two sources of social influence—advice network diversity and friendship network centrality—and their roles in shaping managers' valuations of novel ideas.

The Moderating Roles of Managers' Social Networks

A social network is the set of actors and ties connecting them (Scott, 2000). A network approach suggests that individuals are embedded in an interconnected network of dyadic ties (e.g., friendship, advice seeking etc.) and that these ties and individuals' structural positions in these networks can influence various outcomes such as task performance and creativity (e.g., Sparrowe, Liden, Wayne, & Kraimer, 2001; Perry-Smith & Shalley, 2003). Most of the extant research linking social networks and creativity focuses on how network structures affect employees'

generation of new and useful ideas (i.e., creativity; Amabile, 1996; Oldham & Cummings, 1996). According to this approach, creativity is not only influenced by one's individual's cognitive abilities or styles, but also by the synthesis of diverse knowledge obtained from one's social network (Perry-Smith & Shalley, 2003). From this social view of creativity, certain network positions enable an actor to generate more creative ideas through the synthesis or recombination of different ideas or perspectives (Brass, 2011). For example, this research has found that creativity is enhanced by having "weak ties" to others (Perry-Smith, 2006; Zhou, Shin, Brass, Choi & Zheng, 2009), occupying structural hole positions (Burt, 2004) and when complemented by others' ties (e.g., leaders; Venkataramani, Richter, & Clarke, 2014). Implementation, on the other hand, is facilitated by having *fewer* (rather than many) structural holes or *strong* (rather than weak) ties (e.g., Fleming, Mingo, & Chen, 2007; Ibarra, 1993; Obstfeld, 2005; Perry-Smith & Mannucci, 2017).

While these two streams of research (i.e., impact of networks on creative idea generation and implementation) have been valuable in providing insights into the role of networks in the innovation process, one area that has received scant attention is the role of social networks in affecting an important process that links creative idea generation with implementation—managers' idea evaluation (Zhou et al., 2019). To narrow this gap, this study examines the moderating roles of network features (i.e., advice network diversity and friendship network centrality) on how managers respond to novel ideas.

Managers' Advice Network Diversity. Managers' network diversity is defined as the number of connections managers have with other coworkers of different

functional backgrounds, expertise, knowledge, or know-how in the organization. When examining network diversity, I focus on the "advice" network because in professional advice networks, people usually value others' diverse expertise and knowledge in order to solve their work-related problems and coordinate tasks in organizations (Gibbons, 2004). New ideas and unique perspectives can often be obtained from work-related conversations with advisors (Perry-Smith, 2006). This makes advice network a more suitable type of network for examining the benefits of exposure to diverse information, expertise, and knowledge. In the following section, I explain why advice network diversity will interact with idea novelty to jointly affect managers' valuation of an idea's operational efficiency, social support or approval, and strategic fit.

First, having diverse connections allows for a broader flow of non-redundant information and exchange of unique ideas. This is helpful for managers' recognition of the potential outcome (such as market value) of novel ideas because the uncertainty associated with novel ideas can be reduced by enhancing the amount of information flowing to the focal actor from diverse perspectives (Daft & Lengel, 1986). Network diversity may also help managers overcome the "uncertainty aversion" tendency documented in prior research (e.g., Mueller et al., 2012) because interactions with people from different functional areas can enrich and broaden managers' approaches and perspectives, and lessen his or her commitment to the status quo (Geletkanycz & Black, 2001). Because of this "vision advantage" (Burt, 2004), managers who have diverse ties may be more able to appreciate the market value of the focal novel idea from multiple angles and perspectives. They may also be

less concerned about the resource input cost because they have a good perception of where the resources are and how to tap into them. (Bunderson, 2003; Cannella et al., 2008). On the other hand, having diverse ties may not be beneficial when managers are evaluating a relatively familiar or mundane idea. This is because a mundane idea does not involve much uncertainty. The potential market value may be relatively easy to recognize or envisioned by managers even with their existing domain knowledge. Mobilizing resources for mundane ideas may not be as much a concern for managers, and thus managers' "vision advantage" will not be much needed or fully utilized when evaluating mundane ideas.

Furthermore, having diverse social connections may also help ease managers' concerns over the likelihood of social support or approval necessary for eventual implementation when they assess novel ideas. As previously noted, one of the collaboration challenges facing novel ideas is that all organizational stakeholders who might be affected by the new idea may not have a shared understanding about the nature of the idea due to its uncertainty and ambiguity, thereby precluding any collaborative action required for successful championing. Exposure to diverse expertise and knowledge is likely to make the focal manager more comfortable and confident in effectively communicating with other people from different functional domains by using their language and addressing their unique concerns. However, novel ideas or projects require not only effective communication but also collaborative action. Given the inherent uncertainty related to innovation, it is difficult for managers to determine *a priori* exactly what skills or knowledge will be needed to move the project forward. Therefore, having a wide variety of knowledge

and skills on which to draw from as needed will also give the manager a big advantage.

Finally, having diverse ties may also alleviate managers' concerns regarding the potential strategic fit issue when evaluating novel ideas. This is because managers with diverse connections tend to discover the innovation-related policies or strategic opportunities more quickly than other managers. Thus, they can more suitably reframe or reposition the novel project under a favorable strategic framework. In addition, the focal manager could also amass informed and persuasive testimony for the novel project so that it could help convince them to see better fit. On the other hand, a relatively mundane or conventional idea cannot benefit as much from manager's diverse social connections, because it can be more readily incorporated in the existing routines of the organization, hence less controversy concerning its strategic fit. Taken together, I propose:

Hypothesis 2: Managers' advice network diversity moderates the negative effect of idea novelty on managers' perceived value of the idea, such that these values of the idea tend to be better recognized when managers have more diverse ties in their advice network than fewer diverse ties.

Managers' Friendship Network Centrality. Social network research often distinguishes between instrumental ties (e.g., advice) that arise in the course of work-role performance and expressive ties (e.g., friendship) that primarily provide friendship, liking, and social support (Tichy, Tushman, & Fombrun, 1974; Lincoln & Miller, 1979; Fombrun, 1982). Friendship ties tend to be stronger and more intimate and tend to connect people who share similar characteristics (Marsden, 1988).

Because of these special features of friendship ties, occupying a central position in the friendship network will also give managers some additional advantages in recognizing the value of employees' novel ideas. Centrality in the friendship network refers to the extent to which a focal individual is connected to a large part of the network and can access many other members quickly via direct or indirect friendship ties (Freeman, 1978). In the following, I explain why friendship network centrality will also moderate the effect of idea novelty on managers' perceived value of employee's ideas in such evaluative criteria as operational efficiency, social support or approval, and strategic fit.

First, similar to advice network diversity, friendship network centrality may give managers information and resource advantages regarding how to maximize the potential utility of a novel idea. The information and resources obtained from friends can be more credible or relevant, more easily or frequently available (Brass, 1992), thus helping the focal manager see better where and how to realize the idea value without concerning much about resource cost. Occupying a central position can also give the focal manager a sense of social power, status, and influence (Brass, 1984), which can free them from conformity pressure and therefore, enable them to see increased rewards and benefits for risk taking (Galinsky et al., 2003, 2006; Keltner et al., 2003). Thus, it is reasonable to anticipate that managers who occupy central positions in their friendship networks tend to see more positive outcomes and less resource constraints, thus a higher level of perceived operational efficiency for a novel idea.

Furthermore, managers who occupy central positions in their friendship network can expect a stronger social support, a key factor regarding whether a novel idea may be implementable in the future. Novel ideas often face communication challenges in organizations due to the ambiguity and uncertainty associated with novelty. Because friendship networks are based on shared experiences, frequent interaction, growing affection (Krackhardt, 1992), they can facilitate more frequent, candid, timely, and effective communication that helps clarify the ambiguity inherent in novel ideas (Daft & Lengel, 1986). Novel ideas also challenge established power structures and thus tend to face more resistance from other people in an organization. Close friends, nevertheless, may be more willing to behave altruistically (i.e., to help achieve positive outcomes for another rather than for the self; Rushton, 1980) and place faith in their friends' good intentions, and thus are more likely to support their novel initiatives. Although sometimes organizations may not create enough incentive for supporting innovation, helping and supporting one's friends could be its own reward.

Finally, managers' strategic-fit concern about a novel idea could also be alleviated by their friendship network centrality. Highly central managers in the friendship network could use their power and influence (Brass, 1984) to obtain top management's approval and support. Without higher-level managers' approval, the implementation of novel ideas would face legitimacy issues. Central managers in the network will find it easier to get some political cover (Perry-Smith & Mannucci, 2017), which will protect the ideas from encroachment and criticism. The social influence obtained from the central position could also aid to persuade high-level

decision makers to provide approval and support (Anand, Gardner, & Morris, 2007; Anderson & Bateman, 2000), thus better legitimizing the idea. When selling novel issues to top management, managers may run risks of damaging their image or reputation (Ashford, Rothbard, Piderit, & Dutton, 1998). However, using coalition tactics with friends will help mitigate managers' image risk, thus providing a relatively safe environment for the managers to persuade top management to endorse the focal idea. Taken altogether, I propose:

Hypothesis 3: Managers' friendship network centrality moderates the negative effect of idea novelty on managers' perceived value of the idea, such that these aspects of the idea tend to receive higher valuation when assessed by managers occupying more central positions in the friendship network than peripheral positions.

Idea Valuation and Implementation Decision-making

After being judged as more valuable based on the aforementioned key decision criteria (i.e., operational efficiency, collaborative support, and strategic fit), employees' ideas will have a higher chance of getting approved or accepted for further development or project initiation by the decision maker. Here, I define implementation decisions as a continuum representing the extent to which managers are willing to approve or support the focal idea for future development. Different from a dichotomous "go" and "no go" decision, a decision continuum recognizes the existence of other decisions (such as experimentation or partial implementation) that may fall in between the two extreme decisions. In order to form an implementation decision, an analysis of the idea implications within the situation at hand or the envisioned future situations are necessary (Mumford et al., 2002). When managers

predict the outcomes, a perceived high operational efficiency of the idea will imply that the idea is a viable one, which is often associated with positive outcomes (such as revenues and market success) and little resource constraint. Operational efficiency can help managers build a mental connection between the idea and the organization's bottom line, thus helping managers decide if the potential innovation adds value to the very survival of the organizations. Furthermore, a perceived high collaborative support can help resolve some of the social and political issues usually accompanying innovation (e.g., Frost & Egri, 1991; Van de Ven, 1986), thus also contributing to a positive forecast of the success of the idea implementation. Lastly, a perceived high strategic fit gives meanings and legitimacy to the idea, thus reducing the political risks or image risks of the managers, which in turn will motivate the managers to "greenlight" the idea. Overall, if managers perceive an idea to be of value, they will be more likely to implement the idea. Taken together, I propose:

Hypothesis 4: Managers' perceived value of an idea is positively related to its subsequent implementation decision.

Chapter 2: Overview of Studies

In order to properly test my hypotheses regarding idea novelty, I first conducted a pilot study to collect several product ideas generated by employees at a major ceramic product company in China and then obtained the normative novelty scores for each of these ideas from 17 experts in the ceramic domain. Next, I conducted the main study on a sample of 85 managers in that company to assess the extent to which they valued each of these product ideas and their willingness to implement these ideas.

Chapter 3: Pilot Study: Method

Sample and Procedures

I conducted a pilot study in a major China-based flagship ceramic product company, which develops, produces, and sells ceramic products both domestically and internationally. One of the company's fast-growing product lines is ceramic ink and glaze, which are used in the ceramic printing process to make various types of decorative ceramic tiles for the construction industry. There are several reasons why I was particularly interested in this ink/glaze product line. First, the company's technology allowed product innovation to occur more frequently within this product line, since ceramic inks are simply carriers of ceramic fine-particled metallic oxide pigments that are suspended in a medium, and new product development (characterized by unique textures, patterns, colors, or functions) can be relatively easily achieved by tuning the chemical composition and/or the medium of the inks. A second reason was that the company has strong needs for product innovation, and our interviews with top management indicated that it was profitable to launch new ink/glaze products because customers in the construction industry generally preferred new products and were willing to pay premiums for them. Therefore, in the pilot study, I first collected 16 new product ideas by interviewing employees whose jobs are related to new product development and launch. 20 employee representatives from multiple departments (such as R&D, sales, technical service) were randomly selected based on the company's roster and then invited to participate in my semi-structured one-on-one interviews. During these interviews, employees were told that the company was seeking new ideas for product innovation and were asked to come

up with ideas for any ink/glaze product ideas that are new or novel to the company or the market and describe in detail the unique features of these products. I also instructed these employees to try to avoid using technical terms whenever possible so that people in other departments could easily understand their proposed ideas. After analyzing the interview accounts, I was able to formulate 16 different new product ideas (see Appendix A for descriptions of these product ideas). I then verified these ideas with several subject matter experts from the R&D department to make sure that these ideas were not about existing products and indeed novel to the company.

To obtain data on the normative level of idea novelty and other properties of the ideas to use as control variables, I asked the HR manager to select several expert judges who rated, on a scale from 1 (strongly disagree) to 5 (strongly agree), the "novelty" and "usefulness" of the 16 ideas collected in the interview process. This is because subject-matter experts possess adequate knowledge in the domain to appropriately evaluate the ideas. These experts were selected by the HR manager from a sample of research employees working in the R&D department. These experts did not overlap with the managerial sample I used in my main study. Among the 17 experts identified, 21.05% were female, and the average age was 29.86 (SD = 3.20); 42.11% of them obtained college degree, and their average organizational tenure was 5.51 years (SD = 2.64). To reduce fatigue, each expert was asked to anonymously evaluate eight randomly-chosen ideas from the 16-idea pool (a similar approach can be found in Berg, 2016; see Appendix A for the descriptions of the 16 ideas). After randomization, each idea was evaluated by at least 5 judges on their novelty and usefulness. I then calculated their inter-rater agreement and the intraclass correlation

coefficient for the 16 product ideas. Following prior researchers (e.g., Berg, 2016, Zhou et al., 2016), we used the average deviation (AD) index to calculate agreement across the expert rater scores. The mean AD index = 0.58 for novelty ratings and the mean AD index = 0.56 for usefulness ratings. Both are less than 0.8 for 5-point scales suggested by LeBreton and Senter (2008), showing high agreement among the expert judges. Furthermore, multilevel regression results indicated that there were significant differences between these ideas in their novelty ratings (ICC = 0.065, 95% CI = [0.007, 0.387]), as well as usefulness ratings (ICC = 0.009, 95% CI = [2.03e-07, 0.998]). Based on these findings, I averaged these expert ratings to generate the normative scores of idea novelty and usefulness (Amabile, 1996; Zhou et al., 2016).

Measures

Novelty was measured by using the following two items: (1) This idea is novel; (2) This idea is unique ($\alpha = 0.89$). Usefulness was measured by using the following two items: (1) This idea is useful; (2) This idea has practical utility ($\alpha = 0.89$).

Chapter 4: Main Study: Method

Sample and Procedures

My main study is a field study involving managers at the same ceramic company where I conducted my pilot study. All 91 managers of all levels who worked in different departments (e.g., R&D, sales, technical service) agreed to participate in my study. These managers had several employees directly reporting to

them and were responsible for approving or rejecting any new ideas from these employees. As such, evaluating employee ideas and making decisions about them were a common part of their managerial roles in the company. The study involved a survey that included my social network measures as well an evaluation of ideas selected from the pilot study described above. Because the novelty scores of these ideas are clustered within a small range (Mean = 3.94; SD = 0.29), thus I randomly selected 6 ideas out of the 16-idea pool prepared in my pilot study. I did not include all the 16 ideas in the main study because of the limited survey spaces and managers' time constraints and potential fatigue in evaluating all 16 ideas. The six new products chosen were Ideas 1, 4, 9, 12, 13, and 15 (see Appendix A), as idea materials for my main study. The presentation order of these six ideas were randomized for each manager. Of the 91 managers that agreed to participate in the study, 6 managers indicated no ties in their ego-networks and therefore, were removed from further analyses. Therefore, my final sample consisted of 85 managers. Of these 85 managers, 21% were female; their average age was 37 years old, and their average organizational tenure was 8.7 years.

Measures

Idea novelty. This was measured by using the subject-matter experts' ratings as objective measures of novelty from my pilot study. This variable consisted of 6 values for the 6 ideas used in my main study.

Social network data. I used managers' self-reports of their social networks with all the other managers in the company. I defined the network population as all

managers at middle or upper ranks or levels in the company. I gave managers a roster of all managers' names in the organization and asked them to answer questions about the network of interest (i.e., the sociometric method; Brass, 2011). To measure the advice and friendship networks, I followed prior research (e.g, Krackhardt, 1990; Brass 1984; Gibbons, 2004) and asked respondents the following two sociometric questions: (1) How often do you go to this person to obtain advice about any new or challenging problems or issues at work? (0 = Never; 1 = Rarely; 2 = Sometimes; 3 = Often; 4 = Always) (2) What is the nature of your personal relationship with this person? (0 = No Relation; 1 = Acquaintance; 2 = Casual Friend; 3 = Good Friend; 4= Very Close Friend). In order to calculate the diversity index, which requires a tie to be either present or absent, I converted all network raw scores into dichotomous values 1 (if $X_{ij} \geq 3$) and 0 (if $X_{ij} < 3$) and then symmetrized them based on the minimum value for a tie.

Advice Network Diversity was calculated by using Blau's (1977) heterogeneity index (B) where p_i is the proportion of group members (i.e., all the alters in the ego network) in each of the i categories (see the formula below). Category here refers to a functional or expertise area of the focal manager. Participants were asked to choose one of the following functional or expertise category they mostly belonged to: sales or marketing, manufacturing, finance or accounting, personnel/HR, distribution or warehouse, R&D, equipment management, administrative support, and general management (Bunderson & Sutcliffe, 2002). Blau's measure of heterogeneity is 1 minus the sum of the squares of the proportions

of each value of the categorical variable in ego's advice network. The formula is shown below: $B = 1 - \sum_{i=1}^{k} p_i^2$

Friendship Network Centrality. Friendship network centrality was calculated using UCINET Freeman's (1978) normalized closeness measure (C), which sums the length of the shortest paths from one point (i) to all other points (j) in a given social network (see the formula below).

$$C = \frac{n-1}{\sum_j d(i,j)}$$

People who score high in closeness centrality find it easier to reach many others via the smallest possible number of links. It represents an actor's independent and effective *access* to others (Brass, 1984). In addition, closeness centrality is considered a global measure of centrality because it captures both direct and indirect links in the entire network whereas other forms of centrality such as degree centrality (i.e., the number of direct contacts) only captures direct links in a local network (Scott, 2000). Another similar global centrality measure, betweenness centrality (i.e., the extent to which a node falls between pairs of other nodes on the shortest path connecting them) focuses more on *control* over others than *access* to others (Brass, 1984). This "betweenness" advantage due to *control* over or sometimes manipulating others may have potential negative effects on group cohesion by creating conflicts and frictions (Bizzi, 2013). Therefore, closeness centrality can be a better choice than degree or betweenness centrality. In fact, Brass (1984) asserted that closeness centrality and its variations are the most frequently used measures of centrality in small-group network

research (e.g., Blau & Alba, 1982; Perry-Smith, 2006; Perry-Smith & Shalley 2003; Venkataramani & Dalal, 2007).

Managers' Perceived Value of the Idea. This was measured by using a 6-item scale adapted from Dougherty and Hardy's (1996) work, which captured the three valuation criteria for innovation, namely, operational efficiency, social support or approval, and strategic fit. I asked managers the extent to which they agree with the following statements. A Likert-type scale (1 = "Strongly Disagree" to 5 = "Strongly Agree") was used. A sample item for the operational efficiency criterion is "this idea is operationally efficient." A sample item for the social support criterion is "Other people in my organization would endorse this idea." A sample item for the strategic fit criterion is "this idea fits the organization's strategy" (Cronbach α = 0.91). A second-order confirmatory factor analysis (CFA), in which each of the three dimensions loaded significantly onto one higher order factor, fit the data well. $\chi 2$ (6) = 20.95, $p < 0.01$; CFI = 0.99; RMSEA = 0.07; SRMR = 0.01. Results also show that this three-dimensional model has a significant better fit than all other possible models in which all the indicators are loaded onto one factor ($\Delta\chi 2$ (3) = 640.36, $p < 0.01$) or onto two factors (when any two dimensions were combined; the smallest $\Delta\chi 2$ (1) = 150.12, $p < 0.01$) which in turn loaded onto one second-order factor. These results together support a three-dimensional construct of managers' perceived value for innovation. Thus, I took the average of the scores from each dimension to indicate managers' perceived value.

Implementation decision. This was measured by adapting Baer's (2012) 3-item scale. I asked managers the extent to which they would (1) Approve this idea for

future development, (2) Provide resources (e.g., funds, materials, staffing) for the development of this idea, and (3) Help implement this idea at the [focal company]. A Likert-type scale (1 = "Strongly Disagree" to 5 = "Strongly Agree") was used. (Average Cronbach α across the 6 ideas = 0.92).

Control variables. I controlled for idea usefulness since usefulness may be directly related to a product's potential value. Idea usefulness was measured by using the subject-matter experts' ratings as objective measures of usefulness from my pilot study. I also controlled for managers' demographic information such as gender, age, education, organizational tenure, as Zhou et al. (2019) suggested that evaluators' characteristics may affect their judgement on the idea value[1]. For the same reason, I controlled for managers' personality traits such as openness to experience and risk aversion. A Likert-type scale (1 = "Strongly Disagree" to 5 = "Strongly Agree") was used for both measures. Openness to experience was measured using the 6-item scale from George and Zhou (2001). Sample items include "I believe in the importance of art" and "I am interested in abstract ideas." (Cronbach α = 0.81). Risk aversion was measured using an 8-item scale (Cable & Judge, 1994; Judge, Thoresen, Pucik, & Welbourne, 1999). Sample items include "I am a cautious person who generally avoids risks" and "I view risk of a job as a situation to be avoided at all costs" (Cronbach α = 0.67).

[1] I also conducted several robustness checks with other control variables, such as managers' rank (lower, middle, upper-level), their department, etc. The regression results remained the same in terms of both significance and patterns of the interaction effects. Interestingly, managers working in sales & marketing and customer technical support departments demonstrated higher perceived idea value (B = 0.26, $p < 0.01$) than managers working in other administrative or operational departments. This result demonstrated that managers who interact with customers may tend to be more receptive to novel ideas. This finding opens up potential future research avenues to examine whether managers' customer or market orientation can help forester innovation. To save space, nevertheless, I only reported some basic control variables in Table 1 and Table 2.

Analytical Strategy. Because each manager rated the same 6 ideas (whose objective novelty was rated by SMEs), my basic observations or data points are at the idea evaluation or rating level (Level 1). However, while each observation is nested within both managers (Level 2) and product ideas (Level 2), managers and product ideas are not nested within one another. This data structure is a cross-classified structure in which lower level units do not belong to one and only one higher level unit. Rather, lower level units belong to pairs or combinations of higher-level units formed by crossing two or more higher level classifications with one another (see Leyland & Goldstein 2001; Raudenbush & Bryk, 2002). In my data, each rating is simultaneously nested within a combination of a manager–idea pair (see Boudreau et al., 2016). Therefore, I used cross-classified multilevel regression models in Stata 15.0 (Rabe-Hesketh & Skrondal, 2008) to test my hypotheses. To test my entire moderated mediation model, I used a regression-based method (Hayes, 2013) with the Monte Carlo simulation-based approach (Bauer, Preacher, & Gil, 2006) to estimate the conditional indirect effects. To facilitate the interpretations of the coefficients, I grand-mean centered all of the predictors.

Results

Table 1 shows the descriptive statistics and Pearson's correlations among all the variables. Table 2 shows the multi-level regression results of my whole model.

Insert Tables 1 and 2 about here

Hypothesis Testing. Hypothesis 1 predicted that idea novelty would be negatively related to managers' idea valuation. As Model 2 (Table 2) indicates, the effect of idea novelty on managers' idea valuation was significantly negative (B = -0.22, $p < 0.05$). Thus, Hypothesis 1 was supported. Hypothesis 2 posited that managers' advice network diversity moderates the relationship between idea novelty and idea valuation, such that the negative effect of idea novelty on managers' valuation will be attenuated when the focal manager' advice network is high (rather than low) in functional diversity. As Model 3 (Table 2) shows, this interaction effect between advice network diversity and idea novelty was significant (B = 1.05, $p < 0.05$). The nature of the interaction is plotted in Figure 2. A simple slopes test (Cohen, Cohen, West, & Aiken, 2003) indicated that when advice network diversity was low, the effect of idea novelty on managers' idea valuation is significantly negative (B = -0.47; $p < 0.05$) whereas when advice network diversity was high, the effect of idea novelty on managers' idea valuation is not significant (B = 0.02, n.s.). Thus, Hypothesis 2 was supported. Hypothesis 3 posit that managers' friendship network centrality moderates the relationship between idea novelty and idea valuation, such that the negative effect of idea novelty on managers' valuation would be dampened when the focal manager occupies a central (rather than a peripheral) position in his or her friendship network. As Model 4 (Table 2) shows, this interaction effect between friendship network centrality and idea novelty was also significant (B = 4.33, $p < 0.05$)[2]. This interaction is plotted in Figure 3. A simple slopes test (Cohen

[2] I also tested this interaction using alternative centrality measures, such as degree centrality and betweenness centrality. Pearson's correlation between closeness and degree centrality $r_{cd} = .77$, $p < .01$; The correlation between closeness and betweenness centrality $r_{cb} = .48$, $p < .01$. The correlation between degree and betweenness centrality $r_{db} = .81$, $p < .01$. Regression results revealed that when the

et al., 2003) indicated that when friendship network centrality was low, the effect of idea novelty on managers' idea valuation was significant (B = -0.486; $p < 0.05$) whereas when friendship network centrality is high, the effect of idea novelty on managers' idea valuation is not significant (B = 0.037, n.s.). Thus, Hypothesis 3 was supported. When we include both interactions in one model (Model 5 in Table 2), these two interactive effects remain robust.

Hypothesis 4 predicted that managers' idea valuation would mediate the effect of idea novelty on their implementation decisions. First, as Models 8, 10, 12 and 14 (Table 2) indicate, the mediator idea valuation has a significant effect on managers' wiliness to implement (B = 0.66 in Model 8, $p < 0.05$; B = 0.65 in Models 10, 12 and 14, $p < 0.05$). Furthermore, Monte Carlo simulation (with 20,000 iterations; Bauer, Preacher, & Gil, 2006) results revealed that when advice network diversity was low, the indirect effect of idea novelty on implementation via idea valuation is significant (estimate = -0.305, 95% CI = [-0.498, -0.114]), whereas when advice network diversity was high, this indirect effect was not significant (estimate = 0.013, 95% CI = [-0.172, 0.203]. An indirect effect difference test revealed that there was significant indirect effect difference between the high and low levels of advice network diversity (Δ estimate = 0.318, 95% CI = [0.052, 0.588]). Similarly, when friendship network centrality is low, the indirect effect of idea novelty on implementation via idea valuation is significant (estimate = -0.316, 95% CI = [-0.508, -0.128]), whereas when friend network centrality is high, this indirect effect is not significant (estimate =

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moderator is degree centrality, the interaction effect remains significant (B = 0.05, $p < 0.01$, in Model 4; B = 0.04, $p < 0.05$ in Model 5). Meanwhile, when the moderator is betweenness centrality, the interaction effect becomes marginally significant or non-significant (B = 0.002, $p < 0.10$, in Model 4; B = 0.001, n.s. in Model 5). The general pattern of the interaction plot with degree or betweenness centrality remains the same as that of closeness centrality.

0.024, 95% CI = [-0.168, 0.209]. The indirect effect difference between high and low levels of friendship network centrality is also significant (Δ estimate = 0.340, 95% CI = [0.078, 0.608]). These results together support my entire moderated mediation model. Thus, Hypothesis 4 was also supported.

Supplementary Analyses. In addition to my hypothesis testing about the moderating effects of social networks on managers' overall valuation, I also conducted several supplementary analyses to examine the extent to which managers' perceptions of value converge on or diverge from experts' ratings on novelty and usefulness. First of all, across all the six ideas that were evaluated by both experts and managers, there are no significant differences between the manager sample and the expert sample in novelty and usefulness ratings, showing an overall convergence on novelty and usefulness respectively[3]. A multi-level regression analysis further revealed that this convergence on novelty rating is more salient when managers have more diverse advice ties (the interaction effect B = 1.58; $p < 0.01$) than less. Nevertheless, I did not find a significant moderating effect of friendship centrality on the relationship between experts' novelty ratings and managers' novelty ratings (the interaction effect B = 1.36; n.s.). Moreover, results also showed that the convergence

[3] By conducting a Welch's t-test, which assumes unequal variances between the two groups, I found that for Product 1 (Laser printing ink), Mean (manager novelty) = 3.55, Mean (expert novelty) = 4, t (8.98)= -1.70, n.s.; Mean (manager usefulness) = 3.55, Mean (expert usefulness) = 3.88, t (8.55)= -1.37, n.s. For Product 12 (Aqueous ink), Mean (manager novelty) = 3.55, Mean (expert novelty) = 3.64, t (11.83) = -0.24, n.s. Mean (manager usefulness) = 3.86, Mean (expert usefulness) = 4.05, t (8.55)= -0.94, n.s. For Product 9 (Digital glaze), Mean (manager novelty) = 3.68, Mean (expert novelty) = 4.25, t (7.96) = -1.57, n.s. Mean (manager usefulness) = 3.85, Mean (expert usefulness) = 4.25, t (9.22)= -1.99, n.s. For Product 4 (Negative ion ink), Mean (manager novelty) = 3.51, Mean (expert novelty) = 3.89, t (9.33) = -1.07, n.s.; Mean (manager usefulness) = 3.68, Mean (expert usefulness) = 4, t (9.28)= -1.19, n.s. For Product 15 (Wrap ink), Mean (manager novelty) = 3.50, Mean (expert novelty) = 4.08, t (7.57)= -2.26, n.s., Mean (manager usefulness) = 4.07, Mean (expert usefulness) = 4.33, t (5.61)= -1.04, n.s.,For Product 13 (Antibacterial and bactericidal ink), Mean (manager novelty) = 3.58, Mean (expert novelty) = 3.96, t (15.32)= -1.68, n.s.; Mean (manager usefulness) = 3.54, Mean (expert usefulness) = 3.84, t (16.98)= -1.75, n.s.

on usefulness ratings is more salient when managers are occupying central friendship network positions (the interaction effect B = 6.62, $p < 0.05$). Yet, I did not find a significant moderating effect of advice network diversity on the relationship between experts' usefulness ratings and managers' usefulness ratings (the interaction effect B = -0.15; n.s.)

Chapter 5: Discussion

The present research investigates how managers' social networks help them better recognize the value of novel ideas and overcome their cognitive barriers to innovation. Through a field study with 85 managers in a ceramic company, I found that when managers evaluated product ideas proposed by employees, they manifested a disfavor to novelty. That is, idea novelty had a negative relationship with managers' perceived value of the focal idea regarding the idea's potential operational efficiency, social support or approval, and strategic fit. However, I also found that this negative relationship was dampened by certain manager network features. Specifically, I found that both managers' advice network diversity and friendship network centrality mitigated the negative effect of idea novelty on their perceived value of the proposed product ideas. In addition, I found managers' perceived value of the idea mediated the relationship between idea novelty and their decisions to implement the idea. These findings make several meaningful theoretical and practical contributions.

Theoretical Implications

The current research contributes to literatures on creativity and innovation in four major ways. First, I adopt a social view to address the issue of creativity

evaluation. Although both novelty and usefulness are desirable goals for idea generation, it is the novelty aspect that often evokes skepticism and resistance (Baer, 2012), and thus may not be valued by managers. To seek solutions to help overcome managers' tendency to discount the value of the novel ideas, the extant literature mainly adopts an actor-centered approach (such as studies on managers mindset, cognitive styles, motivation, etc.), largely ignoring the roles of social contexts in the valuation process. To narrow this gap, this paper adopts a social view of valuation by drawing on social-information-processing (SIP) theory (Salancik and Preffer, 1978) and the situated evaluation perspective (e.g., Harvey and Kou, 2013; Mumford et al., 2002; Mueller et al., 2017; Elsbach & Kramer, 2003). Specifically, this study demonstrates the important influence of managers' social context in their formation of perceptions of idea value. Thus, it contributes to a better understanding on the social contextual factors that shape managers' idea valuation for innovation.

Second, this study pinpoints the moderating roles of two specific social network features (advice network diversity and friendship network centrality) in the idea valuation process. Although the "vision advantage" of networks has long been articulated in the network literature (e.g., Burt, 2004), most studies focus on how one's network provides a vision advantage to the idea creator by synthesizing information (e.g., Burt, 2004; Perry-Smith & Shalley, 2003; Perry-Smith; 2006; Perry-Smith, 2014). Nevertheless, the question regarding whether and how social network influences managers' idea evaluation and its mechanisms remains relatively underexplored. Thus, by showing that network features could interact with idea characteristics to jointly predict managers' perceptions of idea value, this paper

reveals a unique mechanism through which social capital benefits the innovation process.

Third, although the extant literature has acknowledged that implementation decision-making involves managers' complex assessments of value (Rindova & Petkova, 2007), yet the specific criteria for such assessments is often ambiguous and ill-defined. By drawing on behavioral decision research (see Moore & Flynn; 2008) and innovation literatures (e.g., Dougherty & Hardy, 1996; Mumford, Lonergan, & Scott, 2002), this study verifies the utility of a three-dimensional construct (which includes operational efficiency, likelihood of social approval or support, and strategic fit) in predicting implementation decisions, thus addressing the need to better understand the socio-cognitive processes underlying innovation (Dougherty 1990, 2001; Hargadon & Douglas, 2001; Rindova, & Petkova, 2007; Schubert & Tavassoli, 2019).

Lastly, this study demonstrates the mediating role of managers' initial perceptions of idea value in the relationship between idea novelty and the implementation decisions. While prior research has tended to study creative idea generation and implementation—two important aspects of innovation—separately (for review, see Anderson et al., 2014; Zhou & Hover, 2014), this paper makes an important contribution by examining managers' idea valuation, the critical linking mechanism connecting creativity and implementation. Without understanding how this important bottleneck in the innovation process may be cleared, it would be difficult to ensure that creative ideas generated by employees would be successfully

implemented. This study thus adds new knowledge and insights to the relatively underexplored areas on the receiving side of creativity (Zhou et al., 2019).

Strengths, Limitations, and Future Directions

This paper has some notable strengths in terms of its external validity and realism by virtue of the fact that all product ideas were developed by employees in a real innovation context and later evaluated by their managers. Hence, the study has a methodological advantage over other creativity or innovation studies that mainly utilize lab studies using undergraduate student samples. Relatedly, the proposed negative effect of idea novelty on managers' valuation was actually observed in a relatively innovating firm, whose top management has indicated a strong preference for innovation. Thus, my research endeavor in this company served as a conservative test in the sense that managers' resistance to novel ideas could be more salient in non-innovating companies or other more traditional industries. Furthermore, this paper mimics a quasi-experimental approach in the sense that all the ratings provided by managers were randomly assigned to one of the six novelty conditions. Thus, this design aids in the causal interpretation of the effect of idea novelty on managers' valuation. In addition, our multilevel regression approach helped rule out potential confounding effects of both idea evaluators' individual differences and idea characteristics, making the estimation less biased and more credible.

Despite its strengths, the current study also has some potential limitations that also point to areas for future research. First, because my research design is cross-sectional, a causal interpretation of the network effects should be exercised with

caution. Future studies should benefit from using an experimental design (e.g., Perry-Smith, 2014) in which the researchers can measure participants' network diversity and centrality beforehand and then divide them into high versus low diversity/centrality conditions, together with high versus low idea novelty conditions. Second, given the busy work schedules of the managers in my sample, I was not able to ask all managers to evaluate all the 16 ideas I piloted. Third and related, an examination of the descriptive statistics of the ideas reveals potentially small range of novelty ratings, which suggests that the result regarding the observed negative main effect of idea novelty on managers' valuation may be driven by the restriction of range in novelty. If possible, future studies can ask managers to evaluate a broader set of ideas and test a curvilinear relationship between idea novelty and managers' perceived value, in which a moderate level of novelty might be mostly favored by managers. Another possibility is to study under what situations idea novelty can have a strong positive effect on managers' value perception. Recently, Vuori and Huy's (2016) qualitative study suggests that top managers may develop an over-estimation on the idea's innovation potential when their subordinates do not openly communicate with them about the organizational issues. More social-based moderators (such as communication styles or innovation culture) can be further explored. Fourth, I collected data on managers' perceptions of idea value and their willingness to implement from the same survey, thus raising concerns regarding common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Future studies can benefit from a time-lagged design to mitigate this limitation.

Lastly, I was only able to measure managers' willingness to implement the idea in terms of their decision-making tendencies. These tendencies may not represent their actual implementation behaviors or outcomes. Future studies may track managers' actual implementation behaviors and the innovation outcomes for each product idea after the perceptions of value has been formed.

Practical Implications

The results of the current study indicate that although managers have tendencies to discount the value of novel product ideas, their social interaction patterns with other managers may help them overcome this cognitive barrier and achieve innovation. Managers in innovating organizations should be advised to build professional connections with other managers who possess a different set of expertise or functional-area knowledge. This may allow managers to see more opportunities where the novel ideas could potentially apply and ways to implement these ideas. In the meantime, managers should also be advised to develop friendship or close relationships with other key managers in the organization, in order to mobilize social and collaborative support to implement their innovative ideas. Meanwhile, innovating organizations may benefit from a strategic social network design among their managerial personnel. Specifically, organizations can implement cross-functional teams for developing innovation projects, to allow more integration of diverse ideas and different knowledge and skills. Organizations may also want to enhance more frequent informal communication and friendship formation among managers by providing necessary accommodations to support informal socializing activities. Given

that my research results also indicate a mediating role of managers' value perception between idea novelty and their implementation decisions, innovating organizations can work on how to better frame the idea or design the product's outer form, so that it will trigger a positive first impression to managers when they are evaluating ideas for innovation.

Appendices

Appendix A: Product Ideas from the Pilot Study

Product 1: **Laser Printing Ink (Novelty = 4.00)**. This ink uses smaller ink particles and is suitable for ceramic laser printing equipment. After the semiconductor roller is exposed, it will automatically absorb the toner, then roll it on the ceramic surface once, and finally set it at a high temperature. The product consumes less toner and has good print quality and print speed. At the same time, the product has good color development and high resolution. Good performance makes it suitable for a wide range of materials.

Product 2: Volatile Dry Screen Printing Ink (Novelty = 4.11). The main feature of this ink is the use of volatile substances as solvents such as benzene, ethyl acetate, ethanol, or water. When printed on the surface of the ceramic tile, the solvent in the ink can be quickly separated and volatilized, and the remaining resin and pigment can form an ink film to remain on the surface of the ceramic tile. In the printing process, the solvent can be quickly volatilized by a heating process such as hot air to increase the drying speed. The ink does not form a film on the plate and has good adhesion fastness. The ink can be widely used in various conventional screen printing.

Product 3: Anti-imitation ink (Novelty = 3.94). This ink is mixed with other complex "interfering" chemicals. This forces competitors to spend a lot of time and effort to analyze the formulation of this ceramic ink, increasing the difficulty of imitation. The "interference" chemical composition of the ink is generally not sufficiently dissociated at the time of detection, thereby causing a decrease in the ground atom concentration of the element to be measured and causing interference. This product will retain the color, transparency and color development of existing products. At the same time, it helps to strengthen the market monopoly of new inks.

Product 4: Negative ion ink (Novelty = 3.89). The ink is made of negative ion material, and the printed ceramic tile can generate negative ions permanently after being fired. The negative ions absorb dust, odor and other small pollutants in the air to purify the air. It can make people energetic and improve work efficiency. It will play a very good role in some public places, such as schools, hospitals, office buildings, nursing homes, etc., and help improve people's health. The ink also has the characteristics of gas permeability, water absorption, and oxidation resistance. The manufacturing process is low in cost and does not affect the brick surface pattern effect.

Product 5: Infiltrated ink (Novelty = 3.71). This ink is made of a material that produces a corrosive effect under high temperature conditions. The depth of the sag effect can be adjusted, and the width of the sag line can be reduced to less than 1 mm. Since the ink penetrates into the interior of the tile blank, the three-dimensional effect is stronger and the surface texture is more delicate and realistic. The ink uses nanotechnology to help the ink color, and the color is more vivid. It will help to create a colorful tile pattern that is realistic.

Product 6: Anti-slip functional ink (Novelty = 3.13). The solid phase composition of anti-slip ink is sintered a-Al2O3 and glass frit. The sintered a-Al2O3 crystal has good anti-slip property and can be bonded to the surface of ceramic tile. It is fired once and can be combined with glossy glaze or matt ink to exhibit non-slip properties. The shape of the ceramic tile after inkjet is slightly uneven and the surface is rough and not smooth. The ink can be digitally fixed-point printing to further meet customer anti-skid requirements. It reduces ink loss without affecting color development and fogging.

Product 7: Ceramic glaze applique ink (Novelty = 3.70). This product is a high temperature solvent ink. It is first printed into a patterned ceramic decal paper, then transferred to the glazed surface of the ceramic vessel, and then sintered to produce color. The binder of the ink is composed of an organic solvent that dissolves the solid and dissolves the resin. The color former is determined by the heavy metal oxide to determine the hue of the ceramic after firing. The main component of the additive is lead glass body and low melting point boron. This ingredient helps to increase the brightness of the color, so that the screen printing porcelain ink is fully fused with the ceramic glaze after being baked. The finished pattern has the characteristics of abrasion resistance, hand scratch resistance and corrosion resistance.

Product 8: Universal Ink (Novelty = 4.29). This ink product extends the range of applications for traditional ceramic inks. It can be applied to ceramic surfaces as well as other building materials such as glass, plastic, metal, and this edition. Due to its "universal" nature, the ink can be combined with different printers, software, and media to form a variety of applications for different industries. This ink is also highly water resistant, light resistant and color stable. It can be waterproof, light-resistant and durable without fading as with ordinary water-based pigments.

Product 9: Digital glaze (Novelty = 4.25). The glaze can be printed directly on the flat body, which has a completely aligned effect and is not limited by the press and the mold. Through multi-channel precision alignment printing, it can make the gloss of different areas of the tile show layering and gradual effect. It is very helpful to create weathering marks, rain stains, ruts and other elements on the tiles. The product,

combined with the inkjet ink mix, can be printed on the ceramic surface at one time by a printing device. Subsequent glazing treatment is not required, which will greatly reduce manufacturing time.

Product 10: UV-curable screen printing ink (Novelty = 3.96). The main components of the ink are photopolymerizable resins, initiators, colorants and auxiliaries. A photoinitiator is a compound that is easily excited by light. After absorbing light, it is excited into a radical, and the energy is transferred to a photosensitive molecule or a photocrosslinking agent to cause a photocuring reaction of the ink. Therefore, the ink can form and dry the ink using ultraviolet light of different wavelengths and energies. In addition to the solvent-free, the ink is not easy to paste, clear dot, bright and bright ink, chemical resistance, and consumption. The ink can be widely used in various conventional screen printing.

Product 11: Self-cleaning function ink (Novelty = 3.89). Self-cleaning function ink is a ceramic ink made by using special "water-repellent material", which is evenly applied on the surface of ceramic tile after inkjet printing. The ink will make the tile surface smooth and smooth, making it extremely difficult for dirt to adhere to the tile surface. Therefore it is very easy to clean. Laboratory data shows that using self-cleaning ceramic tiles, pouring about 100 g of water on the brick surface, and then blowing the water on the brick surface with the mouth, will find that the water is easy to flow, and ordinary bright bricks are difficult to make. Water flows.

Product 12: Aqueous ink (Novelty = 3.64). The chemical property of the ink is water-based, compatible with water-based glaze, no repulsion, and can maintain the original effect after glazing. This ink is a complete composite solution. The particle size of the ink is larger and the color development effect is better than that of the oily ink. It is easily absorbed by the material after printing. It is characterized by bright colors, well-defined layers and lower prices than pigmented inks. Water-based ink is a green-friendly ink with low odor, high safety, low volatility and non-toxicity.

Product 13: Antibacterial and bactericidal ink (Novelty = 3.96). The ink is mainly made of silver ion and titanium dioxide, which can play the role of antibacterial sterilization. The principle of action is as follows: trace amounts of silver ions enter the inside of the bacteria, destroying the respiratory system and electron transport system of microbial cells (bacteria, viruses, etc.), causing destruction of active enzymes or necrosis of amino acids. Studies have shown that silver or titanium dioxide ceramic products have an antibacterial effect of more than 90%, and have good chemical stability and long-term antibacterial function. The ink cost is low, and there is no limitation on environmental conditions, which is more practical.

Product 14: Color-changing function ink (Novelty = 4.28). Color-changing function ink is to fully apply the luminescent properties of rare earth elements in ceramic ink-jet inks, and utilize the unique optical properties of rare earths as a coloring or color-promoting material. After the ink is printed on the surface of the ceramic tile, due to the large number of rare earth oxide lines, different colors can be exhibited under different illumination. Its color is bright, soft and even. The ink is modified to have good stability of use and high color stability, and is suitable for various nozzles and inkjet devices currently on the market.

Product 15: Wrap Ink (Novelty = 4.08). This ink uses a substance that is stable in the glaze and has a relatively low solubility. This envelops the periphery of the toner particles to prevent the pigment from decomposing in advance, so that it can withstand high temperatures, stable color and bright color. This product breaks through the limitations of traditional ink coloring or light or dark, poor temperature resistance, and basic glaze selection. At the same time, the ink color of the package is pure and bright. The comprehensive application of wrapping ink will evolve a more colorful transition color with a wide range of colors, which will make the composition design more diversified.

Product 16: Roller Printing Ink (Novelty = 4.21). This ink consists of four basic colors of cyan, magenta, yellow, and black (CYMK) that can be applied to four rollers. At the time of printing, a combination of different inks in the four rollers produces a pattern rich in color. Since the drum printing has certain requirements on the evaporation rate of the ink, the product also contains a polymerization aid and a catalyst such as an organic peroxide and a metal desiccant to maintain the fast drying property and stability of the toner during the drum printing process.

Appendix B: Measures and Network Questionnaire

1. Idea Novelty

1). This idea is novel
2). This idea is unique

2. Idea Usefulness

1). This idea is useful
2). This idea has practical utility

3. Managers' Perceived Value of the Idea

Operational efficiency
1). This idea is operationally efficient
2). This idea can generate revenue or achieve market success
Social Support/Approval
3). Other people in my organization would endorse this idea
4). Other people would approve of this idea
Strategic Fit
5). This idea fits the organization's broader strategy
6). This idea aligns well with the organization's agenda

4. Implementation decisions (adapted from Baer, 2012)

I would…
1). approve this idea for future development
2). provide resources (e.g., funds, materials, staffing) for the development of this idea
3). help implement this idea at the [focal company].

5. Openness to experience (from George, & Zhou, 2001)
1). I believe in the importance of art.
2). I have a vivid imagination.
3). I carry conversations to a higher level.
4). I enjoy hearing new ideas.
5). I am interested in abstract ideas.
6). I enjoy philosophical discussions.

6. Risk aversion (from Cable & Judge, 1994; Judge et al., 1999).

1). I am not willing to take risks when choosing a job or a company to work for.
2). I prefer a low risk/high security job with a steady salary over a job that offers high risks and high rewards.

3). I prefer to remain on a job that has problems that I know about rather than take the risks of working at a new job that has unknown problems even if the new job offers greater rewards.
4). I view risk of a job as a situation to be avoided at all costs.
5). I don't like to play the lottery.
6). I always play it safe, even if it means occasionally losing out on a good opportunity.
7). I am a cautious person who generally avoids risks.
8). I generally hold out for the best price on something, even if it means waiting a long time.

7. Social Network Questionnaire Sample

Roster of all managers' names	**Question 1**: How often do you go to this person to discuss or obtain advice about any new or challenging problems or issues at work?					**Question 2**: What is the nature of your personal relationship with this person?				
	Never	Seldom	Some times	Often	Very Often	No relation	Acquaint-ance	Casual friend	Good friend	Very close friend
Manager #1	1	2	3	4	5	1	2	3	4	5
Manager #2	1	2	3	4	5	1	2	3	4	5
Manager #3	1	2	3	4	5	1	2	3	4	5
Manager #4	1	2	3	4	5	1	2	3	4	5
Manager #5	1	2	3	4	5	1	2	3	4	5
Manager #6	1	2	3	4	5	1	2	3	4	5
Manager #7	1	2	3	4	5	1	2	3	4	5
Manager #8	1	2	3	4	5	1	2	3	4	5
Manager #9	1	2	3	4	5	1	2	3	4	5
Manager #10	1	2	3	4	5	1	2	3	4	5

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