

The Effects of Procedural Justice and Supervisor Close Monitoring on Knowledge Sharing^{*}

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ABSTRACT

This study focused on some key antecedents of knowledge sharing by individual employees. The aim was to identify the roles of contextual factors (procedural justice and supervisor close monitoring) and the mediating variables (perceived supervisory support and scouting behavior) in knowledge sharing. We surveyed 157 employees and their coworkers and supervisors to measure different variables thereby reducing common source bias. Analysis with structural equation modeling showed that the effect of procedural justice on knowledge sharing was completely mediated by perceived supervisory support. Similarly, the effect of supervisor close monitoring on knowledge sharing was completely mediated by scouting behavior and perceived

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supervisory support. The indirect effects were significant in both cases.

Keywords: Procedural Justice, Supervisory Support, Close Monitoring, Scouting Behavior, Knowledge Sharing

INTRODUCTION

In the current knowledge-based economy, managing the intellectual capital of an organization has become very important. Reflecting this concern of managers, scholars have paid increasing attention to the antecedents of knowledge sharing in organizations—the contribution of ideas, suggestions, and information by employees (e.g., Bock et al. 2005; De Dreu 2007; Fey and Furu 2008; Quigley et al. 2007; Siemsen, Balasubramanian, and Roth 2007; Wang and Noe 2010). The importance of knowledge sharing in organizations is well documented in conceptual as well as empirical studies. Nonaka (1994) and Nahapiet and Ghoshal (1998) have theorized that knowledge sharing by individual employees is an important building block of the intellectual capital of an organization. According to these scholars, organizational knowledge is created as a result of combination and exchange of existing knowledge among employees. A meta-analysis reported a positive relationship between information sharing and team performance across 72 studies (Mesmer-Magnus and DeChurch, 2009). Thus, knowledge sharing is an important process in organizations and it is important to examine its antecedents.

While previous research (e.g., Bunderson and Sutcliffe 2002; Srivastava, Bartol, and Locke 2006) has enhanced our understanding of how and when knowledge sharing is more likely to occur in organizations, there are several contextual factors which need further attention and research. An understanding of contextual factors provides important practical implications for organizations about how to modify the work context in order to encourage the desired behaviors. Our study focuses on two contextual factors that could explain why individuals may differ in terms of the extent to which they share their knowledge with others. Specifically, we examine the effects of an organizational factor and a supervisory behavior on individuals' knowledge sharing since the organization

and the supervisor are known to be most critical in forming work contexts. An organization-level contextual factor important for knowledge sharing is organizational justice, especially procedural justice. Procedural justice refers to the fairness of process used to arrive at decision outcomes (Colquitt 2001). As knowledge sharing behavior may involve the risk of losing individuals' competitive advantage (Cabrera and Cabrera 2002), procedural justice in organizations is likely to be critical in facilitating this behavior. While procedural justice has been found to be associated with several important outcomes related to job attitudes and performance (e.g., Colquitt et al. 2001; Liu 2003), its role in facilitating knowledge sharing has been sparsely researched.

Another important contextual factor in the workplace is supervisor's behavior. There is a large body of research that shows supervisor's behaviors as determinants of follower behavior and performance (Yukl 2002). Supervisor close monitoring may be defined as the degree to which the supervisor keeps a close control on the activities of the subordinate, directs the subordinate to perform certain kinds of tasks, and sends a message to the subordinate to not engage in any other task while at work (Zhou 2003). In a study on knowledge sharing in teams, Srivastava, Bartol, and Locke (2006) found that empowering leadership is positively related to knowledge sharing. In contrast to close monitoring, one of the components of empowering leadership is autonomy for the followers, and it is likely that giving autonomy may also facilitate knowledge sharing. However, there is little empirical research on autonomy-knowledge sharing link, and more specifically, field research on supervisor close monitoring and knowledge sharing has not been done, to the best of our knowledge. At the same time, it is important to examine the role of supervisor's behavior in knowledge sharing because of the importance of the phenomenon and secondly, because knowledge sharing may not happen automatically considering the risk of knowledge sharing (Cabrera and Cabrera 2002). Employees may be reluctant to share their unique knowledge due to several reasons such as potential loss of power, fear of not receiving due credit for sharing their knowledge, and lack of opportunities to search and share the information (Szulanski 1996). Therefore, appropriate supervisor behavior could be important in affecting knowledge sharing.

In addition to examining the roles of procedural justice and supervisor close monitoring in knowledge sharing, our research also

examines possible mechanisms that link procedural justice and supervisor close monitoring with knowledge sharing. Specifically, we investigate the mediating roles of perceived supervisory support and scouting behavior. Perceived supervisory support, as the name indicates is the employee's belief about supervisor's concern for employee's welfare within the organization. Building on the work of Ancona and Caldwell (1992), scouting behavior may be defined as employee's exploration of the external environment for information and ideas relevant for the organization. Thus, we aim to increase our understanding of knowledge sharing by examining some key antecedents, including the mediating mechanisms.

LITERATURE REVIEW

Knowledge Sharing

Goldstein (1993) defined knowledge as adequate understanding of facts, concepts, and their relationships, and the basic foundation a person needs to perform a task. Even though some scholars (e.g., Huber 1991; Nonaka 1994) have asserted that knowledge is different from information, this research does not deal with the differences between information and knowledge and treats them as interchangeable concepts in line with other researchers (e.g., Gigone and Hastie 1993; Hinsz, Tindale, and Vollrath 1997; Stasser and Titus 1985). As implied by these researchers, knowledge includes information, ideas, suggestions, and expertise. Polanyi (1966) classified knowledge into two categories: explicit and tacit. Explicit knowledge is codifiable and transmissible in a formal language. On the other hand, tacit knowledge is difficult to convey in formal language and is usually specific to an individual. An alternative view is that explicit-tacit is a continuum and every item of knowledge may have a certain proportion of explicitness (Nelson and Winter 1982). In this research, our focus is on the explicit component of knowledge.

Researchers (e.g., Cabrera and Cabrera 2002; Fisher and Fisher 1998; Tobin 1998) have expressed concern that effective sharing of knowledge by individuals may not take place in organizations. French and Raven (1959) identified knowledge (expertise) as a source of power and suggested that the disclosure of knowledge

might lead to erosion of individual power, thereby partly explaining an individual's reluctance to share it with others. If knowledge is not effectively shared, it impedes the transfer of best practices within an organization (Szulanski 1996). Therefore, it is important to examine some key contextual factors that could affect knowledge sharing.

Most of the research on knowledge sharing has been conducted in the context of small groups or teams, most notably by Stasser and colleagues (e.g., Stasser and Titus 1985; Stasser, Vaughan, and Stewart 2000). Building on their laboratory work, several studies have been done in organizational settings too (e.g., Argote 1999; Bunderson and Sutcliffe 2002; Cummings 2004; De Dreu 2007; West and Anderson 1996). While many important factors have been identified as determinants of knowledge sharing (e.g., interpersonal familiarity, diversity, expert status, nature of task, norms for consensus, decision-making technique, communication media), there is little empirical research on the roles of procedural justice and perceived organizational support. While the role of leadership in knowledge sharing has been studied in past research (e.g., Srivastava, Bartol, and Locke 2006), the effect of supervisor close monitoring in knowledge sharing has not been examined earlier, to the best of our knowledge. Scholars (George and Zhou 2001; Zhou 2003) have identified the direct and moderating effects of supervisor close monitoring on creative behavior, that is, generation of novel and useful ideas. Therefore, it is of interest to know whether supervisor close monitoring also has an effect on sharing of ideas and information. In addition, we identify the role of scouting behavior as a mediating mechanism that could explain why supervisor close monitoring might affect knowledge sharing.

PROCEDURAL JUSTICE AND KNOWLEDGE SHARING: MEDIATING ROLE OF PERCEIVED SUPERVISORY SUPPORT

We argue that perceived supervisory support mediates the relationship between procedural justice and knowledge sharing. The individual relationships required for these hypotheses are discussed below.

Relationship of Procedural Justice with Knowledge Sharing

As Bartol and Srivastava (2002) argued, much of the knowledge sharing by individuals is in impromptu settings where measurement of the behavior and contingent rewards are not feasible. The authors argued that in such situations, procedural justice becomes an important facilitator of knowledge sharing. According to the group value effects model of procedural justice (Greenberg 1990), fair procedures convey a signal to employees that the organization values them, and this may encourage them to share knowledge. In the absence of fair procedures, employees may not be motivated to make such contributions for the fear of someone else stealing credit for their ideas or their contribution being ignored. Procedural justice includes principles such as consistency, reducing bias, opportunities to correct errors in the reward decision, and ethical behavior by the supervisor (Leventhal, Karuza, and Fry 1980). In the event that knowledge sharing is explicitly considered in organizational reward systems (e.g., contribution to knowledge management systems), procedural justice would clearly be desirable in encouraging knowledge sharing behavior. However, in many cases where knowledge sharing may not be an explicit criterion for performance evaluation, perception of procedural justice implies that the employee might have the opportunity to highlight his/her contribution to the organization. If the employee perceives procedural justice in the way the supervisor makes decisions, the employee may have less concern about his/her contribution going unrecognized even though it is not a part of formal assessment.

Hypothesis 1: Procedural justice is positively related to knowledge sharing.

Relationship of Perceived Supervisory Support with Knowledge Sharing

Thibaut and Kelley (1959) and Blau (1964) were some of the early researchers to differentiate between interactions based on social exchange and those based on economic exchange. Both forms of exchange are based on expectation of returns commensurate with individuals' contributions. In case of economic exchange, it is easier to quantify and exchange the contributions for the receipts, and the system can work on a quid pro quo basis. Because knowledge sharing is a behavior that is beyond what is typically included

in job descriptions, the norms of social exchange would operate, and employees must believe that the organization will discharge its obligations in some form or the other in the long run (Homans 1961). While in economic exchange the currency is money, one of the important resources required to facilitate social exchange is the employee's perception of support from the supervisor. Perception of supervisory support is positively associated with employee well-being (e.g., Brewer 1995; McGilton et al. 2007). Based on norms of reciprocity (Gouldner 1960), employees who perceive that the supervisor cares for their well-being and values their contributions will feel obligated to share what they know. Often times, knowledge sharing involves extra efforts and even though it is helpful for collective output, it may not necessarily benefit the person who shares knowledge. Therefore, a positive emotional state of employee, as a result of supervisory support, is likely to elicit productive behaviors such as knowledge sharing with others. Another reason for the beneficial effect of perceived supervisory support is in reducing the evaluation apprehension of the employee. In a study of employees at a consulting firm, Irmer, Bordia, and Abusah (2002) found that evaluation apprehension of an employee inhibited knowledge sharing. For a new idea, it is difficult to know whether one's supervisor would evaluate it positively or not. Therefore, presence of a supervisor who has a record of showing concern and caring for well-being of the employees would encourage knowledge sharing.

Hypothesis 2: Perceived supervisory support is positively related to knowledge sharing.

Relationship of Procedural Justice with Perceived Supervisory Support

Procedural justice is an important antecedent of perceived supervisory support. Eisenberger, Fasolo, and Davis-LaMastro (1990: 51) argued that "positive discretionary activities by the organization that benefited the employee would be taken as evidence that the organization cared about one's well-being." Similarly, Shore and Shore (1995) argued HR practices that are discretionary (that is, not mandatory) and that recognize employee's contribution are likely to lead to perceptions of higher organizational support. Procedural justice involves, among other things, seeking employee's inputs

in arriving at the outcomes and providing opportunities to them to appeal. Therefore, perception of procedural justice would boost employee's evaluation of the supervisor in terms of how much he/she cares for employee's satisfaction and well-being. There is empirical support for the relationship between procedural justice and perceived organizational support (e.g., Moorman, Blakely, and Niehoff 1998; Tekleab, Takeuchi, and Taylor 2005). Along similar lines, we would expect a positive relationship between procedural justice and perceived supervisory support.

Hypothesis 3: Procedural justice is positively related to perceived supervisory support.

Hypotheses 1, 2, and 3 together imply that the relationship between procedural justice and knowledge sharing is mediated by perceived supervisory support.

SUPERVISOR CLOSE MONITORING AND KNOWLEDGE SHARING: MEDIATING ROLES OF SCOUTING BEHAVIOR AND PERCEIVED SUPERVISORY SUPPORT

We first argue that scouting behavior mediates the relationship between supervisor close monitoring and knowledge sharing. This implies the following relationships: Supervisor close monitoring is related to knowledge sharing; scouting behavior is related to knowledge sharing; and supervisor close monitoring is related to scouting behavior.

Relationship of Supervisor Close Monitoring with Knowledge Sharing

Those supervisors who closely monitor employee activities give less autonomy or discretion to their followers. They are directive and short-term oriented, and micro-manage the behaviors and performance of their followers. Followers are not encouraged to give suggestions for improving the workplace or contribute to decision-making. Close monitoring by supervisor is a leader behavior that owes its roots to Ohio State University leadership studies where leaders who initiated task structure were the ones who communicated specific roles of subordinates and emphasized

adherence to rules (Fleishman 1953). Another related category of leader behavior under which supervisor close monitoring would fall is directive leadership. House and Mitchell (1974) defined directive leader behavior as the one that involves specifying to the individual how the work is to be performed and the consequences of performance. In order to ensure that the goals are being met and also to exert their formal authority on the subordinate, such supervisors are likely to monitor the behaviors of the subordinate. Thus, supervisors who closely monitor are unlikely to seek subordinate inputs in decision-making because the very fact that they closely monitor implies that they may not trust the competence and/or commitment of the subordinates. Under such circumstances, the employee may perceive futility of sharing information or knowledge because it would not be included in supervisor's decision-making. The supervisor may even discourage any behavior by the subordinate that he/she is not specifically instructed to perform.

Hypothesis 4. Close monitoring by supervisor is negatively related to knowledge sharing.

Relationship of Scouting Behavior with Knowledge Sharing

The open systems view of organizations has been very well accepted since the early work of organizational theorists (Buckley 1967). Briefly, in order to succeed, an organization has to continually interact with its external environment. Subsequent research has found evidence for the importance of external networks and linkages for coming up with new ideas, entering new markets, and making internal process improvements (Cummings 2004; Mothe and Link 2002). Scouting behavior refers to "general scanning for ideas and information about the competition, the market, or the technology" (Ancona and Caldwell 1992: 841). Everything else remaining the same, compared to an employee who does not engage in scouting behavior, someone who explores the external environment for information and ideas relevant for the organization is more likely to come up with new and relevant ideas. Interaction with external sources of knowledge can provide information on developments in one's professional discipline, industry or the local economy. Also, communication with people from outside the organization may provide a different perspective to an employee with possibilities of

new information and ideas. Such employees are more likely to be consulted by their coworkers and supervisors because they may have some unique and non-redundant knowledge to contribute.

Hypothesis 5. Scouting behavior is positively related to knowledge sharing.

Relationship of Supervisor Close Monitoring with Scouting Behavior

Supervisor close monitoring implies that it is difficult for the employee to deviate from the defined task role. For most categories of jobs, this would mean the scouting or exploration behavior of the subordinate would not be encouraged. The job scope of the employee is restricted because of close monitoring by the supervisor and there are fewer opportunities for the employee to engage in outside search for information and ideas. There is little incentive for the employee to go above and beyond the tightly defined job roles while searching for new ideas because the supervisor is not likely to encourage or praise such actions and may, in fact, even punish the employee.

Hypothesis 6. Close monitoring by supervisor is negatively related to scouting behavior.

Hypotheses 4, 5, and 6 taken together imply that the relationship between supervisor close monitoring and knowledge sharing is mediated by scouting behavior.

SUPERVISOR CLOSE MONITORING AND KNOWLEDGE SHARING: MEDIATING ROLE OF PERCEIVED SUPERVISORY SUPPORT

We further argue that perceived supervisory support mediates the relationship between supervisor close monitoring and knowledge sharing. This implies the following relationships: Supervisor close monitoring is related to knowledge sharing (Hypothesis 4); perceived supervisory support is related to knowledge sharing (Hypothesis 2); and supervisor close monitoring is related to perceived supervisory support. Because two of these links have already been presented (Hypotheses 2 and 4), we now argue why supervisor close monitoring

is likely to influence perceived supervisory support.

Relationship of Supervisor Close Monitoring with Perceived Supervisory Support

In his popular comparison of Theory X and Theory Y managers, McGregor (1960) criticized close monitoring by the supervisor. While for some employees who are neither willing nor capable of doing the job, it may be the recommended supervisory behavior in order to get the job done (Hersey and Blanchard 1969), but it is unlikely to be seen as a sign of supervisory support. Supervisory support has been found closely related to trust in the supervisor (Zhang et al. 2008). Consistent with Theory X, close monitoring by supervisor usually displays lack of trust in the employee. An employee who is not being trusted is unlikely to perceive the supervisor as supportive.

Hypothesis 7. Close monitoring by supervisor is negatively related to employee's perceptions of supervisory support.

Hypotheses 2, 4, and 7 together imply that perceived supervisory support is another mediator (besides scouting behavior) of the relationship between supervisor close monitoring and knowledge sharing.

METHOD

Participants

We surveyed employees at two companies located in the U.S. One of them was an advertising company and the other was an R&D unit of a manufacturing company. We got a response from 157 employees who voluntarily participated in the study, giving us a response rate of 71.36%. Employees responded to the items related to perceptions of procedural justice, supervisor close monitoring, perceived supervisory support, and demographic characteristics. The employees who participated in our research also handed a survey to their supervisor and another version of the survey to a coworker who was familiar with the focal employee. The supervisor version of the questionnaire had items measuring the employee's knowledge

sharing and the coworker version included items measuring the scouting behavior of the focal employee. Of the 157 employees, we received matching response from the supervisor for 133 employees and matching response from coworker for 128 employees.

Measures

Knowledge sharing

We used seven items from two scales to measure knowledge sharing (Durham 1997; Faraj and Sproull 2000). These scales were developed in the context of knowledge sharing in teams. However, since knowledge is shared by “individuals”, the same scale would be appropriate for our study. Instead of team context, we looked at knowledge sharing by individuals in a work unit. We found a correlation of .81 between the two scales of knowledge sharing. A confirmatory factor analysis on an expanded sample of 275 respondents indicated the presence of one higher order factor for these two scales and therefore, both scales were combined. Supervisor of the focal respondent rated the employee on a seven-point Likert-type scale. A sample item from the scale is “The subordinate shares his/her special knowledge and expertise with others.” The reliability coefficient (Cronbach’s alpha) was .94.

Scouting behavior

The information on scouting behavior was provided by a coworker who was working closely with the focal employee. It was measured by the four-item scale developed by Ancona and Caldwell (1992). A sample item is “The coworker scans the environment outside the organization for technical ideas/expertise.” The reliability coefficient (Cronbach’s alpha) was .94.

Close monitoring by supervisor

We used the five-item scale developed by George and Zhou (2001). The information was provided by the focal employee. A sample item is “My supervisor keeps pretty close tabs on me.” The reliability coefficient (Cronbach’s alpha) was .82.

Perceived supervisory support

We used the seven-item scale developed by Tsui, Pearce, Porter, and Tripoli (1997). The information was provided by the focal

employee. A sample item is “My supervisor seems willing to listen to my problems.” The reliability coefficient (Cronbach’s alpha) was .89.

Procedural justice

We used the seven-item scale developed by Colquitt (2001). The information was provided by the focal employee. A sample item is “Have employees had influence over the outcomes arrived by those procedures?” The reliability coefficient (Cronbach’s alpha) was .90.

Control variables

We used a dummy variable to control for the organization to which the individual belonged. In addition, we also statistically accounted for age, education, and organizational tenure of the respondent.

RESULTS

Table 1 gives the descriptive statistics and correlations between variables.

We used structural equation modeling to test the hypotheses. Single indicators of latent variables were used to account for the measurement error in respective scales (Jöreskog and Sörbom 1988). Error variances of these variables were fixed at $(1-\alpha)$ times variance. The fit indices were: $\chi^2 = 5.13$; $df = 9$; $p > .05$; NNFI = .999; CFI = 1.00; RMSEA = 0.00. The path coefficients that were significant are shown in Figure 1. The total and indirect effects are given in Table 2.

Our hypotheses implied mediating mechanisms, and it is important to discuss the method of analysis. According to Baron and Kenny (1986), if X is the independent variable, M is the hypothesized mediator variable, and Y is the dependent variable, then for M to mediate the effect of X on Y, four conditions must be met: (a) X is related to Y, (b) X is related to M, (c) M is related to Y, and (d) there is a significant reduction in the strength of the relationship between X and Y when M is entered in the equation. However, one of the important limitations of Baron and Kenny’s approach is that it does not address the significance of the indirect effect (MacKinnon et al. 2002). Therefore, we decomposed the effects and reported the significance of the indirect effects of the hypothesized relationships to interpret mediation effects in Table 2.

Hypotheses 1, 2, and 3 were related to the mediating effect of

Table 1. Descriptive Statistics and Correlations between Variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Knowledge sharing (S)	5.70	.94	.94								
2. Scouting behaviors (C)	4.59	1.31	.14	.94							
3. Perceived supervisory support (E)	5.76	1.06	.23**	.01	.89						
4. Close monitoring (E)	3.51	1.29	-.12	-.27**	-.37**	.82					
5. Procedural justice (E)	4.70	1.09	.22*	.20*	.51**	-.28**	.90				
6. Organization tenure (E)	86.82	85.17	.17	.26**	.09	-.28**	.08	--			
7. Education (E)	2.99a	--	.12	.23**	-.03	-.10	.05	-.01	--		
8. Age (E)	36.56	9.50	-.05	.21*	.05	-.27**	.10	.62**	-.08	--	
9. Organization (dummy variable)	--	--	.03	.25**	.25**	-.19*	.08	.35**	.06	.50**	--

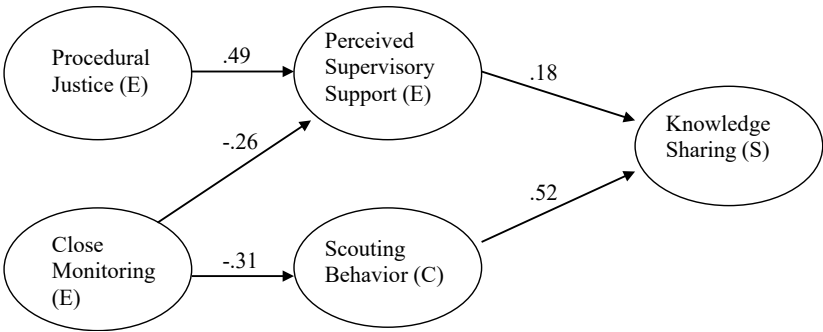
Notes: The diagonal elements are scale reliabilities, wherever appropriate. The sample size varies from 128 to 157 for different pairs of variables.

** $p < .01$ (two-tailed); * $p < .05$ (two-tailed). ^a Median value

C – The data source was coworker; E – The data source was employee;

S – The data source was supervisor

perceived supervisory support in the relationship between procedural justice and knowledge sharing. Based on Hypothesis 1, we expected a positive relationship between procedural justice and knowledge sharing. In Figure 1, there was no direct path between these variables. However, as Table 2 indicates, the total as well as indirect effect of procedural justice on knowledge sharing was significant (.09, $p < .05$). Thus, Hypothesis 1 was supported. In Figure 1, there was a direct relationship between perceived supervisory support and knowledge sharing and Table 2 shows the total effect to be significant (.18, $p < .05$). Thus, Hypothesis 2 was supported. In Figure 1 and Table 2, there is a direct relationship between procedural justice and perceived organizational support (.49, $p < .01$) thereby providing evidence for Hypothesis 3. Taken together,



Notes: The effect of control variables is not shown in the model. Only the paths significant at $p < .05$ are shown.
C – The data source was coworker
E – The data source was employee
S – The data source was supervisor

Figure 1. Results: Standardized Path Coefficients

Table 2. Total and Indirect Effects (Indirect effect is in parentheses, where applicable)

	Perceived supervisory support (E)	Scouting behavior (C)	Knowledge sharing (S)
Procedural justice (E)	.49**	--	.09* (.09*)
Close monitoring (E)	-.26**	-.31**	-.20** (-.20**)
Perceived supervisory support (E)	--	--	.18*
Scouting behavior (C)	--	--	.52**

Notes: C – The data source was coworker
E – The data source was employee
S – The data source was supervisor
** $p < .01$ (two-tailed).
* $p < .05$ (two-tailed).

the results for Hypotheses 1, 2, and 3 imply that the relationship between procedural justice and knowledge sharing was completely mediated by perceived supervisory support.

Hypotheses 4, 5, and 6 were related to the mediating effect of scouting behavior in the relationship between supervisor close monitoring and knowledge sharing. Hypothesis 4 predicted a

negative relationship between supervisor close monitoring and knowledge sharing. While Figure 1 does not indicate a direct path between these variables, in Table 2 the total as well as indirect effect of supervisor close monitoring on knowledge sharing was negative ($-.20, p < .01$) and therefore, Hypothesis 4 was supported. According to Hypothesis 5, we expected a positive relationship between scouting behavior and knowledge sharing. As seen in Figure 1 and Table 2, there is a significant path between scouting behavior and knowledge sharing ($.52, p < .01$). Hypothesis 6 argued a negative relationship between supervisor close monitoring and scouting behavior. In Figure 1 and Table 2, the standardized path coefficient between supervisor close monitoring and scouting behavior was negative ($-.31, p < .01$). Thus, Hypothesis 6 was supported. When we consider Hypotheses 4, 5, and 6 together, we conclude that scouting behavior is a mediator of the relationship between supervisor close monitoring and knowledge sharing.

Hypothesis 7 predicted a negative relationship between supervisor close monitoring and perceived supervisory support. As can be seen from Figure 1 and Table 2, the standardized path coefficient between the two variables was negative ($-.26, p < .01$). Hypotheses 2, 4, and 7 together imply that perceived supervisory support is also a mediator of the relationship between supervisor close monitoring and knowledge sharing.

DISCUSSION

Our study focused on procedural justice and supervisor close monitoring as contextual determinants of knowledge sharing. More importantly, we hypothesized the mediating role of perceived supervisory support in the relationship of procedural justice with knowledge sharing. We also expected scouting behavior and perceived supervisory support to be mediators of the relationship of supervisor close monitoring with knowledge sharing. We collected information from employees in two organizations along with a matching response from their coworkers and supervisors. The relationship between procedural justice and knowledge sharing was completely mediated by perceived supervisory support. We found the relationship of supervisor close monitoring with knowledge sharing to be mediated by scouting behavior and perceived supervisory

support. The implications of our findings and the limitations of our research are discussed below.

Theoretical Implications

While recognizing the necessity for having differentiated roles within an organization, Lawrence and Lorsch (1967) highlighted that integration plays an important role in organizational success. Since individuals bring diverse skills and knowledge to the organization, effective integration, therefore, would involve sharing of unique knowledge by individuals and an effective combination of the knowledge of employees. Thus, knowledge sharing is a basic process in organizations that enables utilization of the intellectual resources. Our study extends the understanding of the antecedents of this phenomenon in the following ways.

Firstly, while the role of leadership has been recognized in the research on knowledge sharing, the effect of close monitoring by supervisor has not been examined. While close monitoring may be essential when the employee is neither willing nor capable of doing the job (Hersey and Blanchard 1969), our study shows that this kind of supervision is not conducive to knowledge sharing by individual employees. In most organizations that continue to thrive in difficult times, continual updates of employee knowledge are required. There is value associated with employees educating each other through knowledge sharing. In such situations, close monitoring by supervisor is likely to be counterproductive. Our findings are consistent with previous research that showed a negative relationship of supervisor close monitoring with creativity (George and Zhou 2001; Zhou 2003). While creativity is different from knowledge sharing, the two are related in the sense that creative employees are likely to have more ideas to share with others.

Secondly, our findings illuminate the understanding of the mediating mechanisms that link supervisor close monitoring and knowledge sharing. We found two such mediators: scouting behavior and perceived supervisory support. Scouting behavior is a type of boundary-spanning behavior (Ancona and Caldwell 1992). While we referred to the organizational boundary in our conceptualization, the scouting behavior has also been referred to as information search behavior within the organization across boundaries of

teams and work units (Druskat and Wheeler 2003). Because teams, departments, and product divisions within an organization are not expected to operate in an isolated manner, there is great importance of understanding how the inputs and outputs of a team or department fit with other teams and work units. As a result, scouting behavior is important for acquiring valuable information that when shared, could result in improved decision-making of a work unit and coordination between the constituent groups of an organization. Our findings highlight the important role of scouting behavior in knowledge sharing by individuals. Knowledge sharing is an important process because unless employees share what they know, it is a suboptimal utilization of human capital of the organization. Thus, in a sense, scouting behavior and knowledge sharing could be viewed as sequential processes and are both important for enhancing organizational knowledge. So far, there has been relatively less research on scouting behavior and our study emphasizes the importance of studying this phenomenon further.

Thirdly, we also found a positive indirect effect of procedural justice on knowledge sharing, mediated through perceived supervisory support. Procedural justice is a widely researched concept in organizational behavior. Fair procedures in reward decisions have been found related to important outcomes such as motivation to work hard, job satisfaction, organizational commitment, organizational citizenship behavior, and turnover intentions (e.g., Fassina, Jones, and Uggerslev 2008; Roberson, Moya, and Locke 1999; Simons and Roberson 2003). Our findings indicate that the importance of procedural justice also extends to knowledge sharing behavior. Knowledge sharing behavior is related to performance of teams (Mesmer-Magnus and DeChurch 2009), and future research might examine the mediating role of knowledge sharing in the relationship between procedural justice and performance outcomes. The empirical demonstration of mediating mechanisms is important in strengthening our theories and our findings indicate that perceived supervisory support is a mediator of the relationship between procedural justice and knowledge sharing.

We offered two important reasons for why perceived supervisory support might enhance knowledge sharing. One reason could be that the employee wants to reciprocate to the work unit by contributing his/her knowledge in return for the support received from the supervisor. The other reason could be that for knowledge

sharing behavior to take place, the employee should not feel hesitant for the fear of giving an underdeveloped idea. Which reason is more important is a question for future research but our conjecture would be that supervisory support is particularly important in reducing the anxiety of the employee in contributing information, ideas, and expertise in the workplace. 3M, a highly innovative company, has been built on formal and informal knowledge sharing of employees within work-units and across work-units (Roepke, Agarwal, and Ferratt 2000). The top management encouraged experimentation and maintained a positive attitude toward failures at 3M. This case study suggests the importance of reducing evaluation anxiety of the employees in order to encourage them to contribute their ideas.

Finally, our study also contributes to improving on the existing research methodology by using information from three different sources. While many scholars have heeded the advice of avoiding common source bias (Podsakoff et al. 2003) and have typically relied on collecting information on the outcome variable from a different source, several mediation models continue to be examined in our field through information collected from the same source. For example, the distal (independent) variables and the mediating variables are often measured from the same survey completed by the focal individual. It is well known that collecting data from the same source may bias the findings and typically inflate the degree of association due to the effects of consistency, leniency, acquiescence, mood, and social desirability (Podsakoff et al. 2003). Our research provided a more stringent test of some of the hypothesized relationships. Specifically, by measuring supervisor close monitoring through employee's response, scouting behavior of employee through coworker's response, and knowledge sharing through supervisor's response, we corrected for the inflated correlations often found between independent variables and mediators due to common source bias (i.e., data collected from the same individual). Our results, therefore, provide a more stringent test of the mediating role of scouting behavior. We measured the other mediator, perceived organizational support, through information from the employee because it referred to the perception of the employee. Wherever possible, researchers should attempt to measure different variables through different methods/sources to provide a stronger support for theory.

Practical Implications

Given the importance of procedural justice for knowledge sharing, a practical question that arises is “can supervisors be trained to improve the employee’s perception of procedural justice?” There is prior research to indicate that such training is possible (Skarlicki and Latham, 1996). Our study also indicates that close monitoring by supervisor is not good for knowledge sharing. Thus, giving autonomy to employees appears to have a positive influence on knowledge sharing. However, despite the advantages of giving autonomy to the employees, organizations find it difficult to make the transition from a setup tightly controlled by the supervisor to an employee-managed environment and this remains an ongoing challenge (Manz, Keating, and Donnellon 1990).

The role of scouting behavior in knowledge sharing emphasizes the advantage of providing access to information search tools and virtual communities within and outside the organization. Scouting behavior is important for all categories of employees. However, the sources of information and the content of what one scouts for would differ across various categories of employees. Business process improvement cuts across all departmental boundaries and scouting behavior of employees is important in increasing the environmental awareness of the organization as a whole.

Limitations and Future Research Directions

We had a cross-sectional design. Therefore, causality cannot be established. Though we used three different sources of information, ultimately all variables were measured through the survey approach thereby leaving open the limitations of survey method. Objective measures of knowledge sharing may be possible where much of the knowledge is shared by the employees into databases. Alternatively, in a virtual work environment it might be possible to have a transcript of communication between employees and the individual contribution of knowledge might be measured through other means. In addition, our sample employees selected a coworker for the coworker survey, which may involve unexpected biases. For instance, it is possible that the extent to which the selected coworker is familiar to the focal employee can vary across participants.

Formal practice of knowledge sharing increased with the advent

of sophisticated knowledge management systems (Liebowitz 1999). These systems made it possible to store and transfer some of the knowledge through databases. Availability of group decision support systems and online discussion forums has made it easier for employees to contribute their knowledge to the organization. However, the basic question as to why employees share knowledge still needs to be understood in more detail. While our study enhances our understanding of contextual factors that affect knowledge sharing, future research must also examine individual personality traits that may directly or interactively (along with contextual factors) affect knowledge sharing.

Knowledge sharing may take place through various means such as contribution to knowledge management databases within an organization, formal meetings and forums for sharing knowledge, and informal interactions (water-cooler chats). The factors that influence knowledge sharing are likely to vary according to how or where the knowledge is shared (Irmer, Bordia, and Abusah 2002). While our research focused on the explicit component of knowledge, the tacit component of knowledge is very important too and requires a more intensive communication, socialization, and mentoring (Holste and Fields 2005). There is limited research on this topic and it remains an important area for future investigations.

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