

ABSTRACT

Title of Document: PERFORMANCE TIP-SHARING: WHEN, AND *HOW*, DO EMPLOYEES SHARE THEIR INSIGHTS?

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The purpose of my dissertation is to expand understanding about when, and how, employees share performance-tips-- that is, when employees will more frequently disclose to their colleagues (in organizationally-targeted or coworker-targeted ways) the new ideas that they have discovered in the process of working that improve their work tasks (e.g., ideas that help employees to work faster, more efficiently, with fewer mistakes, etc.) for the purpose of helping others in the same job to complete work or solve problems to improve efficiency or quality. Current literature suggests that this is more likely to occur when employees: (1) feel more rather than less obligated toward their organization and (2) believe that sharing performance-tips will benefit, *not* harm, them. The conceptual problem I resolve in this dissertation regards my belief that the latter assumptions are overly simplistic since the effect of any one of them seems likely to depend on the presence or absence of the other factors and on what *type* of performance-sharing (coworker-targeted vs. organizationally-targeted) is occurring. Via a field-survey of employees in the information-technology industry, I test the more complex set of relationships I theorize as predictors of the frequency and type of performance-tip sharing that employees engage in. I conclude with the theoretical and practical implications of my findings.

PERFORMANCE TIP-SHARING: WHEN, AND *HOW*, DO EMPLOYEES
SHARE THEIR INSIGHTS?

By

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CHAPTER 1: INTRODUCTION

Performance improvement ideas are discoveries that employees make in the process of doing their work that helps them to perform their own jobs with higher quality and/or efficiency. When employees *disclose* to their colleagues the new ideas that they discover in the process of doing their work that they believe improve what they are doing (e.g., ideas that help them to work faster, more efficiently, with fewer mistakes, etc.) for the purpose of helping others in the same job to complete work or solve problems to improve efficiency or quality, they are also engaging in what others call “tacit knowledge-sharing” (cf. Bartol & Srivastava, 2002) or making what others refer to as “information contribution[s]” (cf. Fulk, Heino, Flanagin, Monge, & Bar, 2004).

Helping to improve one’s organization has also been termed “taking charge” by Morrison and Phelps (1999), but their operationalization of this kind of help is *not* limited to communicating, which is my focus here. I prefer the term “performance tip-sharing” in order to convey that: (1) the tacit ideas regard ways to improve performance, and (2) these ideas are being shared, or communicated. Attributes of performance tip-sharing include those previously identified for tacit knowledge-sharing in general—namely, that these communications involve ideas that are: (1) *unique*, or “*highly personal*,” (Carrillo, Robinson, Al-Ghassani, & Anumba, 2004, p.46), (2) not found in *written* form anywhere in organizations, (3) *helpful* since they regard new ways to achieve task-goals, and (4) *intra-organizational* since they occur among organizational members. In practice, performance tip-sharing might occur when a courier tells a fellow courier that s/he

recently discovered that the time of day s/he arrives to deliver packages determines whether it is most efficient to begin on the upper versus bottom levels of a building (Thurm, 2006). It is also illustrated when field technicians at Xerox add on-the-job insights to the “Eureka” computer software when they find unique solutions or discover shortcuts to solving customer problems (for a fuller description of this software, see Bartol & Srivastava, 2002; Wageman, 1995). These illustrations show that performance tip-sharing can occur in “coworker-targeted” versus “organizationally-distributed” ways—that is, via a personal conversation versus technologically-assisted mass-communication, respectively. The reason I assume that technologically-assisted communications will characterize the *organization*-targeted tips that employees share is because it is not humanly possible for an employee’s communication to reach or be accessed by a mass audience without technology such as email or software databases.

Tacit knowledge has been said to help organizations continually learn how to do things in ways that may lead to a viable advantage over competitors (Wade & Hulland, 2004). However, this is true only if the performance improvement ideas employees learn are *shared* and not kept secret. Anecdotal evidence suggests that organizations should be concerned about employees’ *not* sharing their performance-tips. An article published in the January 23, 2006 issue of *The Wall Street Journal* stated: “few organizations have figured out how to share knowledge among employees, or to pass it on when employees leave or change assignments.” Consistent with this, Babcock (2004) notes that, according to a report by International Data Corporation, Fortune 500 companies lose at least \$31.5 billion a year by failing to share knowledge.

The Conceptual Problem this Dissertation Aims to Solve: When, and How, Will
Employees Share Performance-tips?

What can managers do to increase employees' willingness to share their performance-tips? Two actions that are frequently named in the knowledge-sharing (KS) literature include: (1) increasing employees' feelings of obligation to the organization (Brock, Zmud, Kim, & Lee, 2005; Constant, Kiesler, & Sproull, 1994; Kankanhalli, Tan, & Wei, 2005; Nahapiet & Ghoshal, 1998), and (2) maximizing employees' expectations that they will be rewarded, not harmed, as a consequence of knowledge-sharing (e.g., be promoted or receive more pay) (Bartol & Srivastava, 2002). These two main-effects are illustrated in Figure 1.

Insert Figure 1 about here

My reason for isolating the latter two antecedents to KS rather than identifying others that have been named in the literature is because other constructs that have been identified as KS-determinants seem more parsimoniously captured by these two antecedents. For example, the construct of "organizational obligation" is strongly related to feelings of "responsibility" (Morrison & Phelps, 1999) and "normative commitment" (Meyer, Allen, & Smith, 1993); indeed, reference to "obligation" appears among the questionnaire-items used to assess responsibility (Morrison & Phelps, 1999), normative commitment (Meyer et al., 1993), and obligation (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). With respect to the construct in Figure 1 regarding "expectation of rewards," rewarding outcomes include possible interpersonal gains (e.g., being perceived as a good citizen) as well as financial gains (e.g., being paid more), and ease of technology-use (e.g., *not* being slowed down by efforts to share insights with an

organization's software system). As such, reward-expectations seem to capture the knowledge-sharing determinants involving employees' concerns about: how others will view them after they share unsolicited advice (Abrams, Cross, Lesser, & Levin, 2003), how able they will be to use the organization's knowledge-sharing technology (Gilbert, Lee-Kelley, & Barton, 2003; Ribiere & Sitar, 2003), and how likely they will be to be rewarded, not penalized, for taking the time to share knowledge (Bartol & Srivastava, 2002).

For three reasons I believe the two actions illustrated in Figure 1 are insufficient in ensuring that employees will share performance-tips with each other. First, organizational obligation may increase employees' knowledge sharing in coworker-targeted but not organizationally-targeted (e.g., technologically assisted) ways. Secondly, it is possible that employees' expectations associated with "knowledge-sharing" such as the degree to which they will be rewarded for doing so and/or easily able with technological resources to do so may influence one, but not the other, type of performance tip-sharing. Third, the effect of any one of these variables may interact with the effect of others; for example, even highly organizationally-obligated employees seem less likely to share performance tips with others if they expect that doing so will *not* result in rewarding consequences. Fourth, since the spontaneous "water cooler-like" nature of coworker-targeted performance tip-sharing requires that employees communicate verbally with their coworkers, it seems likely that when this is not possible (for example, due to long distance work-assignments), even highly organizationally-obligated employees will be less likely to engage in coworker-targeted performance tip sharing. I know of no study that has distinguished when employees will engage in

coworker-targeted versus organizationally-targeted (technologically-assisted) knowledge-sharing, and no study that has examined how the latter choice is influenced by employees' feelings of organizational obligation. Additionally, I know of no study that has examined the kind of moderators of the organizational obligation-helping relationship that I will study here—namely, the possible moderating effect of employees' physical proximity to coworkers, employees' perceptions of the adequacy of their technological resources, and employees' expectations that they will be rewarded for sharing performance tips. Testing these influences on employees' frequency and type of knowledge-sharing is the purpose of my dissertation.

The rest of the dissertation proceeds as follows. First, in the next chapter I review the literature that has guided my hypotheses regarding how feelings of obligation and expectations affect the existing levers for getting employees to share their knowledge. Second, in Chapter 3 I describe the methodology that I have used to test the study hypotheses. Third and finally, in Chapter 4 I describe my dissertation study's results and their implications for managers and management scholars interested in strengthening organizations' knowledge-sharing capacity.

CHAPTER 2: LITERATURE REVIEW AND HYPOTHESES

The Effect of Organizational Obligation on Employee Helping-Behavior

The work of Eisenberger et al. (2001) and Morrison and Phelps (1999) has demonstrated that employees who feel more obligated to their organization tend to be more helpful. The kind of helpfulness that Eisenberger et al. found to be greater on the part of more organizationally-obligated employees was what they called “organizational spontaneity.” The measure used by Eisenberger et al. to assess this suggests that an employee who does more of this kind of helping tends to do the following: (1) makes constructive suggestions to improve the overall functioning of his or her work group, (2) continues to look for new ways to improve the effectiveness of his or her work, (3) assists supervisor with his or her work, and (4) helps coworkers who have been absent. The first two actions noted here match my definition of “performance tip-sharing” since they regard actions designed to improve coworkers’ task-related behaviors; this commonality thus suggests that employees who feel more obligated to their organization will also be more likely to engage in performance tip-sharing.

However, the latter thinking assumes that it is sufficient to expect more help of this nature when employees feel more obligated to their organization; I will be arguing that the organizational obligation-helping relationship is more complex than this. Specifically, I believe that employees who feel more obligated to their organization will *not* necessarily more frequently share performance tips when any or all of the following situations are present: (1) when employees perceive that they lack the technological resources needed to share performance tips with all organizational members (e.g., via an intranet or LISTSERV or database-related program), (2) when employees *do not* expect

to be rewarded for sharing performance-tips, possibly by making themselves more replaceable, and (3) when employees have more rather than less distance in their physical proximity to each other since this will prevent them from freely talking face-to-face with their coworkers. Each of these situations are thus potential moderators of the organizational obligation-helping relationship. Said differently, each of these situations suggests that the extent to which helpfulness (including knowledge-sharing) will occur on the part of employees who feel more obligated to their organization may *depend* on: (1) employees' perceptions regarding a lack of technological resources that are needed in order to do so, (2) employees' expectations of not being rewarded (and potentially instead punished) for sharing performance-tips, and (3) employees' physical proximity to coworkers. Next, as shown in Figure 2, I elaborate on why I believe these variables are likely to moderate this relationship, each in turn.

Insert Figure 2 about here

The first moderating variable I named regards the extent to which employees perceive that they have adequate technological resources. My identification of this perception as an important one is guided by knowledge-sharing (KS) scholars' findings that technology-related perceptions indeed influence the extent to which employees share knowledge (e.g., Gilbert, et al., 2003; Ribiere & Sitar, 2003; Cabrera & Cabrera, 2002; Fulk et al., 2004; Brown & Mitchell, 1993). More specifically, the latter studies show that less knowledge sharing tends to occur when the technology-resources that can help employees share knowledge (such as electronic communities of practice, electronic repositories, and intranets) are either absent or unusable due to employees' perceptions

that the latter resources are inadequate. These perceptions are likely to result from (1) fear of learning the skills needed to use available technology or “technophobia” (Gilbert, et al., 2003; Ribiere & Sitar, 2003); (2) the time-consuming nature or slowness of computer system use (cf. Fulk et al., 2004) or computer malfunctions (Brown & Mitchell, 1993); and/or (3) logistical difficulties in accessing whatever resources are available due to structural challenges.

The second moderating variable I named regards the extent to which employees believe that they will be rewarded for sharing performance-tips. My identification of this expectation as an important one is guided by knowledge-sharing (KS) scholars’ finding that when employees more rather than less strongly expected to be rewarded for using databases to share work-related insights, they tended to more frequently do so (Bock, et al., 2005; Kankanhalli, et al., 2005). And similarly, studies have found that when employees more strongly expected to be rewarded for helping their coworkers in general, they tended to more frequently do so (Bartol & Srivastava, 2002; Nahapiet & Ghoshal, 1998).

The third moderating variable I named regards the extent to which employees are geographically proximal to their coworkers. My reason for believing proximity will influence employees’ knowledge-sharing is guided by several studies reporting that the frequency with which employees engage in technologically-assisted forms of knowledge-sharing (i.e., email) rather than face-to-face communications generally increased as employees’ geographic distance from each other has increased (Ganesan, Malter, & Rindfleisch, 2005), for example, as a result of their doing work as telecommuters (Venkatesh & Johnson, 2002) and/or members of virtual teams (Bell & Kozlowski,

2002). Although email allows senders to direct performance-tips to a particular coworker rather than to a list of recipients (hence in a “coworker-directed” versus “organization-directed” manner, respectively), for several reasons the frequency of personal communications seem less likely via email rather than face-to-face. First, employees may be reluctant to put performance tips intended for just one specific coworker in email-form given the ease with which their tip could be forwarded (unbeknownst to them) to other unintended recipients (cf., Galbreath & Long, 2004). Second, employees may be reluctant to provide documentation, which the print-form of email allows, that they felt the need to give a performance-tip to a specific coworker (cf., Poe, 2001). Third, anecdotally, I myself have found that the frequency with which I share performance tips with colleagues and/or receive performance tips from them (in email as well as face-to-face ways) generally declines when colleagues move to other universities.

Until now my thinking suggests that KS-- whether this is coworker- or organizationally-oriented-- will be similarly affected by the three conditions named above. However, I believe the three conditions named above will have differing levels of importance for different *types* of knowledge-sharing. Specifically, I expect that employees’ perceptions regarding technological inadequacy will be relevant only (or at least more) for knowledge-sharing that requires them to use information systems for mass-communication such as organizations’ databases or intranet; and conversely, I expect that employees’ perceptions of technological inadequacy will be *less* relevant, hence less influential, for knowledge-sharing that occurs at the water cooler or other coworker-oriented kinds of exchanges. Face-to-face accessibility is of course necessary if employees are to share performance-tips at a water-cooler or, more generally, in more

spontaneous coworker-targeted ways; thus, face-to-face interactions are likely to be more influential in determining coworker-targeted rather than organizationally-targeted (technologically-communicated) types of performance tip-sharing. For these reasons I predict:

Hypothesis #1: Employees will more frequently share performance tips in organizationally-targeted (technologically-assisted) ways when they feel more rather than less obligated to their organization, but this relationship will be weaker when employees perceive their technological resources to be more rather than less inadequate, as illustrated by Arrow A in Figure 2.

Hypothesis #2: Employees will more frequently share performance tips in coworker-targeted ways when they feel more rather than less obligated to their organization, but this relationship will be weaker when employees' physical proximity to their coworkers is more rather than less distant, as illustrated with Arrow B in Figure 2.

I have no reason to expect that employees' expectations about being rewarded for sharing performance-tips will matter more for one type of knowledge-sharing versus another. This is because the frequency of many different behaviors has consistently been found to increase when the behaviors are rewarded (Hui, Law, & Lam, 2000; Bartol & Srivastava, 2002; Bock & Kim, 2002). Thus, I predict:

Hypothesis #3: Employees will more frequently share performance tips in coworker-targeted and in organizationally-targeted ways when they feel more rather than less obligated to their organization, but each of these relationships

will be weaker when employees do NOT expect to be rewarded for doing so, as illustrated by Arrow C in Figure 2.

In summary, the three interaction-hypotheses presented above explain why I believe the organizational obligation-helping relationship is more complex than previous theorizing has suggested. While these hypotheses are helpful in illuminating the possibility that obligation-effects depend on various factors, including *how* employees are helping others, they fail to explain what makes some employees feel more rather than less obligated to their organization in the first place. I turn my attention to this next.

Antecedents To Organizational Obligation

It is “old news” that POS is positively related to organizational obligation. Studies showing this include Eisenberger, et al., (2001) and Morrison and Phelps (1999). Yet, I believe that CWS also influences this relationship. Indirect support for this comes from a study by Deckop, Cirka, and Andersson (2003). Specifically, Deckop found that employees reported being *more helpful toward their coworkers* when they received *more help from coworkers*. The reason I think this finding supports my prediction about CWS strengthening organizational obligation is because their predictor-variable regarded helpfulness from coworkers (hence essentially CWS) and, although they did not measure organizational obligation, it seems likely that employees who help their coworkers also believe that they are ultimately helping their organization.

Although I expect both POS and CWS to strengthen employees’ feelings of organizational obligation, I expect POS to explain more variance in this. My reason for thinking this is based on the tendency for past studies to find that employees who feel more rather than less supported by the organization to help the organization more

(Eisenberger et al., 2001; Morrison & Phelps, 1999) and by Deckop et al.'s (2003) finding that employees who feel more rather than less supported by their coworkers tend to help their coworkers more. These findings are consistent with Gouldner's (1960) theory of reciprocity which essentially says people "scratch the backs," so to speak, of those who have been helpful to them. Since POS (but not CWS) regards perceptions of the organization, then it seems likely that *organizational* obligation will more strongly be linked to POS. Thus, I predict:

Hypothesis #4: Employees' feelings of organizational obligation will be positively associated with both POS and CWS; however, POS will explain more variance than CWS will in employees' feelings of organizational obligation, as illustrated by Figure 2's Arrows E and F, respectively.

In Chapter 3, I describe the procedure and statistical methods I used to test my hypotheses.

CHAPTER 3: METHODOLOGY

Similar to Fulk, et al. (2004) I used a field-survey to test my hypotheses. Specifically, I distributed a web-based survey to employees of participating organizations via an email message containing a URL link. My methodology is also comparable to the methods used by Eisenberger et al. (2001), Morrison and Phelps (1999), and Zhou and George (2001); however, unlike the latter researchers, I used a survey-instrument that is electronic in nature and my survey was distributed to employees working within several organizations. A field survey was chosen for this study since several of the variables being measured are difficult to manipulate in laboratory settings. More specifically, it is not possible to manipulate perceptions of POS, CWS, and feelings of organizational obligation since each of these pertains to work-related relationships that seem unlikely to have hedonic relevance via hypothetical scenarios or the typically short timeframe available (e.g., one hour) in laboratory studies. Additionally, it is not possible to manipulate one of the control variables in this study, “positive affectivity,” since this individually-held belief (defined later in the Method section) is privately-held and based on an accumulation of previous experiences (cf. Eisenberger et al., 2001: 42). Because the latter beliefs, perceptions and feelings are unobservable by others, I assessed them via self-report. An electronic survey was chosen instead of a paper survey to make employees’ participation more convenient since they could participate at anytime and there would be no need for employees to return surveys. Employees assessed both the endogenous variables (organizational obligation and performance tip-sharing) and the exogenous variables (all others) in the model shown in Figure 2. In addition, for the

behavioral-related measures that are observable by others (i.e., employees' frequency of performance tip-sharing), I used a separate survey to assess these behaviors from peers and supervisors of the employee-participants.

Sample-Recruitment and Characteristics

Because Chief Knowledge Officers (CKOs) and Vice-Presidents of Sales and Marketing are more likely than other types of managers to be aware of, or concerned with, knowledge-sharing needs, I contacted these individuals at five organizations for help in obtaining an employee-sample. My reason for contacting five organizations was due to my hope of obtaining a commitment to participate in my study from at least one or two of these and my experience that response-rates average 20-30% of any targeted sample (at the individual- or organizational-level). I contacted these individuals initially with a combination of letters (an example of which is shown in Appendix B) sent via emails and U.S. postal-mailings whose content (in 2 pages) described the purpose of my study. In my initial communications, I indicated how I believed their organizations could benefit by participating (including its ability to influence the survey's content), and the ease of the organization's participation via the secure web-based survey that I would make easily accessible. I followed-up these initial contacts with phone calls and personal visits.

Procedure for Gaining Access to Participating Organizations

To enhance my likelihood of gaining access to eligible organizations, I did two things. First, I identified how employees and their organization might benefit if this study revealed when and how employees engage in performance tip-sharing (e.g., via increased efficiency and innovation). Second, I offered to provide "an executive report and pro-

bono presentation of the findings that, in turn, promised to help the organizations gain insight to when and how employees share performance-tips.” I emphasized in these conversations how the findings of the study promise to enable them to better achieve the sharing of performance-tips between employees and their coworkers and between employees and organization wide members.

Two organizations that operate on the campus of a large Mid-Atlantic University decided to participate. The first university-based organization, Technology Resources, employs 230 people and is a provider of information technology planning, infrastructures, information systems, and support services.¹ The second university-based organization, the Office of Business, Budget, and Financial Affairs, employs 1106 and supports and facilitates the research, instructional and service missions of the university through the design and implementation of modern business and environmental services. The latter two organizations are both viable choices for this study since they each describe themselves on their websites as valuing innovation and creativity as well as initiative and results.

Selection of Survey-Participants

With regard to the employees, I explained to the Vice-Presidents that I was targeting employees who are: (1) employed full-time, (2) regularly evaluated (i.e., receive evaluations at least twice a year) such as those working in professional, executive, administrative, managerial, or clerical positions; (3) regularly evaluated by team members as well as organizational authorities, (4) working in positions that allow for the possibility of promotion; and (5) working on tasks whose completion requires them to at

¹ Importantly, pseudonyms are being instead of the actual organizational names in order to protect the actual identities of organizations invited to participate in the study.

least occasionally coordinate and/or communicate with coworkers. I also explained that I was hopeful that 861 employees (people working in professional, executive, administrative, managerial, or clerical positions) will be encouraged to complete my web-based survey due to my expectation, with a typical survey response-rate of 20-30% or less, and that this would enable my final sample-size to be at least 172 employees.

Procedure for Motivating Organizational Members to Participate

With regard to how I motivated organizational members to participate, I emphasized in all communications about the survey that: (1) employees' choice to participate was greatly appreciated but not required and that they could withdraw at anytime, (2) selection for participation in the study did not reflect their standing in the organization, (3) employees were selected from an active list of full-time, regularly-evaluated (e.g., professional, executive, administrative, managerial, or clerical positions) individuals working across several organizations and that no one except the researchers would know who has chosen to participate, (4) all responses were confidential since 5-digit code-numbers would be placed on the surveys rather than their names and once used to match employees and coworkers/supervisors for the analysis, code-numbers would be destroyed, (5) survey-responses were anonymous since no names were traceable/linked to individual data because all findings would be reported in the aggregate (e.g., percentages of males versus females who perceived "X") , (6) that pseudonyms would be used instead of the names of their organizations in any in subsequent publications in order to protect their firms' identity, and (7) the web-based survey is securely-encrypted and housed at an organization completely independent of their organization, hence completely out of view of employees' coworkers and supervisors.

One potential problem that I anticipated with the study regards the possibility that survey-recipients would delete an email without opening if it were to come from someone unfamiliar to them and/or that organizations' anti-spam software may do this. To minimize this possibility, I did the following: first, I spoke briefly about my survey during a meeting where I answered any questions from potential survey participants. I also announced the survey in electronic company wide newsletters in order to signal their organization's awareness of and commitment to my study. Secondly, the Vice-President and CIO electronically distributed the surveys on my behalf (with my contact information included) from their own email address and/or via company list serves (Fulk et al., 2004). In order to increase the response rate for this study, the Vice-President and/or CIO also sent email reminders one week after each survey had been distributed (Fulk et al., 2004; Morrison & Phelps, 1999).

Procedure for Selecting Survey-Respondents' Coworkers and Supervisors

To minimize the possibility of common-method bias, I also assessed employees' performance-tip sharing from the perspective of their supervisors and/or coworkers, aided by obtaining from each survey-respondent a supervisor-name and at least two coworkers' names. I did this by asking study participants to provide the name of their supervisor on their survey so I might contact them to complete a very short questionnaire. Consistent with Zhou and George (2001) I used the organizational roster to confirm the names of supervisors that employees listed.

To obtain survey-respondents' coworkers, I followed the procedure used by Morrison and Phelps (1999) by first asking employees while they were completing the electronic survey to provide the names and email-contact information of at least two

coworkers with whom they work closely and who might provide additional information. I informed employees that it was their choice whether or not to give their coworker's name and they were allowed to continue with the survey even if they chose not to respond to this particular question. Second, I obtained staff listings of departments and an organizational chart for each participating organization indicating the lines of authority within each department in order to verify that the names reported by employees indeed belonged to their department. I accompanied this request for coworker contact information by telling employees that it was their choice which two or more names they provide. I hoped that asking focal employees to name at least two coworkers would lead to success in obtaining data from at least one of them. I sent an email containing an URL to the coworkers of employees that pointed to the online survey after one month since I assumed that all employees who wanted to participate would have already done so. This survey included thirty-six questions regarding the employees' coworker-targeted and organization-targeted performance-tips sharing. Consistent with Tierney, Farmer, and Graen (1999), the email sent to each coworker named all employees' who listed his/her name. Therefore, coworkers would possibly complete multiple electronic surveys if more than one employee named them as a contact-person. I sent a follow-up e-mail reminder to employees' coworkers one week later.

To obtain survey-respondents' supervisors, I followed the technique used by Morrison and Phelps (1999) by asking employees for their permission to contact their supervisor while they were completing the electronic survey. I informed employees that it was their choice whether or not to give their supervisor's name and they were allowed to continue with the survey even if they chose not to respond to this particular question.

Consistent with Zhou and George (2001), I also obtained the names of employees' supervisors from the company's roster or organizational chart. I then sent an email along with an URL link to supervisors asking them to evaluate each of their employees by answering thirty-six questions on his/her performance-tip sharing. By asking supervisors to evaluate all of their subordinates rather than only employees, no employee was singled out as a study-participant nor as someone in need of evaluation. If an employee did not provide the name of his or her supervisor when completing the survey, I did not match the employees' data to that of his or her supervisor. In addition, I used the surveys completed by supervisors regarding their employees who were not actual study participants in order to test for non-response bias. I sent a follow-up e-mail reminder to employees' supervisors one week later.

Sample

Surveys were received from 203 employees representing an overall response rate of 24 percent. Of these survey respondents, 151 came from employees working for the Office of Business, Budget, and Financial Affairs and 52 came from employees working for Technology Resources. Survey respondents worked across a number of job types with information technology (29%), finance and accounting (23%), and environmental or public safety (10.5%) being the most frequently represented. Sixty-seven percent of respondents reported that they held a "college degree" (responses could range from "high school diploma" to "post graduate degree"). With regard to hierarchical level, fifty-percent of respondents held supervisory positions and the remaining fifty-percent worked in non-supervisory positions. The average organizational tenure was 14.7 years (ranging from 2 months to 40 years); and the average departmental tenure was 11.6 years (ranging

from 2 months to 40 years). Of these 203 respondents, 52.2% are women and 45.8% are men (2% chose not to disclose their gender); 76.4% are White and 20.7% are non-White (2.9% chose not to disclose their race). The average age of the respondents was 41 years.

I used the university's ad-hoc query tool, which provides essential statistical information and data about employees and found that males made up 59% while females made up 41% of my study population. Whites comprised 67% while non-Whites comprised 33% of the population. Thus, I concluded that my sample was representative of the study population. The means, standard deviations, and correlations among all of the study variables are shown in Table 1.

Hypothesis-Testing Sample

Although I collected data regarding employees' performance tip-sharing behaviors from their supervisors and coworkers, there were a limited number of employee-supervisor (N=65) and employee-coworker (N=105) matched pairs. As a result, testing my study hypotheses only using a sample of matched employee-supervisor or employee-coworker pairs would have reduced my sample size by half.

Therefore, to test my hypotheses, I used the following: (1) a sample of all survey participants and (2) a smaller sample of matched coworker-pairs (N=105). It is appropriate to consider self-responses as a way to test my hypotheses since individual's supervisors or coworkers do *not* observe some of these exchanges of interest in my study (coworker-targeted and organizationally-targeted performance tip-sharing) and/or employees are selective about which tips they share (cf., Amabile, Barsade, Mueller, & Staw, 2006). While testing my data via self-report risks common method-bias, I will test for the presence of that in my data using procedures advised for this (Podsakoff,

MacKenzie, Lee, & Podsakoff, 2003). Additionally, if I find significant interaction-effects in my data, this reduces the likelihood that common methods-bias is present (Podsakoff & Organ, 1986).

Non-response Bias Sample

Included among my data are thirty-seven surveys that came from supervisors (N=15) and coworkers (N=23) assessing the performance tip-sharing behaviors of employees who had been randomly selected to participate in the study but chose not to participate; I refer to these as “pairless surveys” from supervisors and coworkers, respectively. I used the latter set of pairless surveys to test for non-response bias. In order to run the statistical test for non-response bias, I compared these thirty-seven “pairless” surveys by supervisors and coworkers to the employee-supervisor (N=65) and employee-coworker (N=105) matched pairs surveys. The analysis of variance (ANOVA) results revealed no significant differences between the supervisor-only randomly selected employees and supervisor-assessed survey respondents on their levels of coworker- (M = 5.16 and 5.45, respectively) and organizationally-targeted (M = 4.34 and 4.58, respectively) performance tip-sharing. The analysis of variance (ANOVA) results also revealed no significant differences between the coworker-only randomly selected employees and coworker-assessed survey respondents on their levels of coworker- (M = 4.95 and 5.48, respectively) and organizationally-targeted (M = 4.84 and 4.81, respectively) performance tip-sharing. Based on these findings I concluded that the performance tip-sharing behaviors of those employees who did not participate in the study were comparable to the sample participants.

Measures

My measures consist of control variables, exogenous variables, and endogenous variables, which I describe next, each in turn. For all measures, unless otherwise specified, employees were asked to indicate via a 7-point Likert scale (where 1 = strongly disagree, 7 = strongly agree) the extent to which they agree with a specified set of statements.

Control variables

There were five control variables that I measured for this study, whose selection is due to their having previously been found to be significantly related to helping behaviors and/or recently controlled for in the studies by Eisenberger et al. (2001) and Morrison and Phelps (2001) whose work I am building on. Specifically, consistent with one or both of the latter two studies, I measured the following as potential control variables and did so in the ways that these measures were taken in previous studies. First, I controlled for work type (i.e., supervisor or non-supervisor) since hierarchical level, when controlled for by Morrison and Phelps (2001), was found to be positively associated with employees' taking charge behavior. Secondly, and similar to Eisenberger et al. (2001) I controlled for (1) departmental tenure (in months) and (2) organizational tenure (in months) in order to rule out the possibility that performance tip-sharing "might be an artifact of tenure (p.47)." Third, I controlled for positive affectivity since the knowledge-sharing (KS) literature has identified positive affectivity and/or other variables that are conceptually related (e.g., mood) as one of the "levers" for getting employees to share their knowledge (Eisenberger, et al., 2001). Fourth, and finally, I controlled for respondents' organization (i.e., Technology Resources or Office of Business, Budget, and

Financial Affairs) in order to exclude the likelihood that employees working in technological- versus non-technologically oriented jobs would explain employees' performance-tip sharing behaviors.

I measured positive affectivity with the items used by Watson, Clark, and Tellegen (1988) and Eisenberger, et al. (2001) to assess this; these items are shown in Appendix A. I controlled for respondents' organization (0= Technology Resources; 1= Office of Business, Budget, and Financial Affairs) and work type (0=non-supervisory; 1=supervisory) using dichotomous scales. The control variables ultimately used when testing my hypotheses included only those that were significantly related to the variables shown in the theoretical model I am testing—namely, the model shown in Figure 2; these were organization, work type, and positive affectivity.

Exogenous Variables

Perceived organizational support (POS)

To assess POS, I used the eight items for measuring perceived organizational support by Eisenberger, Cummings, Armeli, and Lynch (1997). Respondents were asked to indicate on the 7-point Likert scale how strongly they agreed with the following statements: (1) The organization strongly considers my goals and values, (2) Help is available from the organization when I have a problem, (3) The organization really cares about my well-being, (4) The organization is willing to help me when I need a special favor, (5) If given the opportunity, the organization would take advantage of me, (6) The organization shows very little concern for me, (7) The organization cares about my opinions, and (8) The organization would forgive an honest mistake on my part. The eighth and final item loaded on three separate components in the rotated factor analysis

and was thus dropped from any remaining statistical analyses. The alpha reliability for the above seven POS items was .91.

Perceived coworker support (CWS)

To measure employees' perception of CWS, I used Ladd and Henry's (2002) nine-item Survey of Perceived Coworker Support, which is based on Eisenberger et al.'s (1986) POS measure. Respondents were asked to indicate on the 7-point Likert scale how strongly they agreed with the following statements: (1) My coworkers are supportive of my goals and values, (2) Help is available from my coworkers when I have a problem, (3) My coworkers really care about my well-being, (4) My coworkers are willing to offer assistance to help me perform my job to the best of my ability, (5) Even if I did the best job possible, my coworkers would fail to notice, (6) My coworkers care about my general satisfaction at work, (7) My coworkers show very little concern for me, (8) My coworkers care about my opinions, and (9) My coworkers are complimentary of my accomplishments at work. The alpha reliability for the above nine CWS items was .93.

Perceived lack of adequate technological resources

I measured employees' perceptions of the adequacy of their technological resources with items related to those used by Fulk, et al. (2004) to assess the costs associated with contributing to and retrieving information from an electronic database. Specifically, I asked employees to indicate via the 7-point Likert scale how strongly they agreed with the following four statements: (1) The databases designed for idea sharing are difficult to use, (2) Using my organization's intranet is time consuming, (3) My efforts to share information via the intranet often prevent me from efficiently completing other tasks, and (4) My organization provides technology that makes it easy to share

information with others (reverse-scored). The alpha reliability for the above four technological inadequacy items was .75.

Expectation of rewards for sharing insights

I assessed employees' expectation that they would be rewarded for sharing performance-tips by asking them to indicate via a 7-point Likert scale (where 1 = Very Unlikely, 7 = Very Likely) how likely it would be that, after they shared performance tips, they would: (1) gain recognition as a good citizen (reverse-scored), (2) be identified as a candidate for a promotion (reverse-scored), and (3) receive more pay as a result of helping others (reverse-scored). I reverse-scored these items in order to be consistent with my theorizing regarding the effect of employees' expectation of *not being rewarded* for sharing performance-tips. Additionally, items #2 and #3 are consistent with the types of rewards identified by Bartol and Srivastava's (2002) theorizing as likely motivators of knowledge-sharing. Items #1 through #3 were all adapted from a scale used by Sims, Jr., Szilagyi, and McKemey (1976) to assess employees' perceptions regarding the instrumentality between the quality and speed of their work and their receipt of rewards. Their difference from Sims et al.'s scale lies in the fact that my items referred to consequences of knowledge-sharing, whereas Sims et al.'s scale referred to consequences of doing work with high-quality and speed. Additionally, Sims et al.'s reference to being viewed as a good citizen named the supervisor as the evaluator, whereas my item refers to "gain recognition as a good citizen" *without* naming any particular source; this is because I believe it is likely that coworkers as well as supervisors might view knowledge-sharers as good citizens. Finally, unlike Sims et al.'s scale which included the probability of timely and speedy employees gaining "more influence," I referred respondents to the

likelihood that tip-sharers may be candidates for promotion. The alpha reliability for the above three reward-expectancy items was .69.

Employees' physical proximity to each other

To measure employees' physical proximity to each other, I asked employees to indicate via the 7-point Likert scale how strongly they agreed with the following statement used previously for this purpose by Mortenson and Hinds (2001): "In general, my coworkers have work locations that are long distance from me."

Endogenous Variables

Employees' obligation toward the organization

I measured employees' feelings of obligation toward the organization with items from Eisenberger et al. (2001). I chose Eisenberger et al.'s (2001) measure of felt obligation rather than Morrison and Phelps' (1999) measure of felt responsibility because their items regarding felt responsibility assess employees' felt accountability about making improvements or changes at work rather than their general obligation to the organization. To be sure that respondents were thinking specifically of their organizations as opposed to their coworkers, team, work unit, or department, *the survey instructed respondents to think about their organization as a whole*. Specifically, I asked participants to indicate via the 7-point Likert scale how strongly they agreed with the following seven statements: (1) I feel a personal obligation to do whatever I can to help my organization achieve its goals, (2) I owe it to my organization to give 100% of my energy to its goals while I am at work, (3) I have an obligation to my organization to ensure that I produce high-quality work, (4) I owe it to my organization to do what I can to ensure that customers are well-served and satisfied, (5) I would feel an obligation to

take time from my personal schedule to help my organization if it needed my help, (6) I would feel guilty if I did not meet the organization's performance standards, and (7) I feel that the only obligation I have to my organization is to fulfill the minimum requirements of my job (reversed). The alpha reliability for the above seven organizational obligation items was .88.

Employees' frequency of sharing performance-tips

Employees' frequency of sharing performance-tips was assessed via self-report on the questionnaires received by the employees randomly-selected to participate in this study with questions that initially regarded "general performance tip-sharing" and then with questions that regarded the target of such tip-sharing (i.e., the entire organization versus specific coworkers). Additionally, questions regarding the focal employees' organizationally-directed and coworker-directed performance-tip sharing were answered in a separate survey received by study participants' supervisors and/or coworkers. Next, I describe how employees' performance tip-sharing was assessed *in general* and *specific ways*, each in turn.

General Performance Tip-sharing. To assess employees' frequency of sharing performance-tips *in general*, I asked participants to indicate via a 7-point Likert scale how strongly they agreed with twelve statements. Of these twelve statements, six were adapted from Zhou and George's (2001) measure of "creativity," four were adapted from Morrison and Phelps' (1999) measure of "taking charge," and two were adapted from Eisenberger et al.'s (2001) measure of "organizational spontaneity." My use of the word "communicate" in all of my items is the only way my items differed from their original sources. More specifically, the statements adapted from Zhou and George (2001) were:

(1) I often communicate new ways regarding how to achieve goals or objectives, (2) I often communicate new and practical ideas about how to improve performance, (3) I often communicate new technologies, processes, techniques, and/or product ideas, (4) I often communicate new ways to increase quality, (5) I often communicate creative solutions to problems, and (6) I often communicate new ways of performing work tasks. The four statements adapted from Morrison and Phelps' (1999) were: (7) I often communicate ways to adopt improved procedures for doing jobs, (8) I often communicate how to change how jobs are executed in order to be more effective, (9) I often make constructive suggestions for improving how things operate within the organization, and (10) I often try to suggest how to correct faulty procedures or practices. The two statements adapted from Eisenberger et al.'s (2001) were: (11) I often communicate constructive suggestions I have for how to improve the overall functioning of my work group, and (12) I often communicate how I look for new ways to improve the effectiveness of my work. The alpha reliability for employees' general performance tip-sharing was 0.96.

Specific type of performance-tip sharing. Immediately following *each* general behavioral statement regarding performance tip-sharing (shown above) respondents were asked to indicate via the 7-point Likert scale how strongly they agreed with the following two statements, each of which were indented beneath the general behavioral-statement preceding it: "*I do this in a coworker-targeted way (e.g., face-to-face, private email, etc.)*" and "*I do this in an organizationally-distributed way (e.g., LISTSERV, database entry, etc.)*." The first versus second statement assessed the frequency with which employees share performance-tips in a *coworker-targeted manner* versus

organizationally-distributed manner, respectively. The “this” in each of these statements (the coworker-targeted and organizationally-distributed statements) referred respondents to the general statement immediately preceding it. For example, after reading “I often communicate new ways regarding how to achieve goals or objectives,” respondents then answered via the Likert scale how strongly they agreed that they “...do this in a coworker-targeted way (e.g., face-to-face, private email, etc.)” and they next indicated how strongly they agreed that they “... do this in an organizationally-distributed way (e.g., LISTSERV, database entry, etc.)” This format continued for each of the twelve statements listed above. The alpha reliabilities for organizationally-targeted and coworker-targeted performance tip-sharing were 0.99 and .97, respectively.

Supervisor- and Coworker-Assessed Performance Tip-sharing

To assess the supervisor’s and coworker’s perception of the frequency with which employees share performance-tips, the procedure for assessing this via self-report (described above) was repeated with one difference: this difference was that the name of the employee being evaluated (rather than “I”) was the referent in these items. First, I asked employees’ supervisors and coworkers to assess their frequency of sharing performance-tips *in general*, by asking them to indicate how strongly they agreed with the twelve statements listed above. The alpha reliabilities for *supervisor* and *coworker* rated *general* performance tip-sharing were 0.98 and 0.98, respectively. Secondly, I asked supervisors and coworkers to assess employees’ performance tip-sharing in a coworker-targeted versus organizationally-distributed manner. The alpha reliabilities for *supervisor* rated organizationally-targeted and coworker-targeted performance tip-sharing were 0.98 and 0.99, respectively. The alpha reliabilities for *coworker* rated

organizationally-targeted and coworker-targeted performance tip-sharing were 0.98 and 0.98, respectively.

CHAPTER 4: DATA ANALYSIS AND RESULTS

The intercorrelations among the study variables are shown in Table 1; alpha-coefficients are shown in parentheses along the diagonal. Before testing my hypotheses I did several things. First, I tested to see which of the control variables significantly influenced the variables in my study so that these could be statistically controlled for when testing hypothesized relationships. Positive affectivity was significantly correlated with POS, CWS, organizational obligation, reward expectation, perceived technological adequacy, and performance tip-sharing. Work type was significantly correlated with POS, organizational obligation, and performance tip-sharing. Organization was significantly correlated with CWS and performance tip-sharing. As a result, as recommended by Aiken and West (1991), these three mean centered variables were entered first (in Block 1) followed by the main effects (in Block 2) and the interaction terms (in Block 3 - where appropriate) in all hierarchical regression equations that I constructed for hypothesis-testing.

Insert Table 1 about here

Secondly, I conducted an exploratory factor analysis (EFA) with a standard eigenvalue cutoff of 1.0 in order to determine whether highly correlated constructs were indeed distinct from each other. I chose EFA rather than confirmatory factor analysis (CFA) because the sample size was too small to enable me to subject the 60 survey-items to a single CFA (Bentler & Chou, 1987), and because several of the scales used in this study were being used for the first time. More specifically, I ran two EFAs. The first of these regarded the uniqueness of predictor variables (POS, CWS, PANAS, and

organization obligation) since these variables, as shown in Table 1, are highly intercorrelated with each other; and the second EFA regarded the distinctiveness of what I refer to as “organizationally-targeted” versus “coworker-targeted” performance tip-sharing. With regard to EFA #1, criteria leading me to conclude that POS, CWS, positive affectivity, and organization obligation were indeed distinct from each other include: (1) the pattern component matrix after Oblique rotation in the EFA’s results extracted four factors; (2) as can be seen in Table 2, all of the items loaded on their apriori scales and they did not cross-load on others (3) the four constructs explained 63 percent of the total variance in the data (compared to 58, 50, and 36 percent variance explained by a three, two, or one factor structure, respectively). The latter criteria were also used in other studies to determine construct independence (Child, 1990; Kirkman & Shapiro, 1997). With regard to EFA #2, criteria leading me to conclude that there were indeed two distinct types of performance tip-sharing include: (1) the pattern component matrix after Oblique rotation in the EFA’s results produced a two-factor solution; and (2) as can be seen in Table 3, all of the items assessing organizationally-targeted performance tip-sharing loaded on one factor; whereas all of the items assessing coworker-targeted performance tip-sharing loaded together on a separate factor, regardless of whether the items were adapted from the work of Morrison and Phelps (1999) or Zhou and George (2000). In both Tables 2 and 3, the factor loadings for each distinct construct are shown beneath their respective column headings. With the constructs’ independence clearly demonstrated, I proceeded to test my hypotheses.

Insert Tables 2 and 3 about here

Results of Hypothesis Testing

Hypothesis 1 predicted that employees would tend to report a higher frequency of sharing performance tips in organizationally-targeted (technologically-assisted) ways when they felt more rather than less obligated to their organization, but this relationship would be weaker when employees perceive that they have inadequate technological resources to do so. Evidence showing that there was indeed a significant “organizational obligation x perceived adequacy of technology interaction-effect” is found in Column 3 of Table 4 where this interaction-term is significant ($\beta = 0.19, p < .05, R^2=.10$).

Insert Table 4 about here

To interpret this interaction, I followed the procedures that are recommended by Aiken and West (1991). First, I plotted the interaction using plus or minus one standard deviation above and below the mean for organizational obligation at the mean score for perceived adequacy of technological resources. As shown graphically in Figure 3, when employees perceive that their technological resources are adequate (as represented by the dotted line), they engage in more frequent organizationally-targeted performance-tips; however, this is true only when they also feel higher rather than low levels of organizational obligation. In contrast, when they perceive that their technological resources are inadequate, their level of organizationally-targeted performance-tips is nearly the same as that provided by employees with lower levels of organizational obligation. This near equivalence is visually seen in Figure 3 by the fact that the dotted line and the solid line under low levels of organizational obligation are nearly touching each other. Second, I conducted a simple slopes test. Reliable positive relationships were found where expected—namely, between organizationally-targeted performance tip-

sharing and the mean of technological resources at 1 SD above the mean organizational obligation score ($\beta = 0.30$, $t = 2.06$, $P < .05$). Third and finally, I tested the organizational obligation x perceived adequacy of technology interaction-effect on coworker-targeted performance tip-sharing and, consistent with my prediction, there was no significant effect. Therefore, Hypothesis 1 is supported.

Insert Figure 3 about here

Hypothesis 2 predicted that employees would tend to report a higher frequency of sharing performance tips in coworker-targeted ways when they felt more rather than less obligated to their organization, and that this relationship would be weaker when employees perceived their proximity to their coworkers to be more distant than close. Evidence supporting this can be seen in Column 3 of Table 5 where the organizational obligation x physical proximity interaction-term is significant ($\beta = -0.13$, $p < .05$, $R^2 = .15$). To see if this interaction was in the predicted direction I followed the two-step procedure as suggested by Aiken and West (1991). First, I plotted the interaction using the mean of organizational obligation and plus or minus one standard deviation above and below the mean of physical proximity. As shown graphically in Figure 4, when employees perceive their proximity to coworkers to be less distant, they tend to engage in more coworker-targeted performance tip-sharing; however, this is true only when they also feel obligated to their organizations. In contrast, when they perceive their proximity to coworkers is more distant, their levels of coworker-targeted performance-tips is nearly the same as that provided by employees with lower levels of organizational obligation. This near equivalence is visually seen in Figure 4 by the fact that the dotted line and the

solid line under low levels of organizational obligation are nearly touching each other. Second, I conducted a simple slopes test. Reliable positive relationships were found where expected—namely, between coworker-targeted performance tip-sharing and organizational obligation at 1 SD above the mean physical proximity score ($\beta = 0.45$, $t = 2.48$, $P < .01$).

Also consistent with my theorizing, the organizational obligation x physical proximity interaction-term had no significant effect on *organizationally*-targeted performance tip sharing. Hence, the moderating effect of physical proximity does seem to matter more for coworker-targeted performance tip-sharing. Thus, Hypothesis 2 is supported.

Insert Table 5 and Figure 4 about here

Hypothesis 3 predicted that employees would tend to report a higher frequency of sharing performance tips in coworker-targeted and in organizationally-targeted ways when they felt more rather than less obligated to their organization, and that this relationship would be weaker when employees did *not* expect rewards for sharing performance-tips. With regard to coworker-targeted performance tip-sharing, supportive evidence is found in Column 3 of Table 6 where the organizational obligation x reward expectation interaction-term is significant ($\beta = -0.26$, $p < .001$, $R^2=.18$). To see if this interaction was in the predicted direction I followed the two-step procedure as suggested by Aiken and West (1991). First, I plotted the interaction using the mean for organizational obligation and plus and minus one standard deviation above and below the mean for reward-related expectations. As shown graphically in Figure 5, these findings are in the predicted direction. As can be seen by the solid line in this Figure, when

employees expect to be rewarded, they tend to engage in more coworker-targeted performance tip-sharing; however, this is true only when they feel obligated to their organizations. In contrast, when they do not expect to be rewarded, their levels of coworker-targeted performance-tips is nearly the same as that provided by employees with lower levels of organizational obligation. This near equivalence is visually seen in Figure 5 by the fact that the dotted line and the solid line under low levels of organizational obligation are nearly touching each other. Secondly, I conducted a simple slopes test. Reliable positive relationships were found where expected—namely, between coworker-targeted performance tip-sharing and organizational obligation at 1 SD above the mean reward expectation score ($\beta = 0.69$, $t = 3.37$, $P < .001$).

Yet, with regard to organizationally-targeted performance tip-sharing, Hypothesis 3 received only partial support; this is evidenced also in Table 6 in Column 3 where the organizational obligation x reward expectation interaction-term is marginally significant ($\beta = 0.18$, $p < .10$, $R^2=.12$). Cumulatively, then, these findings suggest that employees' expectations about knowledge-sharing rewards matters more for coworker- rather than organizationally-targeted communications. Thus, Hypothesis 3 is marginally supported.

Insert Table 6 and Figure 5 about here

Hypothesis 4 predicted that employees' feelings of organizational obligation would be significantly positively associated with both POS and CWS, and that employees' feelings of obligation would be explained more by POS than CWS. Consistent with this, Table 7 shows that POS explains significant variance in employees' feelings of obligation beyond that explained by CWS but the reverse is not the case. More

specifically, in Table 7 it can be seen that when CWS is entered before POS, 33% of variance in organizational obligation is explained, and after POS is added that percentage increases by 9% (as shown in Column 3); whereas when POS is entered before CWS, 42% of variance in organizational obligation is explained, and after CWS is added this variance-explained does not at all change (as shown in Column 2). Thus, Hypothesis 4's prediction that POS is the dominant predictor is supported.

Insert Table 7 about here

Matched-pair results

I also tested whether the effects of each of the moderators on the relationship between employees' high levels of obligation and performance tip sharing in organizationally- or coworker-targeted ways would also be true when employees' *coworkers* evaluated their organizationally-targeted performance tip-sharing behaviors. First, I reconstructed the hierarchical regression equations described above; however, I regressed the interaction-terms on *coworker*-rated organizationally-targeted performance tip-sharing. Second, I requested the confidence intervals in the regression coefficients dialogue box of SPSS. This test allows me to define the interval within which the true value of the unstandardized beta coefficient of each of the interaction terms is contained within a 95% probability plus or minus two times the standard error. The unstandardized beta for each of the two-way interaction terms fell within the upper- and lower-bounds. The latter results indicate that the predicted value of either coworker- or organizationally-targeted performance tip-sharing is expected to increase (decrease) by one unit for every one unit increase (decrease) in the moderator if organizational obligation is held constant.

Thus, supported findings for each of the moderating effects discussed above are also applicable when performance tip-sharing is assessed via coworker ratings.

Discussion

Taken together, my findings lead me to three conclusions. First, employees who are more obligated to their organization will *not* necessarily engage in more organizationally- and coworker-targeted performance tip-sharing; instead, the tendency for more organizationally obligated employees to engage in more performance tip-sharing depends on: (1) employees' perceived adequacy of technological resources, (2) employees' expectation that they will be rewarded for sharing insights, and (3) employees' frequency of communicating in interpersonal ways with coworkers. A second conclusion guided by my findings is that the latter three moderating variables influence different types of performance tip-sharing. Specifically, employees' perceptions of the adequacy of their technological resources influences the extent to which organizationally obligated employees engage in *organizationally-targeted*, but not coworker-targeted, performance tip-sharing. In contrast, employees' physical proximity with each other and employees' expectation of being rewarded influences whether they engage in *coworker-targeted*, but not in organizationally-targeted, performance tip sharing. A third conclusion guided by my findings is that both CWS and POS influence the extent to which employees feel organizationally obligated, although the latter is more influential than the former. Theoretical and practical implications of these three conclusions are discussed next each in turn.

Conclusion #1: Organizationally-obligated Employees are *Not* Always more Helpful

To say that organizationally-obligated employees are *not* always more helpful runs counter to the conclusions made by Morrison and Phelps (1999). Specifically, Morrison and Phelps (1999, p. 414) stated employees are more likely to take charge when “...they perceived top management as open to employee suggestions and to employee-initiated change” and when “... they had a high level of self-efficacy and an internalized sense of responsibility for bringing about change in their workplaces.” Based on my findings, the latter statements need to be qualified to say that employees will be more likely to share insights *technologically (hence potentially to an organization-wide audience)* when they feel, in addition to a sense of responsibility or obligation, confident that they have the technological resources needed to do this. Interestingly, Morrison and Phelps (1999) identified “self-efficacy” as another predictor of “taking charge,” so perhaps my study helps to identify more specifically *how self-efficacy may be enhanced*—namely, by providing employees adequate technological resources. While the latter prescription may seem obvious, it is precisely concern about technological resources being inadequate (including training to use these resources) that often explains why employees are reluctant to use the database systems that organizations have invested in (Gilbert, et al., 2003; Ribiere & Sitar, 2003).

The importance of technological resource-adequacy was found in my study to be greater in influencing employees’ choice to share tips in organizationally-targeted, not coworker-targeted, ways. Factors influencing the latter type of performance tip-sharing tended instead to be more social in nature (as described in the section below). Thus, my findings suggest that conclusions regarding the organizational obligation-helping

relationship need to be nuanced by *when* organizationally obligated employees will be more helpful and by the *type* of help (such as the type of performance tip-sharing) employees are engaging in.

The qualifications that I have just identified as needed for future theorizing regarding the organizational obligation-helping relationship have several practical implications too. First, managers need to ask what type of performance tip-sharing they wish to encourage employees to engage in. Next, if managers' goal is to encourage employees to share tips in an organizationally-targeted way, hence via communications requiring technology, then managers need to focus on ways to increase the adequacy of employees' technological resources, including training needed for them to efficiently use them. Doing so promises to reduce technophobias as a result of lack of confidence about how to use available technology (cf. Gilbert, et al., 2003; Ribiere & Sitar, 2003). Additional ways to increase employees' perceptions of technology-related adequacy is for managers to implement computer systems that are easy, simple, and not too time-consuming for employees to use (cf. Fulk et al., 2004). Managers might also consider investing in technical support or service plans in case of computer malfunctions so that "downtime" is minimized (cf. Brown & Mitchell, 1993). Finally, managers should work to reduce logistical difficulties or bureaucracies that employees may face in accessing technology resources. As an example, they should ensure that employees do not need management approval before uploading a performance-tip into their organizations electronic repository or database.

If the type of performance tip-sharing of interest to managers is instead coworker-targeted, as may be the case when managers wish to minimize training-costs, then

managers need to focus on ways to increase employees' feelings of CWS and opportunities to engage in face-to-face communications with coworkers. In an age where telecommuting and globally-distributed teams have increasingly become a norm, it is probably increasingly difficult to enable coworkers to be proximate to each other. Nevertheless, even for team members or coworkers who work long distance from each other, it is critical that "face-time" be provided to them, even if this is done virtually (cf., Axtell et al., 2004; Shapiro, Furst, Spreitzer, & Von Glinow, 2002).

Conclusion #2: Coworker- versus Organizationally-targeted Performance Tip-sharing have Different Antecedents

To say that coworker- and organizationally-targeted performance tip-sharing have different antecedents is a conclusion that could not have been made by Eisenberger et al. (2001), Morrison and Phelps (1999), nor Zhou and George (2001). This is because their studies of conditions motivating knowledge-sharing (albeit called by different construct-names) did not distinguish whether coworkers versus the organization was the target of employees' creative suggestions. Consistent with the theorizing of Williams and Anderson (1991) who identified the importance of identifying organizational citizenship behaviors (OCBs) as interpersonally- versus organizationally-focused (termed "OCB-I" and "OCB-O," respectively), I believe this is important for future work on knowledge-sharing. Interestingly, although Williams and Anderson identified these two types of helping behaviors in general, they did not focus on *knowledge-sharing* behaviors as I did. Because the type of helping behaviors they characterized as "I" versus "O" in orientation included many types (e.g., sportsmanship, civic virtue, altruism, courtesy, conscientiousness, etc.), there is no discernible pattern regarding which antecedents

predict OCB-I versus OCB-O. Moreover, since the questionnaire-items that Williams and Anderson used to assess predicted antecedents to helping that is “OCB-I” (coworker-oriented) versus “OCB-O” (organization-directed) mixed together references to “manager” and “coworkers.” It is thus not surprising that they found predictors of the two types of helping to be non-distinct. As a result, previous work on OCB-I and OCB-O has not identified which set of antecedents leads to one versus the other type of behavior. Thus, my study offers a starting point, given that the “I” and “O” that I have essentially studied each regard the same kind of helping behavior—namely, the sharing of performance-tips. My findings suggest, more specifically, that social factors (such as CWS and opportunities to interact with coworkers) and reward-expectations more strongly influence employees’ likelihood of engaging in interpersonal (e.g., coworker-targeted) tip-sharing whereas technological factors (such as those mentioned above) more strongly influence employees’ likelihood of engaging in organizationally-targeted tip-sharing.

Managers, not only management scholars, can benefit by increasing their sensitivity to the fact that there are different ways for employees to share performance-tips, and that coworker-targeted versus organizationally-targeted tip-sharing have different antecedents. The actions I have suggested above (e.g., increasing technology-adequacy in the case of organizationally-targeted tip-sharing and increasing coworker-interaction opportunities in the case of coworker-targeted tip-sharing) speak again to this point. Additionally, sensitizing managers to the fact that performance tip-sharing need *not* occur in technological ways should also help managers recognize possibly less costly ways to increasing the learning that goes on in their organizations.

Many different behaviors have been found to increase in frequency when their occurrence is perceptually linked to attractive rewards (Schnake, 1997; Van Scotter, Motowidlo, & Cross, 2000), which is why I expected perceived reward-instrumentality to moderate both of the tip-sharing behaviors' relationship with employees' felt obligation; however, I found this moderating effect to occur only when coworker-targeted, not organization-targeted, tip-sharing was examined. There are two possible explanations for why perceived reward-instrumentality moderated the relationship that personally-targeted tip-sharing had with employees' felt obligation. First, employees may believe that their tip-sharing will be more noticed, hence more likely to be rewarded, by coworkers whom they specifically target rather than by a mass audience (such as LISTSERV-members), many of whom they may not personally know. Secondly, employees' feelings of obligation might pertain more to their coworkers than to their organization. Indirect support for this can be seen in the correlation matrix where the Pearson correlation that organizational obligation has with personally- versus organization-targeted tip-sharing is slightly stronger ($r = 0.22, p < .01$ versus $r = .16, p < .05$, respectively).

Managers interested in increasing employees' levels of organization-targeted performance tip-sharing may want to help employees understand that each time they add insights to a database or use other technological mechanisms for sharing creative ideas, these insights and they as their source *will* be appreciated and rewarded. Increasing employees' awareness that managers are aware of all types of knowledge-sharing behaviors ought to increase the frequency that all types of knowledge-sharing will occur. Consistent with this, the performance appraisal literature in general has shown that employees tend to expect rewards to be associated with whatever performance-related

behaviors get measured (Ilgen, Barnes-Farrell, & McKellin, 1993) and to generally engage more in the behaviors that do rather than do not get measured (Ilgen, et al., 1993). In summary, managers as well as management scholars can benefit by thinking about “knowledge-sharing” in two forms and in identifying actions that are likely to increase employees’ likelihood of engaging in one form or another, if not both.

Conclusion #3: CWS, not just POS, influences Organizational Obligation

My third conclusion is that CWS, not just POS, influences organizational obligation. This is based on my finding that both of these perceptions significantly influenced employees’ level of organizational obligation. This suggests that managers do not *alone* determine how organizationally obligated employees will feel; rather, coworkers can (and do) play an important role in determining this. Although Mossholder, Settoon, and Henagan (2005) has linked CWS to coworker obligation, this is the first study I know of to link CWS to *organizational* obligation. The measure of CWS, because it consists of support related perceptions, does not tell us what coworkers are actually doing to create a supportive work environment and in turn feelings of organizational obligation. One possible way that employees may enhance feelings of support and organizational obligation is by rewarding their coworkers by recognizing their successes on work tasks. This is consistent with one of the items in the CWS scale which suggests that employees want their best efforts to be noticed by their coworkers. Therefore, noticing or recognizing successful performance need *not* be limited to managers. Toward this end, many companies implement 360° feedback programs designed so that employees give each other feedback on their performance (Fedor, Davis, Maslyn, & Mathieson, 2001). Such systems, often called “self-managing,” have been

found to increase employees' feeling of accountability (Barker, 1993): however, more positively, these same systems may be increasing feelings of organizational obligation. Future research is needed to determine what coworkers versus managers may do to increase feelings of organizational obligation.

Feelings of CWS may also possibly be strengthened by actions taken by managers, not just coworkers. These include providing employees with relationship-building events. Toward this end, companies such as Leading Concepts, Inc. conduct what they call "immersion team-building courses" (Wagner, Baldwin, & Roland, 1991; Rosenbaum, 1997), in which employees participate in outdoor survival and/or mental activities that allow them to reflect on their learning experiences and help them transfer the knowledge and skills learned to a work context (Meyer, 2003). Such activities help to ensure that employees have opportunities to familiarize themselves with and grow to trust their colleagues. Also consistent with my thinking Williams, Graham, and Baker (2003) reviewed the empirical literature on outdoor leadership and team development techniques for individuals and/or groups of participants. Williams et al. (p.45) stated: "improving leadership skills, improving problem-solving skills, increasing trust [among participants], and improving communication [among participants] – reveals why OET [outdoor experiential training] is so popular." Do such relationship-building experiences transfer, ultimately, into greater coworker-targeted performance tip-sharing? This is a question in need of future research.

Although CWS as well as POS explain employees' level of organizational obligation, let me underscore that the former explained significantly more variance than CWS did. As a result, *managers or other organizational authorities who are typically*

associated with POS-perceptions should probably not abdicate to coworkers the job of creating a supportive work environment. However, organizational authorities may want to think more creatively than perhaps they have to date about how to involve non-authorities in creating work environments that employees will perceive as supportive. The importance of support-perceptions is due to the fact that employees do tend to feel more organizationally obligated to more rather than less supportive organizations (as was again the case in this study); and obligation does tend to increase employees' helpfulness. Importantly, as already noted above, this study's findings helps to illuminate *when* the obligation-help relationship is more rather than less likely to occur, and *how* (i.e., in what type of performance tip-sharing).

Limitations of the Study

Despite this study's contributions, it is not without limitations. First, all of the variables were assessed with self-report data. As a result, I followed the recommendations of Podsakoff and Organ (1986) to assess whether there was a possibility of common-method variance. Same-source bias was not a significant problem since the first component, organizationally-targeted performance tip-sharing, did not account for the majority of the covariance among the measures and explained only 19 percent of the total variance in the unrotated factor solution. I also followed the more recent suggestions of Podsakoff, et al. (2003) by designing my study in order to avoid common-method variance. In particular, I separated the measures on the questionnaire, reverse scored a number of questionnaire items, and informed participants that their responses would be kept confidential. Potential same source bias is also minimal since the matched pair coworker sample-findings also support my hypotheses. Additionally,

the three significant interaction-effects that I found when analyzing my data are an indication of the absence of common methods-bias (Podsakoff & Organ, 1986). Future research will ideally use multiple sources (i.e., coworkers and supervisors as well as self-reporting employees) to evaluate how much, and in what form, knowledge-sharing is occurring in their organization. Specifically, future research might examine whether coworkers provide the best evaluations of “private” knowledge sharing while supervisors provide the most insight regarding “public” knowledge-sharing (Uzzi & Lancaster, 2003). Doing this remains a challenge, however, when assessing variables that are not observable by others, such as most of the endogenous variables examined in this study.

A second limitation of this study is its inability to offer conclusions concerning causality due to the cross-sectional nature of the data. Moreover, one might theorize a different causal order among the variables shown in Figure 2. For example, since organizational obligation has been associated with helping behaviors, it is possible that more organizationally obligated employees are more prone to engage in more helpful behavior that will then cause employees to perceive more CWS. Future research that is longitudinal in nature and able to measure (via multiple sources) the variables examined in this study would improve the ability to draw causal conclusions.

A third limitation of this study is the single item measure of employees’ perceptions of whether their coworkers have work locations that are long distance from theirs. Although conclusions regarding relationships that contain this variable should be treated with caution, the measure captured employees’ perceptions of their proximity to their coworkers and moderated relationships between felt-obligation and coworker-targeted performance tip-sharing. Future research that that improves upon this measure

of geographic distance might include using mathematical equations, computer software (e.g., MAPQUEST.COM, etc.), or archival data to measure actual distance between employees and asking employees questions about how frequently they meet face-to-face with their coworkers.

A fourth limitation of my dissertation is that I conceptually treated the two types of performance tip-sharing as though they are mutually exclusive when, in fact, they can coincide in practice. For instance, it is possible that when an employee sends a tip on a LISTSERV (hence in an organizationally-targeted way), s/he may simultaneously be helping a specific colleague whom the employee knows is a member of that LISTSERV; indeed, possibly knowing that the LISTSERV includes a particular colleague or set of colleagues may motivate the employee to share his/her tip in the first place. This example illustrates that the two types of performance tip-sharing may not always be “either/or” choices. Assessing the motives of performance tip-sharers is necessary to understand whether their act of “organizationally-targeted” information-sharing is intended only for the organization versus for particular work colleagues. Hopefully, the performance tip-sharing scales created for this study will assist with future efforts to deepen understanding about the antecedents (including motives) guiding employees to share tips or other types of knowledge in various ways within their organizations.

APPENDIX A: CONTROL VARIABLES

Positive Affectivity

I assessed employees' levels of positive affectivity with ten items adapted from Watson, Clark, and Tellegen's (1988) PANAS scale and two additional (i.e., energetic and cheerful) items from Eisenberger, Armeli, Rexwinkel, Lynch, and Rhoades' (2001) measure of mood. Specifically, I asked employees to indicate on a five-point scale (1= Not at all; 2= A little; 3=moderately; 4=quite a bit; 5=very much) the extent to which they feel each of following twelve emotions on a *typical* day:

- (1) Enthusiastic
- (2) Interested
- (3) Determined
- (4) Excited
- (5) Inspired
- (6) Alert
- (7) Active
- (8) Strong
- (9) Proud
- (10) Attentive
- (11) Energetic
- (12) Cheerful

APPENDIX B: CIO AND/OR CKO RECRUITMENT LETTER



November 14, 2006

Dear John Doe
InfraSyst.com
One InfraSyst Way
Anytown, ST 00000

Dear John Doe:

I am contacting you regarding an important research project that regards the sharing of employees' performance-tips amongst employees and between employees and organization-wide members that is about to begin at the University of Maryland. Both practitioners and management scholars have become increasingly excited about this topic. In fact, over the past decade, many organizations, including those in the Pharmaceutical Industry, have invested nearly \$12 billion to implement knowledge management software and services to encourage performance-tip sharing among employees and/or between units/departments. The reason such investment has been made is due to the competitive advantages (including their frequency of innovative advances) that often accrue to organizations that LEARN more quickly and efficiently than others; and thus, a "learning organization" promises to be, also, a high-performing one. Although organizations may realize many benefits from knowledge-sharing software programs (e.g., the ability for departments to share common systems), ultimately it is the *employees' willingness to share* performance-tips that determines the "payoff" (i.e., the extent of intellectual capital) organizations reap as a result of their investment. Consequently, an understanding of *circumstances leading employees to more rather than less frequently share their performance-tips* is a matter of practical (e.g., financial, employee performance-based) importance.

I am working with a team of researchers at the Robert H. Smith School of Business at the University of Maryland, including Professor Debra Shapiro, whose objective is to identify the "levers" that encourage employees to share their performance-tips (via face-to-face exchanges as well as via software programs designed for knowledge-sharing). **We have spent the last 6 months thoroughly reviewing the motivational- and knowledge-sharing literature to identify a set of factors, including managerial actions, that we believe ought to motivate information-sharing of this kind, and are now at a stage**

where we are looking to obtain survey-participation from an organization that wishes to learn our study's results. My reason for contacting YOUR organization is due to the value it places on innovation, initiative, and results as well as its being accountable for balancing risks, opportunity and responsibility.

To maximize your benefits and minimize “disruption” associated with survey-participation, we promise the following:

1. Employees in various functional units and at levels throughout your organization are welcome to participate as long as they are (1) employed full-time, (2) regularly evaluated, (3) working in positions that allow for the possibility of promotion; and (4) working on tasks whose completion requires them to at least occasionally coordinate and/or communicate with coworkers;
2. Participation can occur at employees' convenience by their completing a 15-20 minute web-based survey (at a time of their choosing) that will be server-protected and hosted by the University of Maryland's R.H. Smith School of Business; all costs associated with designing and hosting/maintaining this survey will be incurred by the Research Team;
3. Survey-results will be seen by ONLY the Research Team at the Smith School; all findings will be reported in an aggregated manner (% of males versus females, etc.), thus assuring all respondents confidentiality and anonymity; additional actions we will take to ensure participants' anonymity include our need to have participant-selection occur in a randomized manner (a point that we can discuss more elaborately if you wish to participate);
4. Before the survey is finalized, we invite your approval and possible edits so that its substance is one with which you feel comfortable; our flexibility in changing the survey will be constrained, however, by our need to ensure that the survey-questions are statistically-reliable, hence that our findings will be interpretable and useful to you;
5. After we receive the first 500 completed web-surveys, we will provide you/your organization with an **Executive Report** that will: (a) summarize the findings of this study; (b) include a section titled “Recruiting- and Training-Strategies Suggested by the Findings” and (c) conclude with a section titled “Designing a Knowledge-Sharing Organization” whose content will be guided by the (individual-, team-, and organizational-related) characteristics our study finds to be associated with higher levels of performance-tip sharing among employees; and
6. If this is desired, we will additionally provide a **pro-bono presentation of the study's key findings** with regard to the issues noted above (i.e., recruiting-, training-, and design-implications); the only payment we will request will be for travel costs or copying-costs incurred for making this presentation.

Past studies have found higher levels of performance tip-sharing among employees to be linked to positive organizational outcomes including greater levels of organizational learning, improved strategies for decision making and/or innovativeness. **These potential outcomes, coupled by the process by which we are inviting your participation (e.g., by our designing and maintaining the web-server and providing an Executive Report, etc., at no cost to you), lead us to believe that you and your organization can benefit greatly by participating in our 15-20 minute web-based survey.** If you have any concerns about participating in this study, we are confident that your concerns can be addressed since **we are willing to accommodate preferences you may have regarding the proposed research strategy and outcomes.** *For example, there may be certain information you want included in the Executive Report that we have not yet thought of to mention.* Our flexibility, plus the potential benefits to all participants, is why we hope you will be willing to explore the possibility of collaborating with us.

If you are interested in this type of project, and if you know of other individuals that may be of interest in participating, please contact me (Meredith) at (301) 314-9019 or mburnett@rhsmith.umd.edu or Dr. Debra Shapiro at (301) 405-9781 or DShapiro@rhsmith.umd.edu. We will be limiting the number of organizational participants to two (since we would like the timeframe of the project to be completed by next April or May, if not sooner). We appreciate your consideration and look forward to hearing from you.

Sincerely,

Meredith F. Burnett, Doctoral Candidate

Table 1: Descriptive Statistics, Reliabilities, and Correlations

VARIABLE	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Organization	0.74	0.44													
2. Work Type	1.51	0.50	0.18*												
3. PANAS	3.58	0.71	-0.07	-0.13	(.93)										
4. POS	4.58	1.39	0.06	0.16*	0.46**	(.91)									
5. CWS	5.16	1.16	-0.18*	-0.00	0.33**	0.55**	(.93)								
6. Org Ob	5.99	1.02	-0.03	0.21**	0.53**	0.53**	0.29**	(.88)							
7. Reward Exp	4.61	1.24	-0.02	-0.09	-0.33**	-0.53**	-0.39**	-0.31**	(.69)						
8. Tech Adeq	2.90	1.19	-0.10	-0.02	-0.22**	-0.28**	-0.22**	-0.23**	0.19**	(.75)					
9. Comm Freq	5.62	1.70	-0.08	-0.07	-0.05	0.18**	0.16*	0.18*	-0.11	-0.12	(--)				
10. Org. P-T	3.34	1.69	-0.15*	0.06	0.19**	0.08	-0.02	0.16*	-0.23**	0.04	-0.15*	(.99)			
11. Pers. P-T	4.86	1.39	-0.09	0.16*	0.23**	0.15*	0.29**	0.22**	-0.22**	-0.11	0.12	0.29**	(.97)		
12. Org. P-T (cwk rated)	4.81	1.48	0.03	0.23*	0.04	0.24*	0.16	-0.06	-0.16	-0.07	-0.06	0.18	0.30**	(.98)	
13. Pers. P-T (cwk rated)	5.38	1.31	0.08	0.21*	0.01	0.14	0.14	-0.04	-0.08	-0.04	-0.09	0.06	0.22*	0.78**	(.98)

Note. Correlations based on N= 203, except for coworker rated organization- and coworker-target performance tip-sharing where N=105. Internal reliabilities (coefficient alphas) are given in parentheses on the diagonal. **p<.01; * p < .05.

Table 2: Factor Analysis Results for POS, CWS, Organizational Obligation, and Positive Affectivity

Statement	Component			
	1	2	3	4
Perceived Organizational Support				
The organization strongly considers my goals and values.				0.81
Help is available from the organization when I have a problem.				0.80
The organization really cares about my well-being.				0.88
The organization is willing to help me when I need a special favor.				0.81
If given the opportunity, the organization would take advantage of me. (R)				0.67
The organization shows very little concern for me. (R)				0.77
The organization cares about my opinions.				0.54
The organization would forgive an honest mistake on my part.	0.38	0.37		0.22
Organizational Obligation				
I feel a personal obligation to do whatever I can to help my organization achieve its goals.			0.75	
I owe it to my organization to give 100% of my energy to its goals while I am at work.			0.86	
I have an obligation to my organization to ensure that I produce high-quality work.			0.93	
I owe it to my organization to do what I can to ensure that customers are well-served and satisfied.			0.80	
I would feel an obligation to take time from my personal schedule to help my organization if it needed my help.			0.69	
I would feel guilty if I did not meet the organization's performance standards.			0.76	
I feel that the only obligation I have to my organization is to fulfill the minimum requirements of my job. (R)			0.59	
Coworker Support				
My coworkers are supportive of my goals and values.		0.83		
Help is available from my coworkers when I have a problem.		0.77		
My coworkers really care about my well-being.		0.87		
My coworkers are willing to offer assistance to help me perform my job to the best of my ability.		0.83		
Even if I did the best job possible, my coworkers would fail to notice. (R)		0.80		
My coworkers care about my general satisfaction at work.		0.75		
My coworkers show very little concern for me. (R)		0.70		
My coworkers care about my opinions.		0.79		
My coworkers are complimentary of my accomplishments at		0.73		

work.

PANAS

Interested	0.62
Determined	0.52
Excited	0.64
Inspired	0.65
Alert	0.71
Active	0.72
Strong	0.81
Proud	0.95
Attentive	0.76
Energetic	0.66
Cheerful	0.82
Interested	0.56

Table 3: Factor Analysis Results for Coworker- and Organizationally-targeted Performance Tip-sharing

Statement	Component	
	1	2
I often communicate new ways regarding how to achieve goals in a coworker-targeted way (e.g., face-to-face, private email)		0.82
I often communicate new and practical ideas about how to improve performance in a coworker-targeted way (e.g., face-to-face, private email)		0.86
I often communicate new technologies, processes, techniques, and/or product ideas in a coworker-targeted way (e.g., face-to-face, private email)		0.75
I often communicate new ways to increase quality in a coworker-targeted way (e.g., face-to-face, private email)		0.87
I often communicate creative solutions to problems in a coworker-targeted way (e.g., face-to-face, private email)		0.90
I often communicate new ways of performing work tasks in a coworker-targeted way (e.g., face-to-face, private email)		0.92
I often communicate ways to adopt improved procedures for doing jobs in a coworker-targeted way (e.g., face-to-face, private email)		0.88
I often communicate how to change how jobs are executed in order to be more effective in a coworker-targeted way (e.g., face-to-face, private email)		0.88
I often make constructive suggestions for improving how things operate within the organization in a coworker-targeted way (e.g., face-to-face, private email)		0.80
I often try to suggest how to correct faulty procedures in a coworker-targeted way (e.g., face-to-face, private email)		0.86
I often communicate constructive suggestions I have for how to improve the overall functioning of my work group in a coworker-targeted way (e.g., face-to-face, private email)		0.88
I often communicate how I look for new ways to improve the effectiveness of my work in a coworker-targeted way (e.g., face-to-face, private email)		0.80
Organizationally-targeted Performance-tip Sharing		
I often communicate new ways regarding how to achieve goals in an organizationally-distributed way (e.g., LISTSERV, database entry)	0.89	
I often communicate new and practical ideas about how to improve performance in an organizationally-distributed way (e.g., LISTSERV, database entry)	0.93	
I often communicate new technologies, processes, techniques, and/or product ideas in an organizationally-distributed way (e.g., LISTSERV, database entry)	0.92	
I often communicate new ways to increase quality in an organizationally-distributed way (e.g., LISTSERV, database entry)	0.96	
I often communicate creative solutions to problems in an organizationally-distributed way (e.g., LISTSERV, database entry)	0.96	
I often communicate new ways of performing work tasks in an organizationally-distributed way (e.g., LISTSERV, database entry)	0.97	

I often communicate ways to adopt improved procedures for doing jobs in an organizationally-distributed way (e.g., LISYSERV, database entry)	0.96
I often communicate how to change how jobs are executed in order to be more effective in an organizationally-distributed way (e.g., LISYSERV, database entry)	0.95
I often make constructive suggestions for improving how things operate within the organization in an organizationally-distributed way (e.g., LISYSERV, database entry)	0.92
I often try to suggest how to correct faulty procedures in an organizationally-distributed way (e.g., LISYSERV, database entry)	0.89
I often communicate constructive suggestions I have for how to improve the overall functioning of my work group in an organizationally-distributed way (e.g., LISYSERV, database entry)	0.92
I often communicate how I look for new ways to improve the effectiveness of my work in an organizationally-distributed way (e.g., LISYSERV, database entry)	0.91

Table 4: Results of Hierarchical Regression Analysis Effects of Organizational Obligation and Perceived Adequacy of Technological Resources on Organizationally-Targeted Performance Tip-sharing.

	Model 1		Model 2		Model 3	
	β		β		β	
Organization	-0.70 *	(.29)	-0.64 *	(.29)	-0.66 *	(.29)
Work type	0.27	(.25)	0.22	(.26)	0.25	(.26)
PANAS	0.52 **	(.18)	0.47 *	(.21)	0.46 *	(.20)
Organization Obligation			0.12	(.15)	0.08	(.15)
Technological Adeq			0.10	(.11)	0.12	(.11)
Org Ob X Tech Adeq					0.19 *	(.10)
R2	.07**		.08		.10	
$\Delta R2$.01		.02*	

Table 5: Results of Hierarchical Regression Analysis Effects of Organizational Obligation and Physical Proximity to Coworkers on Coworker-targeted Performance Tip-sharing.

	Model 1		Model 2		Model 3	
	β		β		β	
Organization	-0.49 *	(.23)	-0.45 †	(.23)	-0.51 *	(.23)
Work type	0.50 *	(.20)	0.49 *	(.21)	0.48 *	(.20)
PANAS	0.47 **	(.14)	0.44 *	(.17)	0.37 *	(.17)
Organization Obligation			0.09	(.13)	0.22 †	(.13)
Physical Proximity			0.10 †	(.06)	0.09	(.06)
Org Ob X Physical Proximity					0.13 **	(.05)
R2	.10***		.12		.15	
$\Delta R2$.13		.02**	

Table 6: Results of Hierarchical Regression Analysis Effects of Organizational Obligation and Reward Expectation on Organizationally-Targeted and Coworker-Targeted Performance Tip-sharing.

Organizationally-targeted						
	Model 1		Model 2		Model 3	
	β		β		β	
Organization	-0.67 *	(.29)	-0.65 *	(.29)	-0.67 *	(.28)
Work type	0.24	(.25)	0.18	(.26)	0.22	(.25)
PANAS	0.51 **	(.18)	0.33	(.21)	0.37 †	(.21)
Organization Obligation			0.06	(.15)	-0.10	(.17)
Reward Expectation			-0.23 *	(.11)	-0.25 *	(.11)
Org Ob X Reward Exp.					0.18 †	(.09)
R2	.07**		.10		.12	
Δ R2			.03 †		.02 †	
Coworker-targeted						
	Model 1		Model 2		Model 3	
	β		β		β	
Organization	-0.47 *	(.23)	-0.45 †	(.23)	-.444 *	.224
Work type	0.53 *	(.20)	0.47 *	(.21)	.432 *	.200
PANAS	0.45 *	(.15)	0.28	(.17)	.226	.168
Organization Obligation			0.11	(.13)	.359 *	.141
Reward Expectation			-0.16 †	(.09)	-.131	.083
Org Ob X Reward Exp.					-.264 ***	.075
R2	.10***		.12		.18	
Δ R2			.02 †		.06***	

Table 7: Results of Hierarchical Regression Analysis Effects of POS and CWS on Organizational Obligation.

	Model 1		Model 2		Model 3	
	β		β		β	
Organization	-0.25†	(.14)	-0.19	(.15)	-0.28 *	(.14)
Work type	0.38**	(.12)	0.38 **	(.12)	0.27 *	(.12)
PANAS	0.76***	(.09)	0.70 ***	(.09)	0.54 ***	(.09)
CWS			0.10 †	(.06)	-0.06	(.06)
POS					0.28 ***	(.05)
R2	.32***		.33		0.42	
Δ R2			.01†		0.09***	
	Model 1		Model 2		Model 3	
	β		β		β	
Organization	-0.25†	(.14)	-0.25 †	(.13)	-0.28 *	(.14)
Work type	0.38**	(.12)	0.28 *	(.12)	0.27 *	(.12)
PANAS	0.76***	(.09)	0.53 ***	(.09)	0.54 ***	(.09)
POS			0.26 ***	(.05)	0.28 ***	(.05)
CWS					-0.06	(.06)
R2	.32***		.42		.42	
Δ R2			.09***		.00	

Figure 1: Commonly-identified antecedents of employees' knowledge-sharing (KS) behavior.

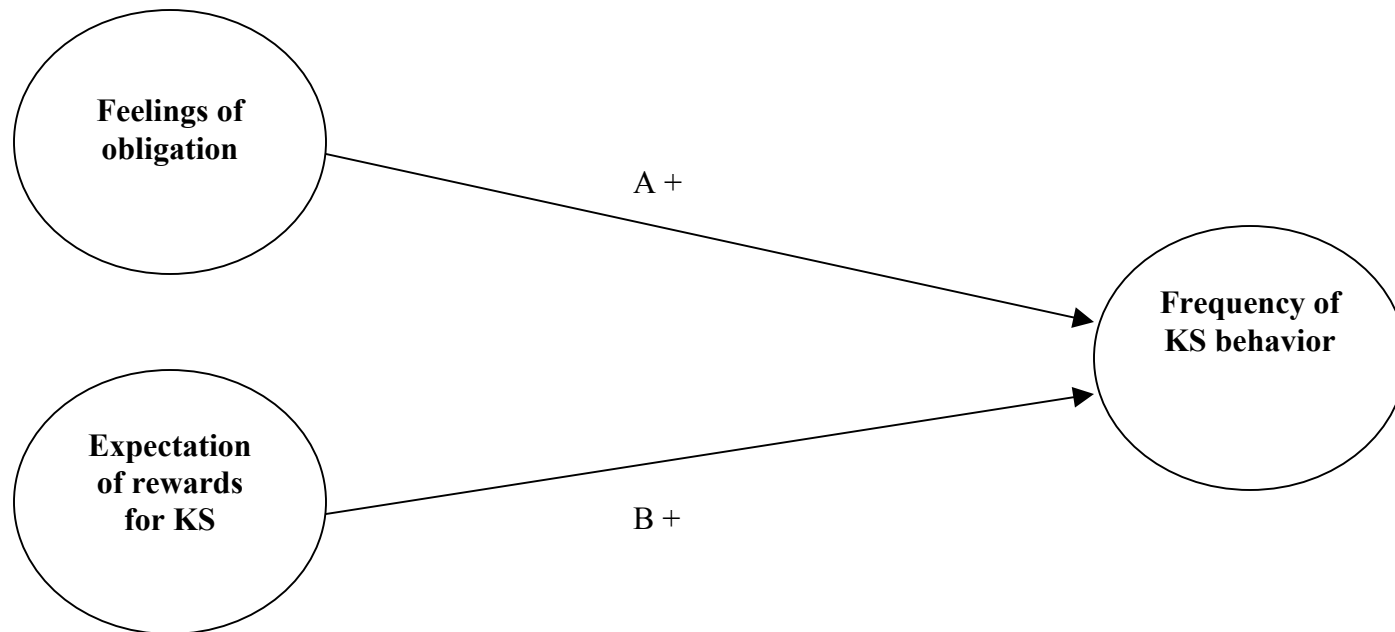


Figure 2: Theoretical Model of Employees' Performance Tip-sharing.

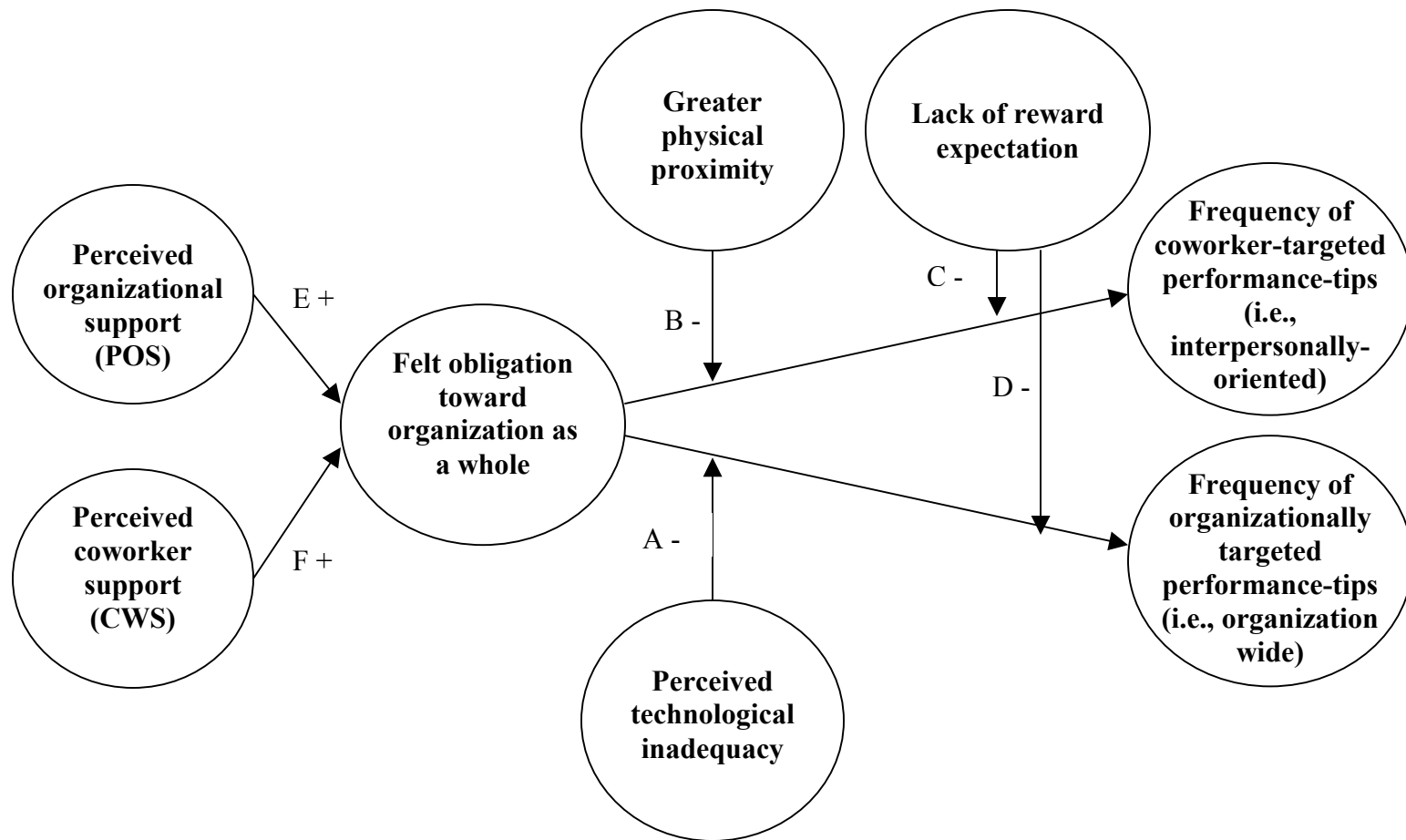


Figure 3: Results of Two-Way Interaction between Organizational Obligation and Perceived Technological Adequacy on Organizationally-Targeted Performance Tip-Sharing.

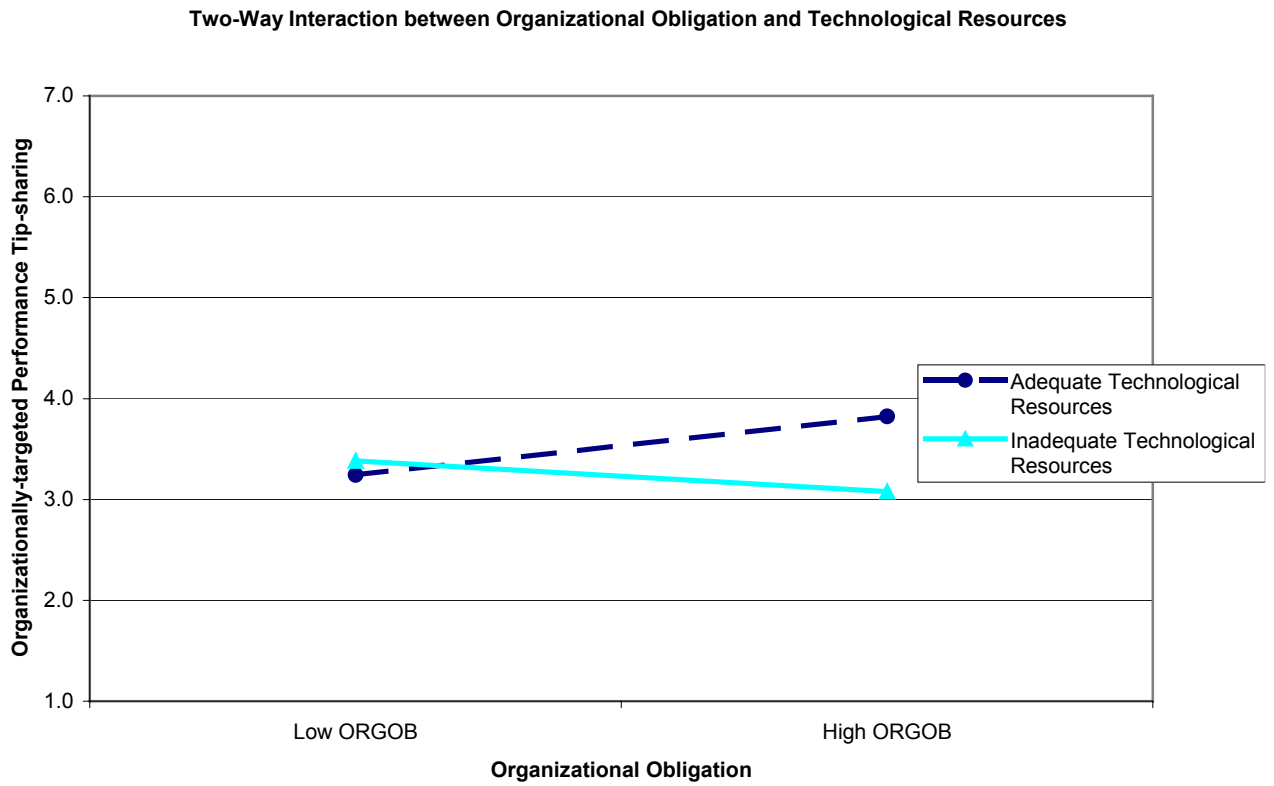


Figure 4: Results of Two-Way Interaction between Organizational Obligation and Physical Proximity on Coworker-targeted Performance Tip-Sharing.

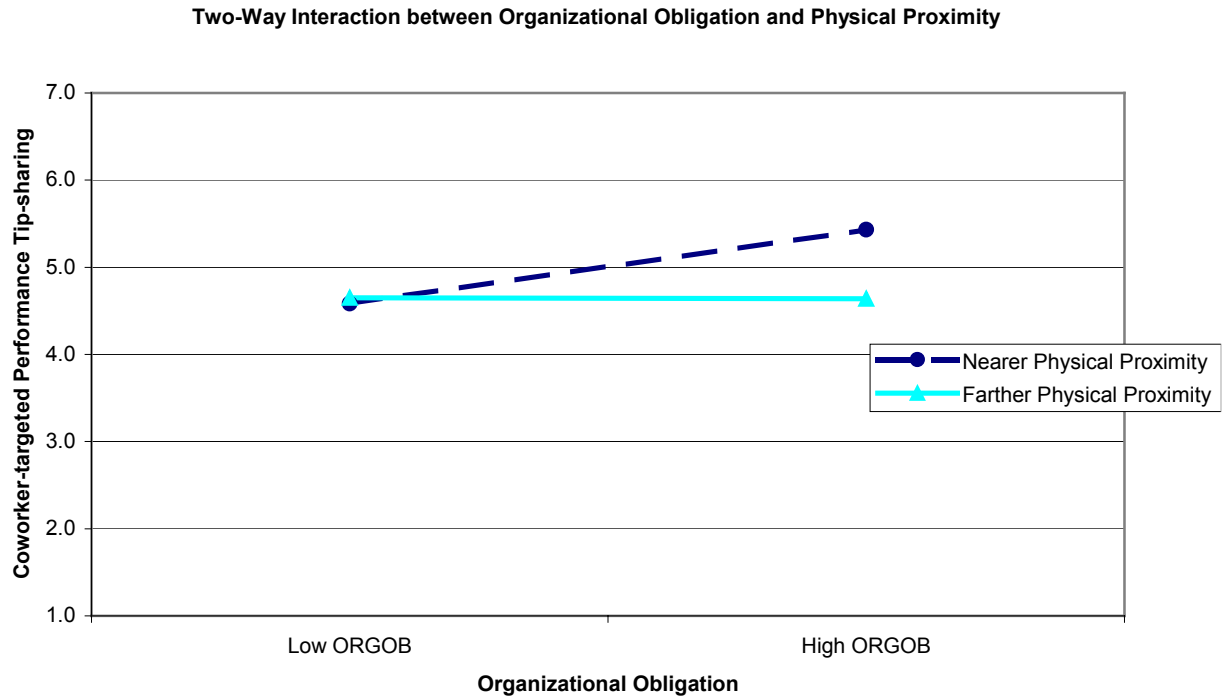
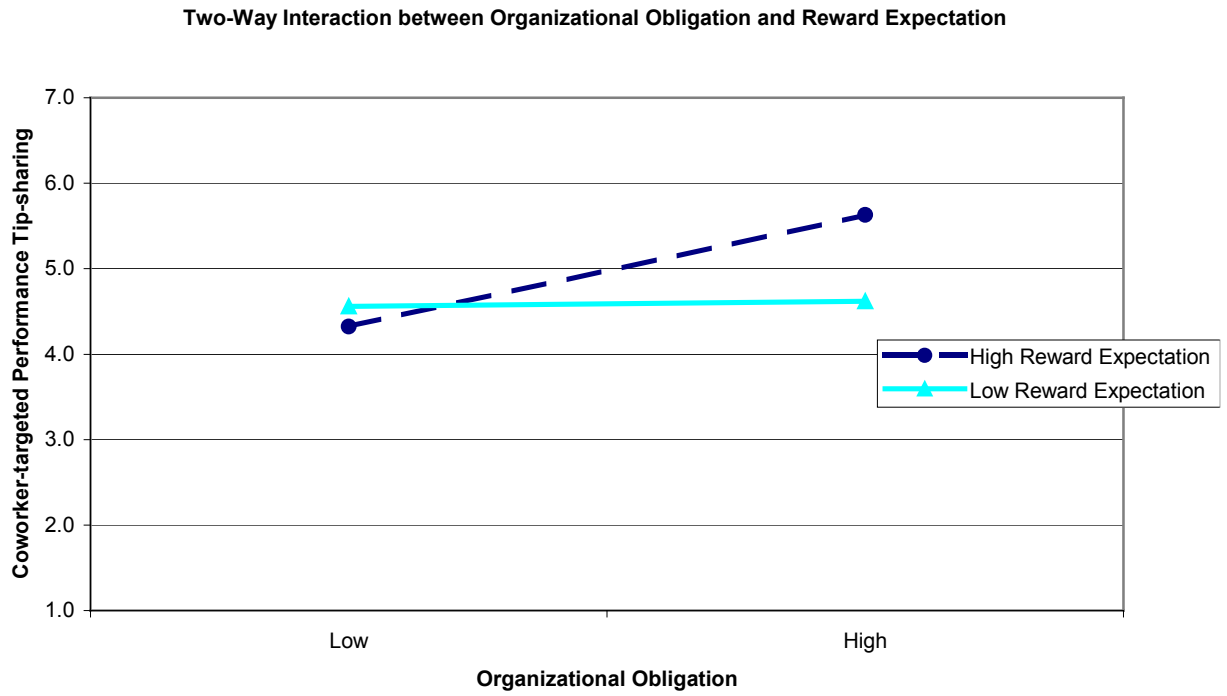


Figure 5: Results of Two-Way Interaction between Organizational Obligation and Reward Expectation on Coworker-targeted Performance Tip-Sharing.



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