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The study of the relationships among “managerial trustworthy characteristics 、 supervisors’ abilities” 、 “subordinates’ trust to their supervisors” and ” subordinates’ knowledge sharing behaviors”

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Abstract :

This study examined the relationship among the managerial trustworthy characteristics, supervisor’s abilities, employees’ trust and knowledge sharing behaviors. The authors investigate the managerial trustworthy characteristics as antecedents of employees’ trust. And, the authors explore the relationship between employees’ trust and knowledge sharing behaviors. Then, the authors demonstrate the mediating effect of employees’ trust between managerial trustworthy characteristics and knowledge sharing behaviors. After that, we discuss supervisor’s abilities impact on the relation between managerial trustworthy characteristics and employees’ trust. Participates, 144 sample units (included one employee and one supervisor), are from banking industry and semiconductor industry in Taiwan. The results suggest that when employees are sure of managerial trustworthy, they exchanged core knowledge with their supervisors.

INTRODUCTION

In past decade, the notion of trust has a long tradition in research on organizations. The importance of trust has been applied in such areas as teamwork (Jones and George, 1998; Williams, 2001), empowerment (Gomez and Rosen, 2001), sales performance (Rich, 1997; Atuahene-Gima and Li, 2002), and individual trust in online firms (Bhattacharjee, 2002), etc. Unfortunately, little is known about the supervisor-employee relationship. The purpose of the study was to address the issues. We investigate the managerial trustworthy characteristics as antecedents of employees' trust. And, we explore the relationship between employees' trust and knowledge sharing behaviors. Then, we demonstrate the mediating effect of employees' trust between managerial trustworthy characteristics and knowledge sharing behaviors. After that, we discuss supervisor's abilities impact on the relation between managerial trustworthy characteristics and employees' trust.

THEORETICAL FRAMEWORK AND MODEL

We discuss three theories of supervisor-employee relationship: social exchanges theory, psychological contract and leader—member exchange theory and two perspectives of knowledge sharing behaviors: learning perspectives and IT perspectives.

Social exchange theory

Many researches consider that employees' trust in supervisors occurs in social exchanges. Social exchanges of benefits involve uncertainty, the risk of nonreciprocation and the long-term relationships (Blau, 1964). And, relationships evolve slowly, starting with the exchange of relatively low-value benefits and escalating to high-value benefits as the parties demonstrate their trustworthiness (Blau, 1964). In the relationship of social exchanges, people recognize that they have the duties to reciprocate, gratitude and reliability. For example, after recognizing that supervisors are behavioral integrity, justice, behavioral consistency, and two-way communication employee will have great job performance and positive attitude to trust (Whitener, Brodt, Korsgaard and Werner, 1998).

Psychological contracts

Psychological contracts is unwritten understanding between supervisors and employees over their reciprocal obligations and returns, employees contribute toward achieving the goals of the supervisors in exchange for returns given by the employees and valued by the employees. Managers who supervise employees have skills and knowledge to help create psychological contracts (Kotter, 1973). They must be good coaches and teachers. That

enhances employees' trust.

Leader-member exchange theory

The Leader-member exchange theory incorporates the construct of trust into the manager-employee relationship (Gomez and Rosen, 2001). The LMX theory suggests that different quality exchange relationships lead the various types of behavior, because supervisors do not interact with all employees equally over time. Some employees will feel that they are members of in-group, whereas others will perceive that they belong to an out-group (Gomez and Rosen, 2001). High-quality exchange relationship is mutual respect, concern, support, increasing level of information exchange, and greater negotiating latitude and input in decisions (Mueller and Lee, 2002). Interpersonal trust is a critical key to build high-quality supervisors-employees relationship.

We conclude the three theories. Social exchange theory suggests that employees are aware of supervisors' integrity, justice, behavior consistency, and communication. Psychological contracts infer to promise, reciprocal obligations and returns. Leader-member exchange suggests that supervisors share resources and information, supporting employees and delegation of control. Then, we discuss two perspectives about knowledge sharing behaviors.

knowledge sharing behaviors: Learning perspectives and IT perspectives

Newell (1982), Musen (1992) and Senge (1997) take various views toward knowledge sharing. Learning perspectives believe knowledge sharing is the social interaction. Therefore, IT perspectives focus on sharing and reusing data in the computers but do not think over the receivers' absorbability of knowledge too much. Knowledge is depersonalized and not tied to knowing subjects that mean the linked content is not affect by the particular individuals. Emphasizing the formation of personal relationships also creates learning opportunities that may be missed when firms over rely on centralized electronic databases (Weiss, 1999). However, learning perspectives stress experientialism and believe knowledge is tied to knowing subjects (Senge, 1997). Then, knowledge sharing is personalized nature and must interact with both parties. As result, knowledge transfers successfully and forms others abilities. When employees form trust relationships with supervisors, thereby increasing the likelihood that an employee will become emotionally attached to supervisors (Liebeskind, 1996). According to social exchange theory, employees share knowledge because of trusting supervisors, then this incurs a reciprocal obligation. Trust in supervisors also improves sharing knowledge.

Figure 1 presents the theoretical model. This framework identifies antecedent variable:

supervisor's abilities and managerial trustworthy characteristics, including behavioral integrity, benevolence, sharing and delegation of control, communication, and behavioral consistency, consequence variables: employees' trust and independent variable employee's knowledge sharing behaviors.

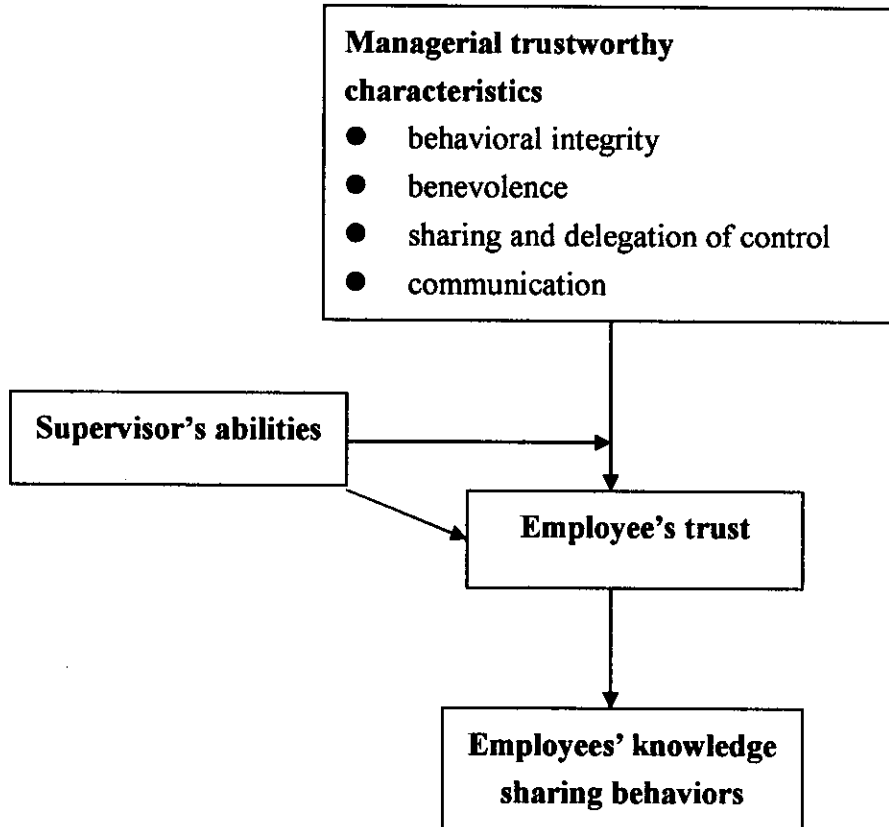


FIGURE 1 RESEARCH STRUCTURE

HYPOTHESES

Antecedents of employees' trust

In this article, according to reliability, predictability and good-will management, Whitener et al. (1998) concluded the factors that influence employees' perceptions of managerial trustworthiness in five dimensions: behavioral integrity, benevolence, sharing and delegation of control, communication, and behavioral consistency.

behavioral integrity

Many scholars consider that the supervisor's integrity is the significant antecedents which employees think that supervisor are trustworthy. (Whitener, Brodt, Korsgaard and Werner, 1998; Clark and Payne, 1997; Mayer, Davis and Schoorman, 1995) In fact, the contents of integrity are very complex. Hosmer (1995) defined integrity as the reputation for honesty and truthfulness on the part of trusted individual. If supervisors are considered

as reliability (Kumar, 1996), honesty (Larzelere and Huston, 1980), moral philosophy, right, justice and fairness (Hosmer, 1995; Das and Teng, 1998), and responsibility (Wicks, Berman, & Jones, 1999), employees' trust emerges. Supervisors are believed to want to do good to the employees, aside from an egocentric profit motive (Mayer, Davis and Schoorman, 1995). Therefore, we posit that

H1-1: The confirmation of behavioral integrity is related positively to employee's trust in supervisors.

benevolence

Benevolence suggests that the trustee has some specific attachment to the trustor. Benevolence refers to an other-oriented desire to care for the protection of another (Williams, 2001). Whitener et al (1998) view benevolence as (1) showing consideration and sensitivity for employees' needs and interests, (2) acting in a way that protects employees' interests and (3) refraining from exploiting others for the benefit of one's own interests. If supervisors act as three perceptions, employees are more likely to perceive their supervisors as trustworthy. Therefore,

H1-2: The confirmation of benevolence is related positively to employee's trust in supervisors.

sharing and delegation of control

Sharing and delegation control are key components of trustworthy behavior. The behavioral component of sharing and delegation control includes behaviors such as increased latitude in decision-making, control over work, and increased access to information and resources. From a cognitive perspective, sharing and delegation of control consist of an individual's judgment of meaning, self-determination and impact. The extent to which managers involve employees influences the development of trust (Whitener, Brodt, Korgaard, and Werner, 1998). We defined it as the process of increasing individual perceptions of control. Supervisors demonstrate significant trust in and respect for their employees, when they share control (Rosen and Jerdoe, 1977). Employees' trust in supervisors is high when they participate in decision-making and when they can determine their work roles (Tyler and Lind, 1992). And when supervisors involve employees in decision-making, employees would control decisions that affect them, and can protect their own interests. (Whitener, Brodt, Korgaard, and Werner, 1998). Supervisors would be trust by employees, when employees involve in decision-making and delegating control. The successful transfer of sharing and delegation of control to employee may depend in large part on trust. We propose that

H1-3: The confirmation of sharing and delegation of control is related positively to

employee's trust in supervisors.

Communication

Scholars consider three components of communication that affect trustworthiness: accurate information, explanations for decisions and openness (Whitener, Brodt, Korgaard, and Werner, 1998). Employees trust supervisors when they get accurate information from supervisors. Comparing with other variables, accurate information that gather from supervisors, are the main factors of trust-in-supervisor. It enhances perceptions of trust that supervisors explain their decisions thoroughly. Open communication refers to upward and downward communication with immediate supervisors, including openness to ideas and listening to problems. Open communication between supervisors and employees fosters trust because it provides opportunities to share and exchange ideas (Butler, 1991; Folger and Konovsky, 1989; Whitener, Brodt, Korgaard, and Werner, 1998). Mueller and Lee (2002) suggest extent to which the supervisor listens and pays attention to the employee is also an important part of communication. Therefore,

H1-4: The confirmation of communication is related positively to employee's trust in supervisors.

behavioral consistency

Behavioral consistency is an important aspect of trust (Whitener, Brodt, Korgaard, and Werner, 1998). Hosmer (1995) suggests consistency is the reliability, predictability and good judgment in handling situations. If supervisors behave consistently over time and across situations, employees can better predict supervisors' future behaviors (Whitener, Brodt, Korgaard, and Werner, 1998). For example, the supervisors have the same principle to deal the same matter over time and across situation. In other words, employees can expect predictability in supervisor's behavior in terms of what is normally expected of a person behaving positively. Therefore, employees have confidence in the words and actions of supervisors. Employees are the willingness to take a risk in the relationship and to be vulnerable. We hypothesize that

H1-5: The confirmation of behavioral consistency is related positively to employee's trust in supervisors.

The moderating role of abilities

Many scholars all considered ability an essential element of trust (Mayer, Davis, & Schoorman, 1995 and Cook and Wall, 1980). Ability is a set of skills, competencies, and characteristics that enable a party to have influence within some specific domain (Mayer, Davis, and Schoorman, 1995). Several terms have been used synonymously with abilities. Among these are competence, expertise and capabilities. They are defined similar

constructs. We refer that the domain of the ability is work-related, for example: functional/specific competence, interpersonal competence, business sense, and judgment. The opportunities of incorrect decision-making is less. Therefore, the chance of employees being hurt would be less. Because supervisors' abilities help transform employees' uncertainty into certainty. Managerial trustworthy characteristics cause that employees connect with supervisor's excellent abilities. When employee's confirmation supervisor's abilities is great, the confirmation of managerial trustworthy characteristics are more positively related to employees' trust in supervisors than when employee's perceived supervisor's abilities is poor. Therefore,

H2: The supervisor's abilities are related positively to employee's trust in supervisors.

H3: The confirmation of managerial trustworthy characteristics should interact with the confirmation of supervisor's abilities.

Knowledge sharing behaviors

Traditionally, employees have kept the knowledge to themselves, because of notion that "knowledge is power". Sharing core knowledge may causes employees losing their advantages in the organization, because of being copied by others. Therefore, employees would share knowledge, if employees were willing to take the risks. We also know that when employees trust supervisors, they must be willing to take risk. The willingness of knowledge sharing may be affected by the relationship between supervisors and employees. With mutual trust, both parties will reciprocate and be less concerned with how much knowledge leaks out. In short, high level of trust between the employees and the supervisors will have a positive influence on knowledge sharing.

H4: Employees' trust in supervisors is related positively to employees' knowledge sharing behaviors.

The mediating role of employees' trust

We defined employee's trust in supervisors is that an expectancy of positive outcomes that employees can receive based on the expected action of supervisors in the interactions characterized by uncertainty. According to social psychological, employees are willing to take the risk of voluntary without monitoring and controlling, and perceive that the supervisors intend to perform the actions that are beneficial. Employees share knowledge because of trusting supervisors, then this incurs a reciprocal obligation. Employees' trust in supervisors will mediate the effect of the managerial trustworthy characteristics and the supervisor's abilities on employees' knowledge sharing behaviors. The results suggest that employee's trust in supervisors becomes critical to employee's knowledge sharing behaviors.

H5: Employees' trust in supervisors will mediate the effect of the managerial trustworthy characteristics on employees' knowledge sharing behaviors.

H6: Employees' trust in supervisors will mediate the effect of the supervisor's abilities on employees' knowledge sharing behaviors.

METHODS

Sample and procedures

The research was conducted in two industries: loan officers in banking industry and R&D members in semiconductor industry. Banking industry emphasizes ethical concept, by contrast, semiconductor industry highlights professional abilities. These two types of samples represent different relations between trust and knowledge sharing behaviors.

The samples, the loan officers, are collected from commercial banks in Taiwan, according to "Financial Statistic Monthly Taiwan District The Republic of China" which is published by The Central Bank of China. The sampling method in banking industry adopted was that of simple random sampling. In Taiwan, there are 286 semiconductor companies. We selected all of them as participants.

Every questionnaire is numbered. We ask for the human resource departments in the selected sample companies to deliver the questionnaires to supervisors and employees in the loan and the R&D departments. All the questionnaires enclosed a covering letter as well as a pre-addressed and paid envelope for respondents to return the completed questionnaire. Of course, we guaranteed the confidentiality of all data provided.

We have sent 1300 questionnaires (626 questionnaires to banking industry and 674 questionnaires to semiconductor industry). From the mail survey we got 73 questionnaires from the banking industry, and 71 questionnaires from the semiconductor industry. The total response rate is at 14.2%.

Regarding participant's characteristics, 70% supervisors and 49% employees are male. 30% supervisors and 51% employees are female. The age of supervisors and employees both centralize from 30 to 40 years old. Most supervisors and employees have bachelor's degrees. Nearly 60% supervisors spent on the position less than five years. The seniority of employees centralizes one to three years. 45% employees work with their supervisors from one to three years. The numbers of employees that the supervisors lead are under five people. The 37% companies, which we selected, have above 1000 people. The samples are slight variation on the size of departments.

Measures

Two kinds of questionnaires were developed (the questionnaire A and the questionnaire B). All measures used six-point Likert response format. The questionnaire A is prepared for supervisors, including employees' knowledge sharing behaviors. The questionnaire B is prepared for employees, including personal demographics, managerial trustworthy characteristics and supervisors' abilities. The questionnaire is rated by a sample unit (include one supervisor and one employee). The supervisor and the employee answer the questionnaires distinctly. That would avoid self-report error from employees.

Difference scores have been used in studies of the match between employee expectations and perception (Wanous, Poland, Premack, & Davis, 1992). Employees' trust in supervisors is impacted by the gap between the perception of managerial trustworthy characteristics (or supervisor's abilities) and the expectation of managerial trustworthy characteristics (or supervisor's abilities). If we measure the managerial trustworthy characteristics (or supervisor's abilities) that employees perceived, this could not reflect real impression. Because supervisors who get great scores in the constructs of perceiving managerial trustworthy characteristics (or supervisor's abilities) do not stand for the employees' perceptions of trust. Therefore, in questionnaire B, employees rated perception of managerial trustworthy characteristics (or supervisors' abilities) and exception.

The five dimensions of managerial trustworthy characteristics were measured with multiple items. To measure behavioral integrity, we used 7 items. These items were adapted from Crosby, Evans & Cowles(1990) and Hosmer (1995). They imply behavioral integrity as justice, honesty, responsibility and fairness. Four items from Whitterner, Brodt, Korsgaard and Werner (1998) were used to assess the benevolence. They viewed benevolence as considering and protecting employees' needs and interests. To measure sharing and delegation of control, we used 5 items in accordance with the research of Spreitzer (1995). Employee rated the extent to which supervisors increase employees' latitude in decision-making and control over work. Using 5 items suggested by McAllister (1995) to measure communication, employees rated their supervisors on three dimensions: accurate information, explanations for decisions and openness. We averaged 3 items suggested by Wicks, Berman, and Jones (1999) to form an index of behavioral consistency.

The domain of the ability is work-related competence, skills and knowledge. We design 5 items in accordance with the research of McAllister (1995) and Crosby, Evans & Cowles (1990). According to social psychological, employees are willing to take the risk of voluntary without monitoring and controlling, and perceive that the supervisors intend to

perform the actions that are beneficial. We design 3 items suggested by Bhattacharjee (2002) and Crosby, Evans & Cowles (1990) to rate employees' trust in supervisors.

Because no suitable measure of employees' knowledge sharing behaviors, items were developed for use in this study. There are three measures: sharing individual knowledge, creating learning opportunities and motivating others to learn. Sharing individual knowledge means that the other parties acquire knowledge and experience in employees' heads by interaction. Creating learning opportunities indicates that employees direct learner to seek other knowledge sources. Motivating others to learn implies that employees encourage and promote others learning motivations. We design 5 items for sharing individual knowledge. Three items measuring creating learning opportunities and two items accessing motivating others to learn were created.

Internal consistency was assessed for each of measures in this study (managerial trustworthy characteristics, supervisor's abilities, employees' trust in supervisors, employees' knowledge sharing behaviors) in terms of Cronbach's reliability coefficient (alpha). The alphas of all the measures in this study were above .70.

RESULTS

We ran a regression analysis for each sample to test the hypotheses. The results indicate an R^2 of 0.526 in the banking industry, 0.501 in the semiconductor industry, and 0.510 in all the samples, suggesting that we explain a fair portion of variance in employee's trust.

We find that the coefficient for behavioral integrity, benevolence, communication and behavioral consistency are significant. But, coefficient for sharing and delegation of control is insignificant. H1-1, posting a positively relationship between behavioral integrity and employee's trust is supported in both sample(banking industry: $\beta=0.511$, $p<0.01$; semiconductor industry: $\beta=0.146$, $p<0.01$). H1-2, benevolence predicting positively relationship to employee's trust, are supported (banking industry: $\beta=0.325$, $p<0.01$; semiconductor industry: $\beta=0.204$, $p<0.01$). Sharing and delegation of control predicting positively relationship to employee's trust is not supported in either sample. As the result, H1-3 is not supported (banking industry: $\beta=-0.137$, $p>0.05$; semiconductor industry: $\beta=0.007$, $p>0.05$). H1-4, communication predicting positively relationship to employee's trust, are supported (banking industry: $\beta=0.199$, $p<0.05$; semiconductor industry: $\beta=0.290$, $p<0.01$). H1-5, behavioral consistency predicting positively relationship to employee's trust, is not supported in banking industry($\beta=0.086$, $p>0.05$). But H1-5 is supported in semiconductor industry($\beta=0.016$, $p<0.05$). The

results are reported in Table 1.

Table 1 Results of regression analysis of managerial trustworthy characteristics

	all samples	banking industry	semiconductor industry
behavioral integrity	0.201* (1.693)	0.511** (4.621)	0.146* (2.175)
benevolence	0.248* (1.989)	0.325** (3.033)	0.204** (3.088)
sharing and delegation of control	-0.096 (-0.725)	-0.137 (-1.175)	0.007 (0.101)
communication	0.240* (1.833)	0.199* (2.239)	0.290** (4.334)
behavioral consistency	0.261* (2.374)	0.086 (0.812)	0.016* (2.428)
F-statistic	9.922**	14.897**	13.239**
R ²	0.510	0.526	0.501
Adjusted R ²	0.451	0.491	0.463
N	144	73	71

We tested the moderating hypotheses with hierarchical moderated regression analysis. We ran the regression with the main effect variables (managerial trustworthy characteristics), the moderator variables (supervisor's abilities), and product terms (managerial trustworthy characteristics × supervisor's abilities). The results presented in Table 2. Hypotheses 2, which posited that the managerial trustworthy characteristics are likely to enhance employees' trust in supervisors when the supervisor's abilities are great, is not supported in banking industry and all sample. However, we find the coefficients of the product terms in semiconductor industry are significant. Then, we find all the coefficients of abilities are significant. Therefore, Hypotheses3, which involve the main effect of the confirmation of supervisor's abilities on employees' trust in supervisors, are supported.

Table2 Moderated regression analysis

	all samples	banking industry	semiconductor industry
managerial trustworthy characteristics	0.217 (2.11*)	0.498 (4.363**)	0.659 (2.687*)
supervisor's abilities	0.211 (2.06*)	0.213 (2.032*)	0.980 (3.921**)
managerial trustworthy characteristics × abilities	0.120 (1.565)	0.166 (1.516)	0.655 (2.214*)
F-statistic	20.611**	38.721**	24.13**

R ²	0.552	0.39	0.38
Adjusted R ²	0.305	0.27	0.25
N	144	73	71

Hypothesis 4 predicted that employees' trust in supervisors is related positively to employees' knowledge sharing behaviors. Table 3 presents the results of the regression equations used to test these hypotheses. As shown, the coefficient for dependence is significant, indicating support for Hypotheses 4 (all samples: $\beta=0.203$, $p<0.01$; banking industry: $\beta=0.415$, $p<0.01$; semiconductor industry: $\beta=0.436$, $p<0.01$). The results of the regression equations used to test these hypotheses are presented in Table 3.

Table3 Result of regression analyses on employees' knowledge sharing behaviors

	all samples	banking industry	semiconductor industry
employee's trust	0.203** (8.523)	0.415** (3.844)	0.436** (4.049)
F-statistic	72.634**	14.773**	16.393**
R ²	0.337	0.172	0.190
Adjusted R ²	0.332	0.161	0.178
N	144	73	71

Model 1 and model 2 tests H5 by checking for the mediating effect of employees' trust between the confirmation of managerial trustworthy characteristics and employees' knowledge sharing behaviors. The main effect of the confirmation of managerial trustworthy characteristics are supported by model 1 (all samples: $\beta=0.463$, banking industry: $\beta=0.314$, semiconductor industry: $\beta=0.325$, and $p<0.01$), whereas in model 2 coefficients for the confirmation of managerial trustworthy characteristics become insignificant. The results support H5 that predicted that employees' trust in supervisors would mediate the effect of the confirmation of managerial trustworthy characteristics on employees' knowledge. The results show in Table4.

Table4 Mediated regression analysis

	all samples		banking industry		Semiconductor industry	
	model 1	model 2	model 1	model 2	model 1	model 2
managerial trustworthy characteristics	0.463 (6.250**)	0.056 (0.238)	0.314 (2.786**)	0.072 (0.424)	0.325 (1.905*)	0.031 (0.137)
employees' trust		0.280 (2.681**)		0.318 (1.967*)		0.529 (3.021**)

F-statistic	29.059**	23.207**	7.759**	5.759**	6.628**	7.337**
R ²	0.215	0.246	0.351	0.376	0.225	0.255
Adjusted R ²	0.209	0.236	0.314	0.345	0.150	0.203
N	144	144	73	73	71	71

Models 3 and 4 test H6 by first testing for influence of the main effect variable supervisor's abilities on the dependent variable employees' knowledge sharing behaviors (model 3) and then for the influence of mediating variable employees' trust on the dependent variable employees' knowledge sharing behaviors (model 4). The main effect of supervisor's abilities on employees' knowledge sharing behaviors is supported by model 3 (all samples: $\beta=0.349$, banking industry: $\beta=0.361$, semiconductor industry: $\beta=0.236$ and $p < 0.05$). However, model 4 the coefficients for supervisor's abilities are insignificant. The results support H6, H6-1, and H6-2 that predicted that employees' trust would mediate the relation between supervisor's abilities and employees' knowledge sharing behaviors. The results show in Table5. The overall model, however, shows good fit as indicated by F-statistic, which is significant at the $p < 0.01$.

Table5 Mediated regression analysis

	all samples		banking industry		semiconductor industry	
	model 3	model 4	model 3	model 4	model 3	model 4
supervisor's abilities	0.349 (4.448**)	0.117 (1.260)	0.361 (3.265**)	0.205 (1.412)	0.236 (2.034*)	0.028 (0.195)
employees' trust		0.386 (4.159**)		0.339 (2.651*)		0.248 (2.045*)
F-statistic	19.786**	19.671**	10.660**	6.812**	14.137**	12.567**
R ²	0.122	0.217	0.131	0.163	0.236	0.263
Adjusted R ²	0.115	0.206	0.118	0.139	0.330	0.361
N	144	144	73	73	71	71

All of models in this study show good fit as indicated by F-statistic, which is significant at the $p < 0.001$ level. We found that the variance inflation factors were well below the cutoff of 10, which suggests that multicollinearity is not a problem.

DISCUSSION

This study tried to contribute to understanding of managerial trustworthy characteristics, supervisor's abilities, employee's trust and knowledge sharing behaviors. We discuss the results of research in five ways.

First, the supervisors' behavioral integrity, benevolence, communication and behavioral consistency are related to employees' trust. Almost confirmation of managerial trustworthy characteristics is related positively to employee's trust in supervisors in all samples and two industries. However, the confirmation of sharing and delegation of control is an exception. We could not ignore the factors when we discuss the issue of employees' trust. We put all the managerial trustworthy characteristics variables in the same regression function. Maybe other managerial trustworthy characteristics variables are rather more relative to employees' trust than the sharing and delegation of control variables.

Second, supervisor's abilities interact with the confirmation of managerial trustworthy characteristics to influence employees' trust in semiconductor industry. Then, the moderation effect of the employee's confirmation of supervisor's abilities is only supported in semiconductor industry. When employee's confirmation supervisor's abilities is great, the confirmation of managerial trustworthy characteristics are more positively related to employees' trust in supervisors than when employee's perceived supervisor's abilities is poor in semiconductor industry. The confirmation of managerial trustworthy characteristics, however, may not be interacting with supervisor's abilities to influence employees' trust in all sample and banking industry. As the result, the moderation effect of the employee's confirmation of supervisor's abilities does not exist in all sample and banking industry.

Third, the employee's confirmation of supervisor's abilities is related positively to employee's trust in supervisors in all samples and two industries. It proves that the employee's confirmation of supervisor's abilities is antecedents of employee's trust in supervisors.

Forth, employees' trust in supervisors is related positively to employees' knowledge sharing behaviors in all samples and two industries. In other words, employees' trust in supervisors will encourage employee to explicit knowledge sharing behaviors.

Fifth, mediate effect of employees' trust in supervisors is supported in all samples and two industries. Employees' trust in supervisors will mediate the effect of the confirmation of managerial trustworthy characteristics and the confirmation of supervisor's abilities on employees' knowledge sharing behaviors. The results suggest that employee's trust in supervisors becomes critical to employee's knowledge sharing behaviors.

MANAGERIAL IMPLICATION AND FUTURE RESEARCH

Managerial implications

A variety of managerial implications can be derived from our findings. First, we offer direction for managers and organizations about how to gain employee's trust and how employee's trust influence knowledge sharing behaviors. In order to encourage knowledge sharing, a high level of trust is needed in the organization.

Second, when hiring supervisors, we can screen for the managerial trustworthy characteristics. This screening can be done via relevant personal histories and through the use of interpersonal role-playing situations within the interview environment (Crosby, Evans, & Cowles, 1990).

Third, organizational systems can provide training to supervisors and employees. Supervisor's abilities are the important antecedents of employee's trust in supervisors. Without the judgments that one's manager possesses the competence or ability to fulfill managerial role, an employee is unlikely to develop trust in that manager (Whitener, Brodt, Korsgaard, & Werner, 1998). Employees are one of the knowledge sources. Employees have to be trained well and have both the knowledge and the skill to problem solving.

Fourth, communication is an essential antecedent of employee's trusts in supervisors. An organizational design is needed that encourages horizontal communication (Goh, 2002). Openness information systems are needed that help employee access accurate information and facilitate the flow of information.

Fifth, behavioral consistency is a necessary antecedent of employee's trusts in supervisors. Employees are asked sharing their knowledge. As role models, supervisors have to show willingness to share knowledge. They can encourage a willingness in other employees to follow them.

Limitations

Several limitations for this study should be noted. First, we face with the problems of the limited samples. In order to avoid common methods bias, we use two different questionnaires. That is the reason why sample size is limited. The limited samples produce the limitation in the analysis and interpretation of results. We should be cautious in explaining relevant outcomes.

Second, owing to financial and time constraints, we adopted the samples in the banking industry randomly and all the population in semiconductor industries. Therefore, the generalisability of this study may be restricted. This means we should be careful when expending our findings into other industries.

Third, the confirmation is a gap between perception and expectations. The perception-minus-expectation gap score is a type of difference score. Difference scores have been used in studies of the match between employee expectations and experiences (Wanous, Poland, Premack, & Davis, 1992). But, difference scores suffer from numerous methodological problems. These problems can be improved or avoided with polynomial regression analysis, which uses components of difference scores supplemented by higher-order terms to represent relationships of interest in congruence research (Edwards, 2001). However, we should take notice of extrapolations may be risky with these models, especially those with higher-order terms. Polynomial regression models may provide good fits for the data at hand, but may turn in unexpected directions when extrapolated beyond the range of the data (Neter, Kutner, Nachtsheim, & Wasserman, 1999).

Future research

Future researchers could compare two groups: imperfect fits in managerial trustworthy characteristics and perfect fits in managerial trustworthy characteristics. Imperfect fits suggest that perception score is lower than expectation score. Perfect fits suggest that perception score match expectation score or perception score is higher than expectation score. Then, we discuss how they affect the degree of employees' trust in supervisors. Furthermore, supervisors and employees are both knowledge giver and receiver in practical management. Future researchers could discuss the interaction in this situation. It could implicate among team members, too.

CONCLUSION

In conclusion, the confirmation of managerial trustworthy characteristics and supervisor's abilities are both important variables to influence employees' trust. We can say that the supervisors would gain employees' trust when they demonstrate managerial trustworthy characteristics and have work-related abilities.

The relationship between the confirmation of managerial trustworthy characteristics and employees' trust are moderated by the confirmation of supervisor's abilities in semiconductor industry. In other words, supervisors' abilities are great or poor would

influence the relationship between the confirmation of managerial trustworthy characteristics and employees' trust.

The confirmation of managerial trustworthy characteristics and supervisor's abilities are both mediated by employees' trust to influence employees' trust in supervisors.

Employees' trust is related employees' knowledge sharing behaviors. When employees are sure of managerial trustworthy, they are exchanged core knowledge freely with supervisors. As well, employees' knowledge sharing behaviors is the outcome of employees' trust.

Reference

1. Atuahene-Gima, K. & Li, H., "When does trust matter? Antecedents and contingent effects of supervisee trust on performance in selling new products in China and the United States". *Journal of Marketing*, Vol. 66, July, pp.61-81(2002).
2. Bhattacharjee, A. "Individual Trust in Online Firms: Scale Development and Initial Test." *Journal of management Information Systems*, Vol. 19, No. 1, pp.211-241(2002)
3. Blau, P. M., *Exchange and Power in Social Life*, New York: Wiley pp.211-223(1964).
4. Bulter, J. K. Jr., "Towards Understanding and Measuring Conditions of Trust: Evolution of a Conditions of Trust Inventory", *Journal of Management*, Vol. 17, pp. 643-663(1991).
5. Clark, M. C. and Payne, R. L., "The Nature and Structure of Workers' Trust in Management", *Journal of Organizational Behavior*, Vol. 18, pp.205-244(1997).
6. Cook, J. and Wall, T., "New Work Attitude Measures of Trust, Organizational Commitment, and Personal Need Nonfulfillment", *Journal of Occupational Psychology*, Vol. 53, pp.39-52 (1980)
7. Crosby, L. A., Evans, K. R. & Cowles, D., "Relationship quality in services selling: An interpersonal influence perspective". *Journal of marketing*, vol. 54, July, pp.68-81(1990)
8. Das, T. K. and Teng, B., "Between Trust and Control: Developing Confidence in Partner Cooperation in Alliances", *Academy of Management Review*, Vol. 23, No. 3, pp.491-512(1998).
9. Folger, R. and Konovsky, M. A., "Effects of Procedural and Distributive Justice on Reactions to Pay Raise Decisions", *Academy of Management Journal*, Vol. 32, pp.115-130(1989).
10. Goh, Swee C. "Managing effective knowledge transfer: An integrative framework

- and some practice implications". *Journal of Knowledge Management*, Vol. 6, No. 1, pp.23-30(2002).
11. Gomez, C. and Rosen, B., "The Leader-Member Exchange as a Link Between Managerial Trust and Empowerment." *Group & Organization Management*, Vol. 26, No. 1, pp.53-69 (2001)
 12. Hosmer, L. T., "Trust: The Connecting Link Between Organizational Theory and Philosophical Ethics", *Academy of Management Review*, Vol. 20, No. 2, pp.379-403(1995).
 13. Jones, G. R. & George, J. M., "The Experience and Evolution of Trust: Implications for Cooperation and Teamwork", *Academy of management Review*, 23(3), pp.531-546(1998).
 14. Kotter, J. P., "The Psychological Contract: Managing the Joining-Up Process", *California Management Review*, Vol. XV, No. 3, pp.91-99(1973).
 15. Kumar, N., "The Power of Trust in Manufacture-Retailer relationship", *Harvard Business Review*, Vol. 74, No. 6, pp.92-106(1996).
 16. Larzelere, R. J. and Huston, T. L., "The Dyadic Trust Scale: Toward Understanding Interpersonal Trust in Close Relationships", *Journal of Marriage and the Family*, Vol. 42, pp. 595-604(1980).
 17. Liebeskind J. P., "Knowledge, Strategy and the Firm", *Strategic Management Journal*, vol. 17, Winter Special Issue, pp.93-107(1996).
 18. Mayer, R. C., Davis, J. H. and Schoorman, F. D., "An Integrative Model of Organizational Trust", *Academy of Management Review*, Vol. 20, No. 3, pp.709-734(1995).
 19. McAllister D. J., D. J., "Affect- and Cognition-Based Trust as Foundations for Interpersonal Cooperation in Organization", *Academy of management Journal*, Vol. 38, pp.24-59(1995).
 20. Musen, A. M., "Dimensions of Knowledge Sharing and Reuse", *Computers and Bio-medical Research*, 25, pp.435-467(1992)
 21. Mueller, B. H. & Lee, J. "Leader-member exchange and organizational communication satisfaction in multiple contexts." *The Journal of Business Communication*, Vol. 39, No. 2, pp.220-244(2002)
 22. Neter, Kutner, Nachtsheim, & Wasserman *Applied Linear Regression Models* (3rd edition). McGraw-Hill Book Co. pp.296 (1999).
 23. Newell, A., *The Knowledge Level*, *Artif Intel*, 18, pp.187-127(1982)
 24. Rosen, B. and Jerdee, T. H., "Influence of Subordinate Characteristics on Trust and Use of Participative Decision Strategies in a Management Simulation", *Journal of Applied Psychology*, Vol. 62, pp 651-665 (1977).
 25. Seng, P., *Sharing Knowledge, Executive Excellence*, Nov 1997.

26. Spreitzer, G. M., "Social Structural Characteristics of Psychological Empowerment", *Academy of Management Journal*, Vol. 39, No. 2, pp.483-504(1997).
27. Tyler, T. R. and Lind, E. A., "A Relational Model of Authority in Groups", *Advances in Experimental Social Psychology*, Vol. 25, pp.175-191(1992).
28. Wicks, A.C., Berman, S. L., and Jone, T. M., "The Structure of Optimal Trust: Moral and Strategic Implications", *Academy of Management Review*, Vol. 24, No. 1, pp.99-116(1999).
29. Wanous, J. P, Poland, T D., Premack, S. L., & Davis, K. S. "The effects of met expectations on newcomer attitudes and behaviors: A review and meta-analysis". *Journal of Applied Psychology*, Vol 77, pp.288-297 (1992).
30. Weiss, L. "Collection and Connection: The Anatomy of Knowledge Sharing in Professional Service Firms", *Organization Development Journal*, Vol. 17, No. 4, pp.61-77(1999)
31. Wicks, A.C., Berman, S. L., and Jone, T. M., "The Structure of Optimal Trust: Moral and Strategic Implications", *Academy of Management Review*, Vol. 24, No. 1, pp.99-116(1999).
32. Whitener, E. M., Brodt, S. E., Korsgaard, M. A. and Werner, J. M., "Managers As Initiators of Trust: An Exchange Relationship Framework for Understanding Managerial Trustworthy Behavior", *Academy of Management Review*, Vol. 23, No. 3, pp.513-530(1998).
33. Williams, M., "In Whom We Trust: Group Membership as a Effective context for Development", *Academy of Management*, Vol. 26, No. 3, pp.377-396(2001).