

Shared Leadership and Team Learning: Roles of Knowledge Sharing and Team Characteristics

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ABSTRACT

Many organizations adopt work teams to increase performance or achieve specific organizational goals. However, there are still many unrevealed issues in teams' operation although the researches of teams have been concerned by many studies. Previous researches indicated that team learning is an important strategy that organizations could obtain to gain the competition advantages. In addition, leadership is thought as the critical factor which could achieve the effectiveness of teams. Also, knowledge could enhance and maintain the competition advantages of organizations while knowledge sharing could accumulate knowledge, improve capability, and be the important factor of organizational learning. This study included thirty-five work teams to investigate the mutual relationships among shared leadership, knowledge sharing, team characteristics and team learning. The results indicate that shared leadership significantly and positively affects team learning. However, knowledge sharing mediates the shared leadership and team learning. In addition, team characteristics moderate the relationship between shared leadership and team learning.

Keywords: Shared Leadership, Team Learning, Knowledge Sharing

INTRODUCTION

In today's highly competitive environment, workers are required to be cooperated in handling tasks for the various situations. Therefore, work team is more and more popular in practice. Moreover, following the trend and development that work team is widely used by organizations on important matters, the issues of leadership is attracting more attention and has been viewed as a crucial factor on team performance advancement (Cohen & Bailey, 1997). Some studies have even considered that leadership is the most important factor on team performance (e.g., Sinclair, 1992; Zaccaro, Rittman, & Marks, 2001).

From the leadership theory in the past (including trait theory, behavior theory, situation/contingency theory) to newly emerging leadership viewpoints (such as transactional leadership, transformational leadership as well as charismatic leadership), the focus of research on leadership has been shifted from individual trait and behavior to situational as well as interaction between leaders and members. Yet, leadership performance of individual leader is still highlighted. On the other hand, there are some researches in the past decades which have shifted the emphasis from individual leader of an organization structure to a collective leadership by team members (Ensley, Hmieleski, & Pearce, 2006). The importance of shared leadership with members' collective involvement has been highlighted in team-based tasks (Pearce & Manz, 2005). Yet, sharing leadership functions has been only recently conceptually and operationally defined (Small & Rentsch, 2010) and empirical study on shared leadership has only been brought up in recent years (Carson, Tesluk, & Marrone, 2007).

In addition, since team learning is an important strategy which could enhance organizations'

competition advantages (Banker, Field, Schroeder, & Sinha, 1996), quality improvement, innovation and consumers' satisfaction (Chan, Pearson & Entekin, 2003), many organizations attend to increasing team learning. Researches indicated that team delegation (Flood, MacCurtain, & West, 2001) and knowledge management (Mascitelli, 2000) could effectively promote team learning. In the development of knowledge economy, knowledge is recognized as the most important resource for enhancing or sustaining competition advantage. It is also a key factor for maintaining the long-term success of organizations. The beginning and an important stage of knowledge management is knowledge sharing which is the key to organizational creation, learning ability and performance.

Compared with vertical leadership which is formed by individual or formal leadership, shared leadership gives weight to leadership dispersed on team members. In addition, the importance of shared leadership with members' collective involvement has been highlighted in team-based tasks (Pearce & Manz, 2005). Particularly in team leadership in which there is more involvement of team members on vision, objective and interaction process, this article highlights the perspective of sharing in work teams to investigate shared leadership and knowledge sharing in enhancing team learning in work teams.

LITERATURE REVIEW AND HYPOTHESES

Shared Leadership

Shared leadership is a collective leadership by the team members and is described by collaborative decision-making and shared responsibility for outcomes (Hoch & Dulebohn, 2013). Researches give different definitions on shared leadership. For example: Sivasubramaniam, Murry, Avolio, & Jung (2002) indicated that shared leadership is a collective influence of members on each other in a team. In order to accomplish a common organization or group goal, leadership is distributed among individuals instead of a single individual, through a dynamic, interactive influence process (Pearce & Conger, 2003). Carson et al. (2007) summarize viewpoints of some scholars and define shared leadership as "an emergent team property that results from the distribution of leadership influence across multiple team members". In addition, shared leadership originates from individuals who have series of interactions and influence on other team members in direction, motivation and support through negotiation and sharing of leadership responsibilities. Viewing from the collective structure, shared leadership can be seen as leadership network that influences and shapes the activities and outcomes of a team and individual. Carson and his colleagues also states that shared leadership is totally different from the conventional vertical leadership which emphasizes on hierarchy and external role of the manager, the formal authority as well as the influential to the team's process and outcomes.

Worley & Lawler (2006) pointed out three advantages of shared leadership. First, spreading knowledge and power across members, which allows a quick response on information without any top-down direction in the organization, shared leadership effectively substitutes for hierarchy. Second, since the approach of sharing is the core part of leadership, members could develop leadership and management skills through involving in implementing strategy, creating value and other tasks in the organization. Third, it is always the case that leaders at different levels who have understanding on the external environment as well as internal capabilities of the organization are seen as important trends for corporate change. This discourse is particularly clear when a single hero leader leaves and the transformation may abort.

Compared with vertical leadership which is a top-down process and emphasizes on individual leader or depends on wisdom of an individual formed by individual or formal leadership, shared leadership not

only expands the top-down mode on subordinates, but also highlights lateral as well upward process and gives weight to leadership dispersed on team members. Day, Gronn, & Salas (2004) indicated that shared leadership is an “important intangible resource” and so it could enhance team performance even in complicated tasks. Also, acquired from network relationships in a team, this intangible resource would also lead to better effort, coordination and efficiency (Nahapiet & Ghoshal, 1998). In addition, after reviewing the researches in the disciplines of management and psychology, White & Smith (2010) suggested that shared leadership can be superior to traditional leadership by a single team member.

Shared Leadership and Team Learning

Researches had linked shared leadership and varied outcomes such as higher levels of member satisfaction, trust, commitment, cohesion, and collective efficacy and potency (see Vandewaerde, Voordeckers, Lambrechts, & Bammens, 2011, for reviews). Some studies demonstrate the significant relationship between shared leadership and team performance. For instance, Manz & Sims (1984) believed that there is always no formal leadership structure in groups with high performance. Taggar, Hackett, & Saha (1999) found out that groups with members who have higher leadership influence would have a high performance as well. The fact that teams with poor performance are always dominated by a leader, and teams with high performance always adopt a more dispersed leadership mode is clearly indicated (Pearce & Barkus, 2004). In addition, the collective leadership within a team predicted supervisor-rated team performance (Hiller, Day, & Vance, 2006). Moreover, both Ishikawa (2012) and Small & Rentsch (2010) suggested that shared leadership positively influences team performance.

Since team learning is critical for a team to operate effectively and achieve its goals, many teams pursue the capability of team learning. Team learning is that a team creates knowledge innovation and increases team knowledge/ability via information sharing, question discussion, and new-view searching among the team members (Argote, Ingram, Levine, & Moreland, 2000). Moreover, team learning could increase teams’ ability in monitoring environment changes, understanding customers’ need, and enhancing team members’ cognition about situations (Edmondson, 2002). Therefore, team learning is seen as one of the important team outputs. Lesser & Storck (2001) also pointed out that a team could improve its performance while the team members devote to increasing their learning and sharing.

Although extensive researches highlighted the influence of leaders on creativity, problem solving, decision making, and collective learning in teams, the belief that top-down approach to innovation, rather than a collaborative approach is a obstacle of leaders’ influence on collective learning (Yukl, 2009). In addition, learning is related to not only individuals’ cognition but also the interaction between co-workers. Perry, Pearce, & Sims (1999) suggested that shared leadership is a team interaction process that involves behaviors in the domain of leadership. In shared leadership teams, the dispersed influence among team members increase the interaction between co-workers. McCauley (2004) stated that shared leadership was generated with rapid growing trust and reliance in a team. In addition, Kleinman, Siegel, & Eckstein (2002) indicated that the interaction process of team members enhance team learning. Consistent with the inferences, this article suggests one prediction which is stated formally:

H₁: shared leadership relates positively to team learning in work teams.

The Role of Knowledge Sharing

Ensley et al. (2006) suggested that shared leadership is a complete process on leadership and collective knowledge of a team which is worked out through a collaborative process, rather than only by a single designated individual. In addition, Bock & Kim (2002) also indicated that employees would have

positive attitude to share knowledge if they believed that sharing knowledge could strengthen the relationship between themselves and others. In shared leadership teams, the team members would have more “in-group” perspective while the interactions among them increased via the distributed influence in the teams. Moreover, Granitz & Ward (2001) pointed out that individuals would share their knowledge and experience in “in-group” rather than “out -group”. From the above, this study suggests that shared leadership could enhance knowledge sharing in work teams.

Besides, knowledge sharing accumulates organizational knowledge and improves organizational ability (Gold, Malhotra, & Segars, 2001), achieves the learning process of individuals and organizations (Andrews & Delahaye, 2000), and is a critical factor of organizational learning and performance (Bartol & Srivastava, 2002). Moreover, Zellmer-Bruhn & Gibson (2006) indicated that team learning would be high if the teams adopted knowledge management. In addition, Yukl (2009) also suggested that information and knowledge would facilitate collective learning and effective problem solving by other members of the organization. As mentioned above, this study suggests that knowledge sharing would increase team learning in work teams.

In shared leadership teams, the interactions among team members would increase while the influence continually distribute among team members. In addition, Crossan, Lane, & White (1999) indicated that the team members’ interactions improved they knowledge/information sharing, and then integrated individual insight and knowledge to achieve the outcomes of learning in teams. Moreover, Srivastava, Bartol, & Locke (2006) suggested that empowering leadership positively connect knowledge sharing, in turn, positively increase team performance. Consistent with the inferences, this article suggests that shared leadership increases knowledge sharing, and then, enhances team learning in work teams. Stated formally:

***H₂:** Knowledge sharing mediates shared leadership on team learning in work teams.*

The Role of Team Characteristics

Drawing on the perspective of interaction, the learning dissemination among co-workers is important since team learning is a dynamic process (Collinson & Cook, 2004). Kleinman et al. (2002) indicated that team variety has significantly impact on team effectiveness. Besides, the heterogeneity of team members enhanced the learning ability of teams (Reagans & Zuckerman, 2001). However, from the viewpoint of communication, team members could experience less barrier and better interactive relationship in small or homogeneity teams. Perry et al. (1999) suggested that team size should avoid too large to fostering and developing productive relationship between co-workers. In addition, Hoch, Pearce, & Welzel (2010) indicated that both age diversity and coordination moderated the impact of shared leadership on team performance.

Basing on the studies above, it could be inferred that team characteristics (such as team heterogeneity or team size) may be relative with team learning. In addition, this article argues that shared leadership may interact with team characteristics on team learning. In the small teams, the members have frequently interaction with others (Wageman, 1995) and then achieve more team learning via mutual influence. In the other hand, the interaction and communication among co-workers would be decreased in the large teams. Besides, team heterogeneity would increase the difficulty of influence dissemination and interaction among team members, and this would damage team learning. Stated formally:

***H₃:** Team characteristics (team size or team heterogeneity) moderate the relationship between shared leadership and team learning in work teams.*

METHODS

Sample

The sample is composed of fourteen Small- and Medium-sized Enterprises (SMEs) in Taiwan. The author e-mailed a letter to the businesses to invite them to join this study and also called the human resource departments. For those who had a positive response on participation, the author went further to asked for direct contact with the supervisors of work groups in those businesses. The formal illustration and member questionnaire (independent variable, mediating variable and moderating variable) were mailed to the work groups in which the group supervisors promised to send the questionnaire to their group members. In addition, another illustration and team questionnaire (dependent variable) were mailed to the manager who is the human resource department or the intra-organization cooperative department of the sample teams in the companies. Besides, a cover sheet is included in each questionnaire (group members and work teams), which explained the research process and a stamped envelope was preaddressed to the author. In addition, a coding scheme was used to ensure matched members-teams data.

There are thirty-five work teams and a total of two hundred and fifty-eight respondents validly completed and matched the investigation. In the questionnaire, members focused on issues about shared leadership, knowledge sharing and team characteristics while the manager, who is the intra-organization cooperative department of the team or human resource department, rated team learning. This method, in which study variables were collected from different sources, could reduce the potential problem of common method variance (Podsakoff & Organ, 1986).

Variables

The dependent variable, the team learning, was measured by five items derived from the external team learning questionnaire of Team Learning Survey (TLS) which was developed by Edmondson (1996) and was adopted by Chan et al. (2003). These items measured team learning on a five-point Likert-type scale. The answers ranged from 1 (definitely disagree) to 5 (definitely agree). The internal consistency reliability for the five items is high (Cronbach's alpha is .82). Moreover, the independent variable, the shared leadership instrument was extracted from Wood & Fields (2007). There are eight items which measure team members' perception of the degree of all members' participation in goal setting, vision formation, decision making, cooperation, resource allocating, and question solving. A five-point Likert-type scale was adopted and a score of '5' indicated that the respondents identified 'very strongly agree' and a score of '1' indicated 'very strongly disagree'. The internal consistency reliability (Cronbach's alpha) for the eight items is .85.

Besides, the mediating variable, the knowledge sharing instrument was derived from the knowledge donating which was developed by Van den Hooff & Van Weenen (2004). There are six items which measure team members' perception of the degree of all members' participation in sharing knowledge. A five-point Likert-type scale was adopted and the answers ranged from 1 (definitely disagree) to 5 (definitely agree). The internal consistency reliability for the six items is also high (Cronbach's alpha is .86). Moreover, the moderating variable, team characteristics included two dimensions: team size and team heterogeneity. The team size was calculated by the total amount of employees in the team. Additionally, team heterogeneity is an index which is integrated by the variance of team members' gender, age, tenure year and education year.

Data Analysis

All analyses were calculated at the team level. Shared leadership and knowledge sharing were aggregated to mean values within each team as the team of analysis. The within-group correlation (r_{wg}) was computed to assess the degree of agreement by team members before aggregating responses at the team level (James, Demaree, & Wolf, 1984). The mean r_{wg} value was .81 for shared leadership and .78 for knowledge sharing. Both r_{wg} were above the recommended cut off point of .7 and were provided sufficient support for aggregating the data to team-level analysis.

In addition, the descriptive statistics and correlation were adopted to portray the distribution and correlation of/between variables. Besides, this study conducted a confirmatory factor analysis (CFA) to examine the distinctiveness of the study's measures. The CFA exhibited the hypothesized two-factor model in member-based response, which is composed of the shared leadership and knowledge sharing items loaded on distinct factors, is better fitting than one-factor model. Using a good fit to the data as Zhao, Wayne, Glibkowski, & Bravo (2007) proposed, the indicators ($\chi^2=221.367$ ($p<.001$), CFI=.935, NFI=.906, IFI=.936, RMSEA=.086) supported the distinctiveness of the constructs in the study.

RESULTS

Variable means, standard deviations, correlations, and reliability are shown in Table 1. According to the results, there are 72.1% male and 27.9% female participants composed in the sample. Respondents reported an average age of 34.49 (s.d. = 6.75), an average individual tenure in the organization of 5.73 years (s.d. = 4.91), an average of 15.30 years of education (s.d. = 1.86), and an average team size of 10.08 (s.d. = 5.99).

Table 1: Means, standard deviations, reliabilities, and correlations among study variables

	Mean	S.D.	1	2	3	4	5
1. Team heterogeneity (TH)	-.002	1.13					
2. Team size (TS)	10.08	5.99	.032				
3. Shared leadership (SL)	3.41	.64	-.055	.060	(.85)		
4. Knowledge sharing (KS)	3.56	.71	.049	.003	.685***	(.86)	
5. Team learning (TL)	3.58	.56	.211**	.022	.272***	.292***	(.82)

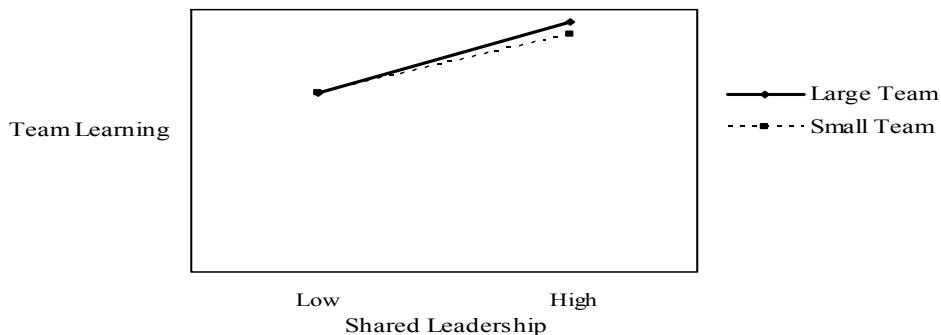
Note: * $p < .05$; ** $p < .01$; *** $p < .001$. Reliability coefficients (alpha) are on the diagonal.

Table 2 reveals the hierarchical regression results. Model 3 indicates that the relationship between shared leadership and team learning is positive ($p<.001$) as predicted by H_1 . In addition, this study follows the four-step test for mediation recommended by Baron and Kenny (1986). The support found for H_1 satisfied step 1. In step 2, model 1 indicates that shared leadership has a significantly positive relationship with knowledge sharing ($p<.001$). In step 3, model 2 shows that knowledge sharing ($p<.001$) positively related to team learning. In final step, model 4 also indicates that shared leadership is less significantly related to team learning while the independent variable (shared leadership) and the mediator (knowledge sharing) are included in the model, indicating partial mediation, H_2 is supported. In addition, model 5 reveals the positive relationship between team heterogeneity and team learning ($p<.001$). Moreover, model 6 reveals the moderating effects of team size between shared leadership and team learning. The interactions of shared leadership and team size is positively related to work-related performance ($p<.01$). As respectively separated team size above from below the means indicate, the positive effect of shared leadership on team learning would be enhanced when the team size is large (Figure 1), the H_3 is also supported.

Table 2: Results of regression analysis for mediation and moderation ^a

Variables	mediation				moderation	
	Knowledge sharing	Team learning			Team learning	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Shared leadership	.685***		.272***	.174*	.260***	.279***
Knowledge sharing		.292***		.183*		
Team heterogeneity					.237***	.242***
Team size					-.023	-.030
SL * TH						-.047
SL * TS						.146*
Overall model <i>F</i>	223.218***	23.377***	19.869***	12.557***	10.532***	8.095***
Overall <i>R</i> ²	.469	.085	.074	.092	.119	.149
ΔR^2				.018		.030

Note: ^a Standardized regression coefficients are shown. * $p < .05$; *** $p < .001$.

**Figure 1: shared leadership and team learning by team size**

CONCLUSION AND DISCUSSION

This research has several major contributions on literature. First, this study indicates the positive relationship between shared leadership and team learning in work teams. The result provides an empirical study in shared leadership and its outcomes. This fills the shortage of empirical study in shared leadership. Second, this article confirms the partial mediation of knowledge sharing in the relationship between shared leadership and team learning. This founding indicates a possible team process of shared leadership achieving team learning, and also fills the shortage of the empirical study of team process about shared leadership in previous studies. Third, this article finds that team heterogeneity has a positive and significant effect on team learning. This result is consistent with the study of Reagans & Zuckerman (2001) who indicated that the variety of team members enhanced the learning ability of teams. Fourth, the interaction of team characteristics and shared leadership in team learning is also illustrated. This article indicates that the relationship between shared leadership and team learning would be stronger while the team size is larger. Basing on the finding, this article suggests that the distributed influence (shared leadership) among team members in large teams would make up for the shortage that a single leader's influence could not effectively spread out all team members in enhancing team learning.

For the managerial implication, organizations could develop shared leadership in work teams in order to increase the teams' learning. In addition, since knowledge sharing has a mediation effect between shared leadership and team learning, it could be inferred that if a team could increase knowledge sharing among team members, it would be effectively increase the impact of shared leadership on team learning.

Furthermore, team heterogeneity has a positive effect on team learning so that a team could include variance members as possible to enhance the team learning. Additionally, team size interacts with shared leadership on team learning therefore the team which is large may foster shared leadership for achieving team learning.

One of the limitations of this study is that the sample focused on Small- and Medium-sized Enterprises and was obtained via asking the participative willing of the companies therefore it is not the completely random sampling. This would limit the generalization of the findings. Therefore, the random sampling and larger business are the possible area for future research. In addition, there are several factors would affect team learning so that this study could not investigate the effects of other factors excluding shared leadership, knowledge sharing and team characteristics. Therefore, future research could consider differences mediating and moderating variables in the process of shared leadership and its outcomes.

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