Global virtual team performance, shared leadership, and trust: proposing a conceptual framework

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Global Virtual Team Performance, Shared Leadership, Cognition-based Trust, Affect-based Trust

Abstract
The current study discusses and proposes a conceptual framework integrating global virtual team performance, shared leadership, and trust. Based on the literature review, this study presents a few propositions regarding the interrelationships between shared leadership, trust, and global virtual team performance. More specifically, this paper sheds light on the relationship between shared leadership and trust on the global virtual team performance. The multi-dimensional nature of trust and global virtual team performance is also explored. After the literature review and the development of the hypothesized relationships between shared leadership, trust, and virtual team performance, the study provides directions regarding methodology and discusses future managerial and research implications to stimulate further research effort.

1. Introduction

More and more companies find the increasing need to network and communicate with remote offices as productions and services are outsourced and decentralized. In many work situations of the contemporary global business environment, the face-to-face meetings have become increasingly costly, which often makes the virtual team an unavoidable option? The global virtual teams that belong to the same MNC Company with multiple work locations in the supply chain need to collaborate with the remotely working groups of the same firm. Often, a few MNCs enter into the strategic alliance that necessitates the creation and management of the virtual teams that pursue the same strategic goals. Virtual team represents a group of organizationally and/or time dispersed workers brought together by information and technologies to complete the same organizational tasks. (Powell, Piccoli, & Ives, 2004). Virtual team differs from the conventional groups in that the team members are usually geographically dispersed and use computer-mediated communications with limited face-to-face interaction (Gibson & Cohen, 2003). With the limited face-to-face interactions, virtual teams lack the timely verbal cues and facial implications that convey in traditional face-to-face team interactions (Sproull & Kiesel, 1986). From a social interaction perspective, virtual teams seem to require more time than non-virtual teams in order to develop trust and build a positive social relationship (Johnson & Bettenhausen, 2009). Employees who work in a virtual environment are more likely to get confused and misunderstood (Berry, 2011), and often multilingual virtual teams deal with language barriers among members and media synchronicity issues (Tenzer and Pudelko 2016).Media synchronicity theory suggests that tasks are composed of different communication processes, each of which require particular media capabilities for team collaborations (knowledge sharing, intercultural negotiation) (Schouten et al., 2016). Global virtual teams, unlike face-to-face or non-global teams, often need to use asynchronous media choice for shared understanding and group decision making given geographic dispersion and language barriers (Tenzer and Pudelko 2016).

Increasing team virtuality necessitates new leadership emergence. Traditional leadership may not be appropriate given lack of face-to-face interactions and cultural congruency. Member roles are more flexible and dynamic, which may lead to multiple members exhibiting leadership (Serban et al., 2015). In the global work environment that limits the face-to-face meetings and the frequent social interactions; face-to-face based traditional leadership gives way to shared leadership. Shared leadership means collective leadership within teams, and also represents an interactive

mutual influence process among the members to complete the goals (Carson et al., 2007; Pearce & Conger, 2003). The global virtual team in the multi-country setting relies on distributed intelligence; each member of the team shares leadership while working through the globalized and dynamic work environment that requires both the diversity and the locality of the work skills and experiences.

Although there has been an increasing number of studies which have focused on virtual teams due to the changing technology and working environment, yet much of the literature claims that there is a lack of clarification on virtual team and comprehensively know what they are and effective way to lead them (Duarte & Synder, 2001; Kozlowski & Bell, 2001; Morris, 2008). Many scholars find that traditional leadership style and traditional team based structure might not be effective in managing today's organizations (Kozlowski & Bell, 2003). Shared leadership is emerging and gaining recent popularity among reputable journals. (Wang et al, 2014; Drescher et al, 2014; Pearce et al, 2014). However, it is surprising that there is only a limited amount of studies related to shared leadership in the global virtual work environment. There is a lack of literature that helps us understand "how to lead global virtual team using shared leadership," "what attributes affect the emergence of shared leadership," and "the way shared leadership functions and affect virtual team performance."

In addition to shared leadership, trust also appears to be relevant to managing and leading global virtual team and virtual teams in general (Dirks, 1999). Many researchers have conducted research to demonstrate that trust leads to effective management (Dirks & Ferrin, 2001; Culbert & McDonough, 1986; Davis et al, 2000). Trust helps decrease communication costs and the necessity for monitoring employee, which is critical to managing the MNCs that operate multiple locations in various countries. Trust among group members improves job satisfaction, information sharing, and performance outcome (Creed & Miles, 1996; Culbert & McDonough, 1986; Dirks & Ferrin, 2001). Although the impact of trust on face-to-face team performance has received some scholarly attention, little has been known regarding how trust influence virtual team performance (De Jong & Elfring, 2010).

The current study discusses and proposes a conceptual framework integrating global virtual team performance, shared leadership, and trust. Based on the literature review, this study presents a few propositions regarding the interrelationships between shared leadership, trust, and global virtual team performance. More specifically, this paper sheds light on the relationship between shared leadership and trust on the global virtual team performance. The multi-dimensional nature of trust and global virtual team performance is also explored.After the literature review and the development of the hypothesized relationships between shared leadership, trust, and virtual team performance, the study provides directions regarding methodology and discusses future managerial and research implications to stimulate further research effort.

2. Literature Review
a) Shared Leadership and Virtual Team Performance

It has been generally agreed that shared leadership affects teams' output, and it appears to be potentially more beneficial to team management when compared to the traditional vertical and hierarchical leadership style (Avolio et al, 1996; Pearce et al, 2004; Carson et al., 2007; Ensley et al., 06; Pearce, 2008;). When leadership is shared, resources could be fully stimulated and utilized. (Burke, Stagl, Klein, & Salas, 2006). Researchers have also found that shared leadership enhances team dynamics and team performance. (Pearce et al, 2004). Shared leadership also strengthens the team's ability to perform a task and promote group cohesion; which in turn enhances group performance (Mathieu et al., 2015; Drescher et al. 2014). The linkage between shared leadership and team performance has been found in a few international business studies. Team performance is defined as "the level a team meets or exceeds the performance standards of those who review the output" (Hackman, 1987).Performance has always been a critical part for organization and it is regarded as commonly the ultimate goal.

In one study involving German business consultants, the impact of shared leadership on virtual team performance has been found to be high when age diversity and coordination were low (Hoch et al. 2010), while shared team leadership was significantly related to team performance regardless of the degree of virtuality (Hoch et al. 2014). Given the importance of the shared leadership in the virtual team dynamics, more research on the relationship between shared leadership and virtual team performance appears to warrant scholarly and managerially merits.

b) Shared Leadership and Trust in Virtual Team Setting

As shared leadership evolves over time, the social structures and process are developed, which enhances group effectiveness. Research shows that building trust among group members is critical in the shared leadership context (Wang et al. 2014). Group members are willing to share influence and accept each other's influence (Aime et al. 2013), which can help build trust (Bergman et al 2012). Conversely, decreases in shared leadership can undermine trust by reducing opportunities to build trust. Drescher et al. (2014) examined the mediating effect of trust on the connection between the changes in shared leadership over time and group performance using the longitudinal data collected from the simulation games. However, the nature of the relationships between shared leadership and trust and their differing impact on the virtual team performance have yet be examined.

This research posits that shared leadership and trust affect each other, and these two variables have direct impact on virtual team performance. Like shared leadership, how trust affects shared leadership and virtual team performance have received little empirical support. In one related research on trust, affect-based trust and cognition-based trust in the leader have been found to be related to team performance (Shaubroek & Lam, 2011). In one related research, virtuality has been found to moderate relationships between cognitive ability, an aspect of cognition-based trust, and leadership emergence (Serban et al., 2015).

3. Trust and Virtual Team Performance

Trust has received considerable attention among scholars since it's commonly recognized as one of the important variables that shape organizational behavior. Trust has been defined as a psychological element that willingly accepts the vulnerability on the possibility of intention and behavior of others (Rousseau, Sitkin, Burt, & Camerer, 1998). Trust is widely believed to lead to effective management (Dirks, 2001) and facilitates a more cooperative and friendly working environment, while reducing the necessity of supervision (Mayer, Davis, & Shoorman, 1995). Under the high level of trust in a work environment, employees exhibit more cooperative behaviors and higher positive organizational engagement (Cho & Poister, 2014), and higher level of goal commitment (Haines 2014).

Trust does matter to all types of team-based work environment, and it matters even more to the virtual teams (Jarvenppa & Leidner, 1998). Given the need for the long-distance communications and the common goals to achieve, the role of trust becomes critical in the global virtual team work setting. Unlike face-to-face teams that develop trust based on social bonds and frequent informal face-to-face meetings, virtual team members establish trust based on predictable performance such as rapid responses to electronic communications and consistent follow through.

Trust is multidimensional in nature and a few studies commonly identified trust as having two dimensions; affect-based and cognition-based trust (Kumar, Abdolreza, and Vaibhav 2011). Affect-based trust depends on the emotional bonds to other team members (McAllister, 2001), while cognition-based trust is described as the general acceptance of team member's competence and reliability. (McAllister, 1995).In most virtual team settings, trust are nurtured on the perceptions of team members' competencies, benevolence, and integrity. (Jarvenpaa et al, 1998), but given the inability to interact face-to-face, and the distance barrier a global virtual team experiences, emotion bonds and affective relationship do not appear to be easily formed and nurtured (Jarvenpaa and Leidner, 1999). But the increasing availability of visual symbols and media tools (e.g., video-conferencing and email symbols) that can be utilized to express the members' affective dimensions

of attitude (e.g., enthusiasm, like-dislikes), and the team members' versatility in using the social media communication tools in recent days, affect-based trust can also be developed in global virtual team dynamics. One study suggests that affect-based trust mediates the relationship between individuals' metacognitive cultural intelligence dimension and their intercultural creative collaboration (Chua et al, 2012).   Metacognition is mental processes directed at acquiring, comprehending, and calibrating cultural knowledge (Ang et al., 2007). It is critical to intercultural collaborative relationships with its positive effects on communication quality and intercultural trust (Chua et al., 2012). Affect-based trust, therefore, can improve communication quality, which is a critical dimension of global virtual team performance.

Once trust is shared among the team members collectively, it affects team performance positively (De Jong & Elfring, 2010). Given the different dimensions of trust, it's important to examine the separate roles each of the trust dimensions plays in shaping virtual team dynamics.

4. Proposed Model of Shared Leadership, Trust and Performance

To examine these relationships, the conceptual model treats shared leadership, affect-based trust, and cognition-based trust as the predictors of virtual team performance, while treating the virtual team performance dimensions as the dependent variable. Shared leadership and two trust types are also proposed to be positively related with each other. Based on the literature review provided above, the following relationships can be proposed:

Proposition 1: Shared leadership is positively related to virtual team performance
Proposition 2: Shared leadership is positively related to affect-based trust
Proposition 3: Shared leadership is positively related to cognition-based trust
Proposition 4: Affect-based trust is positively related to virtual team performance
Proposition 5: Cognition-based trust is positively related to virtual team performance
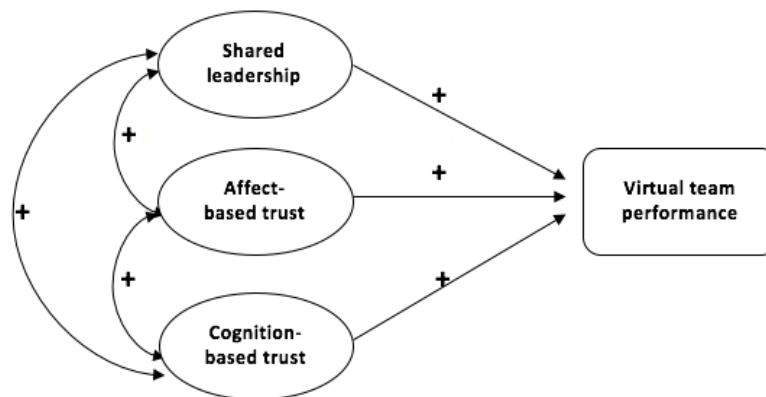

Figure 1: Global Virtual Team Performance, Shared leadership, and Trust: Proposing a Conceptual Framework

5. Operationalization of the Variables

Through the literature review, scholars have developed four different ways to measure the existence and extent of shared leadership in a team. There are both advantages and disadvantages for all the measurements. One is ratings of the team's generalized leadership behavior using Social Network Analysis (SNA) method, which was based on how team members know each other and observer each other's behavior and it aims to research on diversity in teams (Mehram, Dixon, & Robertson, 2006). Another technique of measuring shared leadership is Behaviorally Anchored Rating Scales (Gockel & Werth, 2010), which is normally what practitioners use and it aims to assess what extent the whole team shows leadership behaviors (Pearce & Sims, 2002). The third one it is called as actor-partner interdependence model (APIM, Kenny, Kashy, & Cook, 2006). It aims to integrate multilevel data structure of teams and shows to what extent one's own behavior is affected

by one's own leadership influence and by one's fellow team members' leadership influence (Gockel & Werth, 2010). The fourth is the Hoch 2010 instrument (Hoch et. al, 2010; Hoch & Kozlowski 2012). Shared leadership was conceptualized as the distribution of leadership functions among group members (Hoch & Kozlowski 2012). It measures both shared leadership (collective leadership, which is performed by team members) and vertical leadership (hierarchical leadership by supervisor) in terms of transformational, transactional, directive, empowering, and aversive leadership behaviors. Drescher et al (2014) adopted three functions to measure shared leadership. Managers with shared leadership will have the ability to negotiate agreements (the information search and structuring function), the ability to send mass instant messages, post on the group forum, and manage the group forum (the information use in problem solving function), and the ability to admit and dismiss group members and empower other group members (the managing human resources function). Future research will adopt one of the four options among others.

Affect-based trust and cognition-based trust can be adapted from the scales developed by McAlllister (1995). A sample item for affect-based trust is "We would both feel a sense of loss if our team leader was transferred and we could no longer work together." A few sample items that measure cognition-based trust are "My teammates approach their job with professionalism and dedication" and "I see no doubt for this team member's competent and ability to working together." The Likert-Type scale can be used, ranging from "Strongly disagree" (1) to "Strongly agree" (5).

Virtual team performance does not represent one dimensional concept. It represents multidimensional concept encompassing individual performance, each member's contributions to team performance, adaptability to new and changing work arrangement, and the ability to access and share knowledge (Sparrow and Daniels, 1999). These important dimensions that pertain to the virtual team performance can also be captured by using the six-dimensional competency model (Duarte and Snyder 2001).

According to the virtual team competency model, the virtual team member performance can be measured using the six aspects: project management, networking, the use of technology, self-management, boundary management and interpersonal awareness (Duarte & Synder, 2001). Global virtual team members need to demonstrate and execute good project management skills and outcomes. One of the biggest differences that distinguishes virtual teams from the conventional teams is that virtual team members require the high level of digital technology (Berry, 2011). The ability of using digital technology is a very crucial part for global virtual team members since most collaborations and communication should be done in computer-mediated ways. (Bell & Kozlowski, 2001); Networking need requires virtual team members to proactively learn about the organization and connect with the people working in multiple locations throughout the world. Without face-to-face contact, global virtual team members should actively communicate with other team members using a variety of digital-based communication tools including social media. The other important aspect of virtual team performance is the need for good self-management; it is based on the dealing with difficult task and setting goal and prioritizing tasks (Avolio, Jung, & Murry, 1996) alone without team members being readily available for collaboration synchronously as with the case of the face-to-face work environment. Finally, global virtual team members should be able to be flexible in dealing with the cross-cultural and multi-functional work environments. (Duarte & Synder, 2001). Both self-report and supervisor ratings can be adopted to increase measurement reliability.

6. Managerial and Future Research Implications

As globalization increases the need for higher virtuality in the way the team members communicate and operate, MNCs may need to revisit how their widely scattered workers are led and motivated to perform better. Often, the workers communicate asynchronously given their operating in different time zones. It may be frustrating to arrange a meeting for five members working at five different time zones synchronously. Future research on examining what it means to perform in the increased virtual work setting and what types of leadership may be most appropriate

to enhance global virtual team performance will be a worthy academic pursuit. Given its cost and complexity, MNCs may attempt to avoid a situation where their workers operating in various countries have to work together as a team pursuing the same goal in the virtual setting. However, global collaborations may be needed to streamline global logistical complexity and develop innovative products. To serve those ends, employees working for the same MNC or the strategically aligned firms may need to collaborate as globally connected virtual team members. Despite a doubt that virtual teams will be less successful than their face-to-face counterparts, a growing number of studies prove that virtual teams in industry perform equally well (Haines, 2014; Purvanova, 2014).

The MNCs that utilize and manage virtual teams need to adopt and nurture the optimal corporate culture and leadership that maximize global virtual team performance. Aninquiry into the interactive dynamics of shared leadership, trust, and global virtual team performance will help MNCs to advance capabilities to enhance virtual team performance. Virtual teams have sprung up in prevalence in the work place and the training of leaders and team members in virtual environments becomes an important managerial issue (Schuffler et al. 2010). Given the importance of shared leadership to virtual teams, recruiting and training the virtual team members aimed at fostering shared leadership and trust may become a priority.

Global executives managing MNCs face challenges of dealing with increasing virtuality in communication as MNCs expand their business operations overseas. One important issue could be the media choices that help overcome asynchronous communication situations globally dispersed virtual team members encounter (Tenzer and Markus 2016). Media synchronicity theory (MST) will contribute to resolving these issues (Dennis et al. 2008). MST theorizes that effective team collaboration and decision making performance requires media capabilities to process conveyance (the transmission of new information) and convergence (the discussion of preprocessed information). Synchronicity is a shared pattern of coordinated synchronous behavior, which is suited for face-to-face communication and good for socially-interactive aspects of team collaboration. Global virtual team members, however, may have to work in a limited synchronicity environment given their multinational locations of work place and multicultural and multilinguistic backgrounds. Future research will have to inquire into, "what are the optimal media capabilities that mitigate the lack of synchronicity work environment global virtual team members deal with?"

Success of MNC's global virtual team management and performance also depend on cultural differences influencing group dynamics. For example, future research may need to address "which dimensions (e.g., power distance, uncertainty avoidance) of national culture and which types (e.g., clan, market)of corporate culture respond favorably to shared leadership?""Will affect-based trust be more important motivating members to collaborate and perform for the members from collectivistic culture?""Will cognition-based trust be more important for individualistic culture?""Can we hypothesize that shared leadership is more effective for adhocracy culture espousing innovation and creativity than for hierarch culture that may fit better with traditional vertical leadership?" More theoretical and empirical investigation on the above inquiries appear to help advance the knowledge regarding global virtual team dynamics and performance.

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