Delegation in Virtual Team:
the Moderating Effects of Team Maturity and Team Distance

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Abstract

Virtual teams are becoming an important work structure in software development projects. However, a number of issues arise due to the complexity and newness of the virtual team context. One such issue relates to when and how team leaders should delegate authority and responsibility to the team. Previous studies have yielded conflicting results. This work aims to answer this question about delegation by investigating the moderating effects of team maturity and team distance on the relationship between leader delegation and team outcomes. A research model and specific propositions are presented. This paper provides useful insights for future virtual team leadership research and for organizations interested in developing virtual team leadership.

1. Introduction

Virtual teams are composed of geographically distributed coworkers linked through information technologies to achieve an organizational task. In software development, the virtual team is a popular structure for several reasons. It provides access to lower-cost labor as well as to a range of disciplines and technical specialties [1]. While software team leaders and managers are now frequently given virtual teams to manage, they have not been given clear directions on how to do so effectively. One important issue regarding virtual software team management is when and how team leaders should delegate authority and responsibility to the team. Previous studies have yielded conflicting results. This paper aims to answer this question about delegation by investigating the moderating effects of team maturity and team distance on the relationship between leader delegation and team outcomes.

The paper is structured as follows: first a literature review about delegation in leadership research is presented and three issues related to studying delegation in virtual team context are identified; second, conceptualizations of delegation, team maturity and team distance are developed; third, specific propositions regarding the moderating effects of team maturity and team distance are explained; fourth, a conceptual model mapping the propositions is presented; and finally, a study plan to test the conceptual model and contribution of this paper are introduced.

2. Delegation in Leadership Research

Delegation means that one has been empowered by one’s superior to take responsibility for certain activities which are originally reserved for managers [2]. In traditional leadership research, a rich body of studies investigated delegation, mostly as part of leadership style or of a combination of related leader behaviors, such as directive leadership vs. participative leadership [3]. Delegation is recognized as an important component of leadership. The influence of delegation on team outcomes is moderated by a number of factors such as follower maturity [4], group development [5], and team reality [6]. Of these factors, individual and team maturity may be the most common and critical general factor for team success. The general conclusion, for traditional, co-located teams, is that a leader should delegate to his followers more when the followers are mature [4, 6].

Based on these findings from traditional teams, Edwards and Wilson [7] propose that virtual team
leaders should evolve from controller, to team leader, to team coordinator and boundary manager, and finally to a team resource as the virtual team develops through different stages. However, when applying conclusions made in traditional leadership research about team maturity and delegation to the virtual team context, caution and further research are warranted for three key reasons. First as mentioned previously, the conclusion is made in studies in which delegation is measured as part of a larger construct and leadership may differ in many ways between traditional and virtual teams. The effect of delegation, alone, is not known. Second, the studies mentioned in the previous section did not differentiate which aspects or activities the leader delegates. Not only might these differ for virtual teams, but this limitation seriously undermines the practical implication of the findings. Lastly, in general, more complexities exist in virtual teams when compared to traditional teams such as communication difficulties, cultural differences, etc. [8]. The effect of the virtual team context as a moderating variable on team maturity and leader delegation needs to be explored. To address this issue, the next section presents a review of relevant literature about delegation in the virtual team context.

3. Delegation in the Virtual Team Context

There has been limited research in the field of virtual team leadership [9]. The limited number of virtual team leadership studies mainly comes in two streams: studies of directive vs. participative leadership [e.g. 10], and studies of transactional vs. transformational leadership [e.g. 11]. Transactional leadership clarifies roles and job requirements, rewards the followers when job requirements are met and penalizes the followers when requirements are not met. On the other hand, transformational leadership focuses on encouraging and empowering followers and involves more delegation or delegation at a deeper level than does transactional leadership.

The studies on transformational and transactional leadership suggest that delegation may not produce positive effects in virtual teams [9, 13]. It was found that in some virtual teams, transactional leadership is associated with more positive effects than is transformational leadership. It is speculated that such effects might be attributed to virtual team members appreciating a more directive task-oriented leadership style [9] Furthermore, directive task-orientated behavior can reduce ambiguity and uncertainty among team members and provide better direction for completing the task at hand [12]. A transformational leader delegates more. However, team members may be disappointed with the lack of feedback and guidance on their task performance [13].

However, there are other studies, which are in conflict with the above findings. Piccoli and Ives [14] found that tight control results in vindictive behaviors in virtual teams and impairs trust among team members. Kirkman et al. [15] found that empowerment improves team process quality. They also found that the number of face-to-face meetings that a virtual team has moderates the relationship between empowerment and team process quality. The degree of face-to-face interactions is strongly related to team distance [16]. Therefore, it is speculated that the team distance impacts the relationship between team maturity, delegation and maturity.

Given the conflicting empirical findings, it is clear that delegation in virtual teams involves several complex factors that interact in their effect on team outcomes. Understanding delegation requires clear operational definitions of these factors. Therefore, before proceeding to detailed propositions about interactions between team distance, team maturity, delegation and team outcomes, definitions of these four variables are presented in the next section.

4. Variable Definitions

4.1. Delegation

Delegation in virtual teams is defined in a way similar to traditional teams— as the team leader providing the virtual team members the authority and responsibility to conduct activities which would otherwise be reserved for leaders as management functions. We expand this definition to delineate different management functions that can be delegated. Several taxonomies of team-leader management functions have been developed [e.g. 17, 18]. Although these taxonomies describe the leader’s management functions from different perspectives, four categories emerge from these taxonomies and serve as four dimensions of delegation:

- Planning related functions (e.g. setting objectives, setting policies, setting schedules)
- People related functions (e.g. hiring team members, dismissing team members, determining training needs)
- Process related functions (e.g. determining work methods, determining quality standards)
- Control functions (e.g. monitoring team progress, determining corrective actions)
Finally, it should be noted that delegation is not a dichotomous construct. Instead, delegation varies along a continuum [19]. For example, a virtual team leader can conduct all the management functions by himself, or delegate certain subtasks such as collecting information to the team, or totally delegate the whole function such as keeping track of team progress.

4.2. Team Maturity
Argyris’ maturation theory [20] is recognized as a classical management principle. He believes that, as a person matures, changes occur along several continua as follows:
- “Passive” to “Active”
- “Dependence” to “Independence”
- “Behave in a few ways” to “Capable of behaving in many ways”
- “Erratic shallow interest” to “Deep strong interest”
- “Short term perspective” to “long term perspective”
- “Subordinate position” to “Equal or superordinate position”
- “Lack of awareness of self” to “Awareness and control of self”

Similarly, Hersey’s and Blanchard’s [4] situational leadership theory measures maturity as a combination of followers’ motivation and competency for their job.

However, both these approaches focus on individuals rather than teams. To measure virtual team maturity, competency and motivation of a virtual team should be measured as one unit related to its work. Also, for a virtual team to become mature, virtual teamwork skills are also needed to “fuse” the members into one cohesive unit and to apply their technical capabilities and their motivation into concerted actions. Therefore the three dimensions of team maturity used in this research are as follows:
- Team technical competency (e.g. the team’s technical knowledge, skills and experience related to its work)
- Team motivation (the team’s acceptance of team goals and commitment to team goals)
- Virtual teamwork skills (ability to communicate and collaborate to do teamwork in a distributed environment)

The above three dimensions incorporate both Argyris’ and Hersey and Blanchard’s maturation schemes. For example, the team’s competency to work independently reflects Argyris’ dependent-independent continuum; and team commitment to team goal reflects Argyris’ shallow interest-deep strong interest continuum.

4.3. Team Distance
In virtual teams, distance varies along four dimensions.
- Physical distance (the geographical distance, e.g. the number of sites, and the temporal distance e.g. the differences between time zones and team member’s working shifts)
- Communicational distance (the degree to which the team relies on computer-mediated communication (CMC) instead of face-to-face communication)
- Organizational distance (the number of organizational units the team members are from if the members are from the same organization; the number of the organizations and the number of cases where there is only one single employee from one organization if the team members are from different organizations,)
- Cultural distance (the diversity of national cultures of the team)

The above four dimensions of distance are correlated with each other. For example, communicational distance is often due to the geographical distance of the team which makes face-to-face meetings costly [16]. When team members of a virtual team come from different organizational units or different national cultures, they are more likely to be physically distant from each other.

4.4. Team Outcomes
Two team outcomes are of interest in this paper:
- The level of team members’ satisfaction with team leader
- Team performance

5. Propositions
The following propositions are based on existing literature and map some of the critical interactions between delegation, team maturity, team distance and team outcomes.

Proposition 1: When virtual team followers’ satisfaction level with the virtual team leader increases, team performance will improve.

When the virtual team members are satisfied with the team leader, the team leader will be more able to influence the members to work towards team goals and therefore to improve team performance. This has been confirmed in empirical studies [e.g. 22] of
traditional teams and is predicted for virtual teams as well.

Proposition 2a: When a virtual team is mature, increased amounts of delegation will result in increased followers’ satisfaction and better team performance.

According to Herzberg’s [23] motivation theory, recognition fulfills workers’ esteem needs and can significantly improve employee’s performance. A mature virtual team typically expects the team leader to recognize the team’s competency by delegating more responsibility. This will improve the team’s sense of self-worth and motivate the team to work harder.

When the leader delegates responsibilities for decision-making to the team, a mature team might readily accept the responsibilities and should be capable of carrying out the delegated tasks. Previous research showed that a team’s acceptance of decision is the greatest when the decision is made by the group [2]. Therefore, delegation to a mature virtual team would make the team more motivated to achieve the goals or follow the action plans which they accept.

In addition, delegation to a mature virtual team would give the team flexibility and freedom to take advantage of emergent opportunities and situation changes so that the team can improve its work process accordingly.

Based on the above three reasons, delegation to a mature team would directly make the team more satisfied with the leader and work more effectively. In addition, due to the correlation of leadership satisfaction and team performance, the team performance is also enhanced from improved leadership satisfaction.

Proposition 2b: The positive relationship between delegation, leadership satisfaction and team performance in a mature virtual team will be even stronger as team distance increases.

When virtual team distance increases, micro-management is hard to implement. For one, the team leader may not be able to know of the changes happening on the side of the remote team members in time to give feedback and instructions accordingly. Also the team distance, especially the organizational and cultural distance, makes analyses and interpretation of the situation with the remote members difficult even though the information is available. As a simple example, a virtual team leader may know that a major holiday is approaching in a foreign country where some team members are located; but the leader may not be able to understand the impact of such a holiday on the supporting resource availability in that remote site and the impact on the remote team members’ work schedules. Therefore, for a distributed mature virtual team, they would appreciate more trust from the remote leader and act on the freedom and flexibility given by the leader to achieve team goals. Therefore, when team distance increases, delegation to a mature team produces even more positive effects.

Proposition 3a: When a virtual team is immature, increased amounts of delegation will result in decreased followers’ satisfaction and worse team performance.

When virtual team members are not capable of carrying out the tasks or responsibilities assigned to them, they would find the leader’s delegation undesirable. Instead, followers would consider directive leaders more persuading, satisfying and purposeful [e.g. 24].

Proposition 3b: The negative relationship between delegation, followers’ satisfaction and team performance in an immature virtual team will be even stronger as team distance increases.

In a global virtual team study, Kayworth and Leinder [13] found that the team followers, inexperienced undergraduate, were more satisfied with leaders who gave clear detailed instructions and feedback. As virtual team distance increases, the work context exhibits increased complexities, for example cultural obstacles, communication difficulties and etc. This makes virtual teamwork more daunting for an incompetent team. Under such circumstances, the team needs to attain confidence and a sense of direction from a strong directive leader. Therefore, the negative effects of delegation to immature virtual team are more salient when team distance increases.

6. Conceptual Model

Based on the variable definitions and the propositions presented in Section 5 and 6, we propose the following conceptual model. Inside the boxes are the variables. The arrows represent relationships between variables, which are described in the previously presented propositions. The numbers represent these propositions.
8. References


