The socio-cognitive space for linking horizontal and vertical leadership

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Abstract

Leadership has become a central theme in the project management literature. Two major streams emerged, the person-centered or vertical stream, which focuses on the leadership role and skills of project managers, and the team-centered or horizontal stream, which, among others, recognizes the distributed forms of leadership in projects. Both streams are described separately in the literature. However, project reality has to deal with both forms of leadership simultaneously. Literature suggests that horizontal leadership supplements, but does not replace, vertical leadership. For that, vertical leadership must provide socio-cognitive space in form of structures and shared frameworks for the team to engage in horizontal leadership. Little is known so far about the implementation of these socio-cognitive spaces in projects. This conceptual paper addresses this shortcoming by developing propositions from existing literature to model the dynamics of the relationship between vertical and horizontal leadership.

Introduction

Leadership is gaining increasing interest in project management research. While in 2000 only 26 research articles had the terms 'leadership' and 'project management' in their title, it grew to 257 in 2015, with an exponential increase over the years (source scholar.google.com). Within these articles, two major streams of leadership perspectives emerged. The traditional, person-centered or vertical leadership, which "stems from an appointed or formal leader of a team", and the team-centered, or horizontal leadership, which "is a group process in which leadership is distributed among, and stems from, team members" (Pearce & Sims, 2002, p.172). These studies showed conceptually (e.g. Turner & Müller, 2005) and empirically that leadership is a success factor on projects, where, for example, the personality of the leader can explain up to 43% of project success (Müller & Turner, 2007). Hence, research on project leadership is highly relevant for projects as they become more prevalent in modern organizations and for the related development of project management as a profession (Lindgren & Packendorff, 2009).

Traditionally, research has taken a person-centered approach by emphasizing the role of the project manager in achieving project outcomes. In this literature, researchers have focused on the skills and competences of project managers from a variety of different perspectives, following the six schools of leadership, which chronologically focused on traits, behavior or style of leaders, situational contingency of leadership style, vision and charisma of leaders, emotional and social intelligence of leaders, and their leadership competences (Müller & Turner, 2010). Hence, research developed its unit of analysis from the person to the interaction of leaders.

A parallel stream of research suggested a different perspective and looked at the processes within teams, and the leadership that emerges from the team's interaction, including that with the team leader (Lindgren & Packendorff, 2009). These studies often build on the concepts of shared or distributed leadership (Pearce & Conger, 2003) and emphasize the contributions of individuals to the leadership of the team and how this supplements, but does not replace vertical leadership studies (Cox, Pearce, & Perry, 2003). The latter indicates that rarely one of the two approaches will be found as the sole leadership in a project, and most of the time a mix of vertical and horizontal leadership prevails in projects (O'Toole, Galbraith, & Lawler, 2003). Given the importance of leadership for project

success, it is essential to understand how these approaches interact and influence each other. Hence, we ask:

RQ1: *What is the nature of the relationship between vertical and horizontal leadership in projects?*

Research on the integration of vertical and horizontal leadership showed that vertical leadership needs to develop teams by creating the socio-cognitive space for them to act responsibly in their horizontal leadership role (see literature review below). This includes the setting of the appropriate level of empowerment, development of team members' self-management, their willingness and ability to engage in horizontal leadership roles, as well as the setup and distribution of joint mental models about the possible contributions of each team members to horizontal leadership (O'Toole et al., 2003). Furthermore it requires structural arrangements, such as shared values and identities, integrated performance evaluations across teams and their leaders (Shamir & Lapidot, 2003). There is a paucity of literature on how this socio-cognitive space is implemented in projects. Hence, we ask:

RQ2. How does vertical leadership provide the socio-cognitive space for horizontal leadership to happen?

The impact of leadership on project success has mainly been addressed in the context of vertical leadership (Burke, Fiore, & Salas, 2003), for example by outlining the impact of leadership competences, such as the leader's intellectual, emotional and managerial (IQ, EQ, MQ respectively) leadership competences on project success (Müller & Turner, 2007). Only a few studies have looked into the relative impact of the two streams on organizational or project success and came to different results. For example, Pearce and Sims' (2002) study on change management teams showed that both types of leadership relate significantly to team effectiveness, with the impact of horizontal leadership being slightly higher. Conversely, Goleman, Boyatzis and McKee (2002) stress the importance of vertical leadership in situations with higher levels of emergency. Further research is required to identify the contingencies between contextual parameters and particular mixes of both approaches for the results of projects.

RQ3: How does vertical and horizontal leadership jointly impact project success?

The Unit of Analysis for RQ1 is the relationship between vertical and horizontal leadership, for RQ2 the nature of the space provided by vertical leadership, and for RQ3 the relationship between the joint leadership approaches and project success.

The next section of the paper provides the theoretical lens, a short review of the relevant literature and subsequently develops a set of related propositions to model the nature of the relationship between vertical and horizontal leadership through the creation of socio-cognitive space.

Literature review

This section introduces the theoretical lens, the roles of project managers and teams and then reviews the literature for vertical and horizontal leadership for the development of propositions on their integration.

We follow Pearce and Sims (2002) and take a socio-cognitive theory perspective in the sense of Bandura (1986, 2002) towards this leadership phenomenon. Socio-cognitive theory (Bandura, 1986) links behaviors and cognition, emphasizing the major role cognition plays in encoding and performing behaviors. It states that personal, behavioral, and environmental influences cause human behavior. A

core concept for understanding individual behavior is hereby the triadic reciprocal causation (Bandura 2002). It shows how behaviors may be reproduced through the interaction of the following three determinants: a) Personal: does the person believe that he/she can complete a behavior (self-efficacy); b) Behavioral: what is the response received after the behavior; and c) Environmental: How are environmental conditions conducive for improved self-efficacy by providing proper support (Bandura 2002). These three determinants match with those defined later on for the link between vertical and horizontal leadership.

In line with this theory we define the space where the linkage and adjustment between vertical and horizontal leadership takes place as socio-cognitive space. It defines the boundaries of the interaction of self-management of individuals, mental models across team members, and the level of empowerment granted by vertical leadership.

Roles of project managers and teams

The leadership role of project managers manifests itself in many definitions. The Project Management Institute (PMI®), for example, defines the project manager as "the person assigned by the performing organization to lead the team that is responsible for achieving the project objectives" (PMI, 2013, p.554). In this role the project managers act as the "point of integration" (Maylor, 2001) for management and leadership activities, where the former refers to the responsibility to conduct and accomplish project objectives and the latter to influencing, guiding, and giving direction to the team members (Bennis & Nanus, 1985). Therefore, the project manager role implies the authority and the requirement to provide vertical leadership for the team in a project, including the provision of appropriate conditions for teams to engage in horizontal leadership to the extend needed by the project.

Teams are social systems of three or more people whose members perceive themselves as such and are perceived as members by others (Hackman, 1987). The role of the project team is to solve a certain task within a defined timeframe (Lundin and Söderholm, 1995). As projects are temporary organizations (Turner & Müller, 2003), the nature of project teams differ from that other teams in the sense that project teams are always working towards a definite end of existence and they find themselves in a continuous state of transition (Bakker, 2010). It is also well known, that an inherent characteristic of project teamwork is uncertainty (Meyerson et al. 1996). It has become widely acknowledged that the very notion of temporality itself has impact on organizational processes (Jones and Lichtenstein, 2008), yet there are few empirical studies investigating how this temporality affects functioning and development of project teams (Bakker, 2010).

Team effectiveness is characterized by a number of factors; first and foremost by the team members ability to integrate their actions which requires high capability of coordinating activities and adaptive operation (Zaccaro, Rittman, Marks, 2001). Based on multiple specifications of determinants for team effectiveness (c.f. Hackman 1987, Sales, Dickinson, Converse and Tannenbaum, 1992), Zaccaro et al. (2001) argue that there are, in particular, four elements through which leadership influences team effectiveness; cognitive, motivational, affective and coordination. This especially goes for hierarchical teams, which have a defined leadership role, and are designated for action and for producing something (Zaccaro et al. 2001); hence it is relevant for most project teams.

A number of researchers have made the link between team effectiveness and team efficacy, the latter being the team's belief that it can successfully perform a task (Lindsley, Brass and Thomas, 1995, Bandura 1997). Team efficacy is a strong predictor for self-set goals, task-related effort as well as task performance in teams across multiple domains (see Gully, Incalcaterra, Joshi and Bebaubien, 2002 who have conducted a meta-analysis of 67 studies of team efficacy).

In examinations of how vertical leadership behavior can support horizontal leadership in teams it has also been noted that leadership behaviors which enable self-efficacy are important as self-efficacy relates to sub-ordinates' development of self-leadership skills (Pearce and Sims, 2002).

Vertical leadership

In accordance with the definition in the Introduction, vertical leadership refers to the leadership exercised by the project manager. Related studies showed that in average project managers prefer transactional over transformational leadership styles (Keegan & Den Hartog, 2004), despite academics' plea for more transformational styles (Prabhakar, 2005). Transactional leadership emphasizes contingent rewards, rewarding followers for meeting performance targets, management by exception, and taking action when tasks are not going to plan. In contrast, transformational leaders exhibit charisma, develop a vision, engender pride, respect and trust, provide inspiration, motivate by creating high expectations and modelling of appropriate behaviors, give consideration to the individual, pay personal attention to followers and give them respect, provide intellectual stimulation, and challenge followers (Bass, 1990). More granulate studies showed that styles vary by project complexity, with transactional styles prevailing in simple engineering projects while transformational styles being more suited to complex projects, such as in organizational change (Turner & Müller, 2006). Other studies looked at the personality characteristics of project managers, which manifest themselves in different leadership styles, such as the emotional intelligent project manager (Clarke & Howel, 2009) or the combination of IQ, EQ, and MQ leadership competences for different leadership styles (e.g. Dulewicz & Higgs, 2005; Müller & Turner, 2010; Turner, Müller, & Dulewicz, 2009; Wren & Dulewicz, 2005). These studies continuously showed the importance of EQ for project success and the situational contingency of the contributions of IQ and MQ (e.g. Geoghegan & Dulewicz, 2008; Porthouse & Dulewicz, 2007).

This person-centric perspective was gradually supplemented by horizontal views (e.g., Day et al 2004) such as relational and distributed perspectives on leadership (Pearce & Sims, 2002; see also Gibb 1954 who was the first to differentiate between vertical/focused and horizontal/distributed leadership).

Horizontal leadership

Horizontal leadership assumes team problem solving and decision making. Related theories focus on the interaction between team members and emphasize the distributed contributions of individual team members. Examples include research on new product development (NPD) projects where team-based approaches, such as application design teams and walk-through teams, are essential elements of the project design, and human interaction has significant effects on NPD effectiveness, as opposed to methods and tools. Managers of these projects emphasize the need for dynamic problem solving through teams, the need for different specialists at different stages of the project, and the role of the project manager as a social architect who understands the people-organization interaction (Cox et al., 2003). Horizontal leadership requires at the outset a level of empowerment and self-management for the team to chart its way forward. The former must be granted by the vertical leader (Cox et al., 2003).

Once this is in place, the coordination within the team is enabled through learning dialogs which allow to build and maintain shared mental models. Shared mental models are representations of knowledge elements in a person's environment along with the person's interrelations (e.g. knowing the particular skills and accessibility of each member in order to sense when the transfer of leadership among team members needs to occur) (Burke et al., 2003). This learning dialog follows a four step process of increasing depth through an open debate with possible constructive clashes for the establishment of shared understandings (Fletcher & Käufer, 2003). The most central role of horizontal leadership is self management. It is the process through which team members influence themselves to achieve self-direction and self-motivation (Manz, 1986). Self-management steers self-efficacy beliefs

and acts as a primary mechanism to develop team members' self-efficacy (the willingness and ability to engage in horizontal leadership) through constructive thought and self-talk strategies. As such, horizontal leadership requires that team members first learn to lead themselves before they can lead others.

Theory development

The above discussion indicates that horizontal leadership in projects is enabled by vertical leadership and is contingent on the development and maintenance of a socio-cognitive space that enables empowerment, the emergence of shared mental models across project team members, and the self-management of individuals. High levels of these three elements are indicative of higher levels of horizontal leadership. The project manager in his or her vertical leadership role enables this space. However, the execution of this role is influenced by the personality of the leader, which impacts the type of projects that the project manager gets assigned to (Turner & Müller, 2006). Given the above, we propose:

Proposition P1: The relationship between vertical and horizontal leadership is determined by the nature of the socio-cognitive space, which consists of the level of empowerment, shared mental models across team members, and self-management capabilities of individuals, as enabled by the project manager.

Proposition P2: The nature of the socio-cognitive space is directly influenced by the personality of the project manager and indirectly by the types of projects, industries, and national cultures, which influence project manager selection.

O'Toole et al. (2003) suggest that organizational efficiency and organizational performance is contingent on the fit between the balance of vertical and shared leadership with the type of task at hand. The more complex the task, the more horizontal leadership is appropriate. For the execution of horizontal leadership by teams, they suggest to redistribute the roles of directive, transactional, and transformational leader among the team members to cover the leadership dimensions of strongman, transactor and visionary to cope successfully with the variety of leadership situations. Moreover, they found that organizations with a stronger horizontal leadership institutionalize key tasks and responsibilities, and people tend to be more entrepreneurial by assuming owner-like responsibility for financial performance, taking initiative to solve problems, willingly accepting accountability for meeting commitments and better adhering to rewards and appraisal systems. This transcends into the realm of projects as:

Proposition P3: In order to be most successful with their projects, project managers (in their role as vertical leaders) need to adjust the socio-cognitive space to the dynamics of their project, using the dimensions of empowerment, mental models, and self-management.

For that, project managers need to select and develop their team members with skills and self-leadership capabilities needed for the project, so that team members become capable to act as entrepreneurs and be willing to accept responsibility and accountability when the socio-cognitive space allows for leadership that is more horizontal.

Conclusion

This conceptual paper addressed the question of the relationship between vertical and horizontal leadership and its impact on project success. For that we developed a contingency approach to understand this relationship through the establishment of a socio-cognitive space within which empowerment, shared mental models, and team members' self-management act as the linkages

between the two leadership approaches. The extent these linkages are activated, or, in other words, the scope of the socio-cognitive space, provides for differences in the balance of vertical and horizontal leadership. The socio-cognitive space is contingent on vertical leadership, which, in turn is contingent on contextual parameters. Simultaneously, there is a contingency between the "right" balance in leadership and project success. This balance is adjusted through the socio-cognitive space.

The paper is the first to address the relationship of vertical-horizontal leadership balance with project success through the creation of a socio-cognitive space. It provides practitioners with new insights in adjusting leadership for project success and academics with a theory for empirical testing.

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