Shared Leadership and Perceived Complexity of Work in Agile Teams

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Abstract

Agile teams work in complex software development environments. In this poster, the author explores the relationship between leadership styles and perceived work complexity, particularly in the context of teamwork using agile methods. Based on research conducted during PhD studies on 77 respondents, the author shows the relationship between the style and declared complexity of the work. The findings show a relation between strong vertical leadership and less complex work and shared leadership with more complex work. Further research directions are discussed based on the initial findings.

Research & practice

Agile methods are helpful in dealing with the complex nature of work (Sutherland and Schwaber, 2020).

For more complex activities, there should be a noticeable trend toward more shared leadership and less of a hierarchical leadership role (D'Innocenzo et. al, 2016).

Shared leadership - an emergent situation in which the leader's role and influence are distributed among team members (Carson et al. 2007). Leadership function comes from team members, not one appointed leader (Zhu et al. 2018). Styles of leadership supporting shared leadership: boundary spanning, empowering, and transforming (Perlak, 2025).

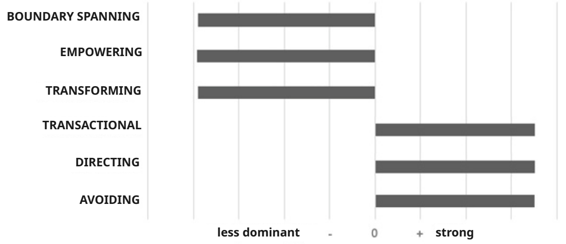


Figure 1. Style of leadership supporting vertical leadership and shared leadership
Source: Own

Vertical leadership styles such as transactional, directing, and avoidant are strongly positively associated with strong vertical leadership, inspired by the research of Pearce and Sims (2002). The vertical leader plays an important role in building a self-organizing team. The opposite style correlates with self-organization (Perlak, 2025).

Tab. 1 Leadership and complexity level

	SHARED LEADERSHIP				VERTICAL LEADERSHIP			
COMPLEXITY:	Very high	Low	High	Medium	Very high	Low	High	Medium
Counter	16	2	35	24	16	2	35	24
Average	0.507	0.250	0.417	0.629	2.646	2.667	2.586	2.569
Std. deviation	0.286	0.354	0.287	0.292	0.285	0.236	0.371	0.471

Source: Own

66% of respondents indicate their work is high or very high

Perceived complexity of the work, how respondents assess the complexity of the work their team is performing (from low to very high). In psychological literature **task complexity** is related to the cognitive effort related to information processing demand (Zhou et. al., 2022). **Job complexity** refers to a cognitively demanding workplace that consumes employee resources (Bai et. al. 2022)

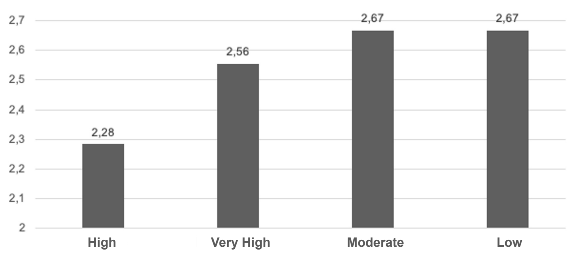
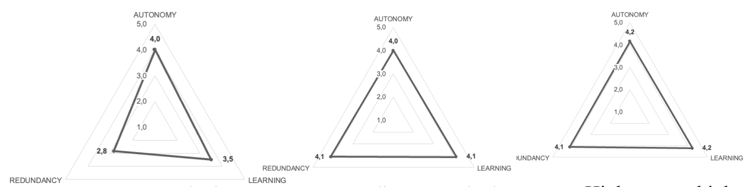


Figure 1. Style of leadership supporting vertical leadership and shared leadership
Source: Own

Shared leadership is highest at a medium level of perceived work complexity, and remains high in very high complexity (Perlak, 2025).

Self-organizing team can be characterised by three dimensions: autonomy (making decisions), redundancy (skills, abilities), and learning (ability to absorb new things). Also, such a team needs clearly defined responsibilities (Perlak, 2025).



Low complexity | Medium complexity | High or very high complexity

Figure 2. Self-organizaiton in relation to work complexity
Source: Own

In medium and high complexity environments, self-organising teams have more redundancy and learning. Surprisingly the level of autonomy remains high regardless of the complexity of the work (Perlak, 2025)

A **strong vertical leadership style is more dominant in a low complexity environment** (Perlak, 2025).

More insights into how leadership is shaped in self-organising teams are needed. There is much more research ongoing, and one is being conducted by the author of this poster.

Selected papers

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7. Zhou, X., Wang, X., & Liu, X. (2022). The impact of task complexity and translating self-efficacy belief on students' translation performance: Evidence from process and product data. Frontiers in Psychology,13, 911850
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