LEADERSHIP IN COMPLEX PROJECTS

ACTS OF LEADERSHIP IN COMPLEX PROJECTS
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ABSTRACT
In the project management arena it seems common understanding that project managers profile as highly result- and action-driven. Although project management academia nuance this topic, stressing leadership characteristics like team leadership, personal effectiveness, and e.g. interpersonal understanding, others (indeed) focus on achievement orientation. Research by Gehring (2007) concludes with a set of favourable MBTI (Meyers-Briggs) types, with Thinking and Judging (“TJ’s”) as preferred indicators. TJ’s see the world as logical and like to have matters settled. In "Management Drives" terminology this relates to orange, red, yellow profiles. Author's pragmatic research as a program manager on projects X & Y indicates that in complex projects, where one deals with messy problems, another profile might prevail: one that understands patterns, believes in the wisdom of crowds, emerges with the situation, and considers the relativity of (project management) frameworks.

1. Project leadership
Project leadership has some specific characteristics. A project is temporal and functions within the formal organization. Some refer to a shadow organization (Stacey, 1996). A project manager steers a team that consists of members that are taken out of their formal jobs because they have expertise that is needed to successfully complete the project. This team is often complemented with hired personnel. The formal boss is still there, and hired personnel also report to their management. It's this complicated matrix, with all kinds of power roles, that a project manager needs to deal with, apart from the fact that (s)he needs to start building a team out of a group of individuals. Furthermore projects normally also stand for risk: known-unknowns. These risks imply and include career risk both for the project manager and for the project owner, an executive who operates in the formal organization, who will manage that career risk leading to behaviours that a project manager needs to be aware of. Finally, although far from being exhaustive, I would like to stress the element of time. The concept of time is food for philosophers, but to keep it simple: projects can have a short-term time horizon—in an extreme form with a need to deliver yesterday, such as a compliance project when an organization falls behind on current laws or regulations. Such a project puts the team under extreme pressure. This (time or pace) is an element of project complexity (Shenhar & Dvir, 2007). Conversely, projects can also have a long-term time horizon, and with time, the changing context creates complexity and a call for flexibility. In both cases a project manager needs to deal with levels of project complexity, but what exactly is project complexity?

2. Complex projects
Although there is not much consensus on what project complexity is some writers point to interrelatedness defined as many varied interrelated parts. Others refer to perceived complexity. This type of complexity can be labelled subjective: not only do all of the actors perceive the same problematic situation, but also no one actor can perceive the whole context, and, moreover, all players do not even perceive the same context (research by Chronéer & Bergquist, 2012). Another definition of perceived complexity: Components plus interactions plus context plus interpretations form a complex whole; where components could be interfaces or combinations of hard- and software, interactions refer to all information flow, interpretations stress subjectivity and context points at situation dependency (ISCE Research, www.ISCE.edu).

In a project context I would like to define project complexity as interrelatedness between men and machines. Complicatedness should not be confused with complexity. An airplane is complicated; but experts can tackle a problem therein. In contrast, the weather, an ecosystem or a flock of seagulls are complex; here we look for patterns to come to an understanding.

Following the NTCP diagram as developed by Shenhar & Dvir (2007), figures 1 and 2 show the NTCP diagrams for two of my projects.

Remington and Pollack (2007) refer to Structural ("We can't see the forest for the trees", "How can we keep track of all the interdependencies"), Technical ("How do we do or make it", "There is nothing like this out there"), Directional ("How do we share understanding", "No one seems to be on the same page") and Temporal extremes ("It is like standing on quicksand", "Everything keeps shifting"). Figure 3 shows my complexity map of project X. I like to refer to models like NTCP, or complexity mapping, as being "outside scans". They enable the project manager to come to a better understanding of where in their project environment complexity resides, to be able to draw that storyline. The area of complexity is also the area of "unknown-unknowns" or the area of uncertainty; that is the area beyond risk management, beyond risk mitigation ("I, dear
executive, just don't know what could happen there, and you don't know either, but we have to deal with it"). Executives don't like uncertainty—it is managerially unwanted (Stirling, 2010)—but it is there, certainly in complex projects. What I propose is to explicitly point at uncertainty in the mandate phase of the project (Berndt, 2014). Daring to address areas of uncertainty is in my view an act of project manager leadership.

Are then all projects complex? Following Snowden and Boone's Cynefin model (Snowden & Boone, 2007), and although I think complexity trumps all categorization, not many projects will be done in simple environments where one categorizes and responds to a problematic situation. I suspect that projects mainly reside in complicated areas where one analyses and responds or in complex areas where one probes, senses and responds, and projects can turn chaotic where one starts acting without much longer-term consideration, due to time pressure. Snowden and Boone's model is a leadership framework, and in their view acts of leadership (sense, analyse, respond) in complicated areas differ from acts of leadership in complex areas (probe, sense, respond). To stir the pot a bit: how capable of probing and sensing are highly results-driven project managers, the "Management Drives" Orange and Red profiles?

3. Leadership in complex projects

One of the most pervasive characteristics of messy problems is that people hold entirely different views on a. Whether there is a problem, and if they agree there is, and; b. What the problem is. In that sense messy problems are quite intangible and as a result various authors (e.g. Checkland & Scholes, 1990) have suggested that there are no objective problems, only situations defined as problems by people. Given the increasing complexity of the project teams and their operating environment more and more decisions of this type arise (Richardson, Tait, Roos, Lissack, 2005, p. 446).

To reveal peoples worldviews on these messy problems Richardson et al. propose to use Group Decision Support Systems. For example, I started using the World Café method (www.theworldcafe.com) in my projects. From a leadership perspective, using these methodologies means that the project manager relies on group opinion not only at the tipping points of a project but also when delivering standard project products like planning, solution-delivery or a risk log. I personally believe in the wisdom of crowds, and according to Surowiecki (2004) to trust the wisdom of crowds some criteria need to be fulfilled: diversity of opinion, each person should have some private info on the topic; independence of own opinion; decentralization, meaning people are able to specialize; and aggregation, you need a tool to define the common thread of group opinion. I like to call this diversity. In my opinion, a project manager of a complex project that manages his project bottom-up, using some Group Decision methodology, first needs to establish a diverse team (Berndt, 2014). Prior to project start-up the project manager needs to evaluate the diversity of the supposed project team. He should address a (putative) lack of diversity in the mandate phase of the project, in a complexity preamble, in which also the above elements of uncertainty are communicated to the executive-project owner. A project manager could use network theory in combination with an assessment method like Management Drives, like I have done in reflecting on my Project X. Project X dealt with a technical systems conversion in which also several compliance issues played a role.
Figure 4 reveals the communication lines amongst the team members of project X. Instantly one can recognize that everyone talks to everyone. The colored hubs indicate the centres of information flow, those team members with power roles relating to knowledge or management. The colours refer to Management Drives dominant behaviour styles (green: people-oriented; yellow: visionary, analytical; purple: mission, tradition; orange: result-oriented; red: power play, getting things done; blue: structure, certainty). There is a level of diversity amongst the hubs, but when we assessed the team on the whole, including the grey nodes, it appeared to be rather blue.

This blue team profile, coupled with some yellow knowledge hubs, got the team struck in ‘analysis-paralysis.’ Furthermore the project had been delayed a few times, all for legitimate, risk-related reasons, which possibly led some to lose belief in real management buy-in for the project. The team had been together for several years, and the interpersonal relationships became entrenched. Knowledge tended to circle around in this in-crowd with no space for novelty, and newcomers were seen as intruders. The Orange-profile project manager then told the team to stop arguing, to define what was clear and to move ahead iteratively, to the dissatisfaction of the blue/yellow contingent that continued to analyse the ideal waterfall approach.

This view on the project X team was done retrospectively. I advise to do this prior to the project-start using basic network theory and an assessment method (Berndt, 2014). Our internal reviews on complex projects suggest that the time involved in such a research is worth the effort. This view on the team should be part of the complexity preamble and could lead to a first intervention, again an act of leadership, in an effort to deal with complexity so as to create an emergent and diverse flow of information.

4. Acts of leadership

Projects increasingly deal with complex, messy, problematic situations; constructs of individual world views and perception. Technology increases complex relationships between systems and humans. Project managers need to deal with that complex world. Complexity shows itself in glimpses, vague patterns that might become visible. We need project managers that are able to *laisser-faire*, to let those patterns arise so as to be able to act upon them. In Management Drives terminology these are the Green, Purple with Orange/Red profiles. I admit a rare species in project-management land, but then again a lot may change when project managers become more aware of true complexity and adapt their toolkit to deal with it. Writing a complexity preamble, discussing uncertainty (managing uncertainty is another topic) with the project-owner, adjusting the proposed project team towards greater diversity, assessing that team to improve team conversations, steering more loosely on
frameworks (Letiche & Lissack, 2011), leading the group through a series of group decisions. These are all (continuous) interventions and quite courageous deeds of leadership in complex situations.

REFERENCES