Decision-Making in Agile Project Teams

In software development project management, it’s important to both understand the factors that can negatively influence a project team’s decision-making process, and the impact those decisions can have on a project’s outcome.

Researchers know that teams using traditional project management methods tend to use a linear decision-making process comprised of:

1. Problem identification
2. Solution development
3. Selection of the best alternative

But researchers Meghann Drury, of Fordham University, New York and Orla McHugh of National University Ireland Galway wondered if teams using the newer agile project management methodology are following the same decision-making practices as teams using traditional project management methods.

Agile teams develop software in short time periods (sprints). There are usually less than 10 members, all of whom make decisions collaboratively. The team structure is flexible and adaptable, with team members interchanging roles to gain new experiences. The project manager is not the decision-maker but more of a facilitator or coordinator.

To investigate how agile project teams make decisions, the researchers conducted 34 interviews and 18 observations across four agile project teams in India, Sweden and Ireland. Two of the teams were collocated, and two were distributed, with members in different countries.

The researchers examined the teams’ decision-making during two kinds of agile practices: the Sprint Planning Meeting and the Daily Scrum Meeting:

a) The Sprint Planning Meeting takes place at the start of each ‘sprint’ or project segment, during which the team collectively defines and plans tasks to be completed during the next sprint.

b) Daily Scrum Meetings are short, 10- to 15-minute daily status meetings, with team members standing. Each member explains what they have accomplished since the previous meeting, what will be completed by the next meeting and any impediments to prevent them from completing current tasks.

Since these agile teams are working to short, tight deadlines, they need to make informed decisions quickly if they are to meet their short-term goals.

Drury and McHugh found that agile teams did not use a rational, linear decision process during the two meetings they studied.

“Decision-making on these agile teams seems a more flexible process that may be akin to naturalistic decision-making where experience drives decision-making,” says Drury. “Often, people’s experience drives their individual and group decisions and agile teams do not identify and evaluate a series of options, as the linear process outlines.”
Drury and McHugh discovered seven factors that prevent agile teams from effectively using the linear decision-making process:

1. For teams with members in different time zones, timely decision-making is more difficult. As all members are not always available, it is difficult for the team to identify problems and resolve them collaboratively as an agile team.

2. It’s not uncommon for team members to move to different teams mid-sprint, but this affects decision-making since there are not enough full-time members to address the issues and team members cannot complete all tasks determined in the Sprint Planning Meeting. Thus, sprints collapse.

3. As agile methods recommend customer involvement, when customers are members of the team and attend the Daily Scrum Meetings, they are involved in the decision-making. When the customer is not involved, however, the team must still make quick decisions, which often need to be reversed because they lack initial customer input.

4. Although agile methods foster team collaboration, when estimating tasks doesn’t include input from all team members it is more difficult to arrive at accurate and realistic decisions, which can create delays in delivering the project.

5. Agile methods aim to motivate individuals in a supported environment, but while agile teams rely on all members to contribute to the decision-making, less experienced members are still less likely to contribute to decisions.

6. The short but intense two- to three-week sprint cycle increases pressure on teams during both the Sprint Planning Meetings and Daily Scrum Meetings. This can lead to quick and possibly inappropriate decisions that are not made following the linear model, or over- or under-reporting progress on tasks in order to temporarily ease a team member’s workload.

7. Senior developer team members can often dominate decision-making even though agile methods favor daily interaction between developers and business people. Rather than incorporating perspectives from all members, the most experienced member tends to unduly influence the decision.

For all of these reasons, say the researchers, a linear decision-making process seems inappropriate for agile project teams.

One important finding, says McHugh, is that agile project teams are missing key information for decisions because inexperienced members feel their inexperience precludes them from contributing to complex decisions, or because key members have been pulled from a team mid-sprint.

“This suggests that agile methodologies may not be suitable for projects that include a large number of unknown complex tasks,” she says. “It’s difficult to make informed and accurate decisions in Sprint Planning Meetings when there is a lack of knowledge, because agile teams seem to rely on their knowledge and experience for decisions rather than a linear process.”

“We recommend that teams avoid reducing their efforts, as they may have to re-address the issue in the future if solutions aren’t properly addressed in sufficient detail,” says Drury. “These decisions impact the teams’ overall ability to deliver on their goals, especially if over-estimating and under-reporting are regular occurrences. As teams make decisions it is important, from a project manager’s perspective, that the team rejects such behaviors and addresses them.”

*PMPerspectives.org is a website which connects project managers and sponsors with project management researchers. Our mission is to understand and improve project management practices. The research team comprises Dr. Blaize Horner Reich and Dr. Andrew Gemino from Simon Fraser University, Canada and Dr. Chris Sauer from Oxford University, UK.*

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