Scrum Sticky Issues

By Neil Potter

Introduction
Scrum and Agile project management practices are still very popular in parts of the software development world. However, they don’t come without challenges.

In this article I will discuss some positive attributes of Scrum and challenges to look out for.

Scrum
Scrum is a straightforward management process for software development. Scrum consists of predefined milestones and events that scope, estimate, plan and status a project.

Scrum positives
There are many positive aspects of Scrum. These include:
- Scope changes are managed.
- Small (1- to 4-week) iterations create team momentum and early feedback on progress and technical solutions.
- The Scrum process can be learned and used in less than 2 days.
- Daily standup meetings and burndown charts provide quick and easy project status.

Sticky issue #1
Not all Agile/Scrum teams actually do Agile/Scrum.

There is a term in Scrum called “ScrumBut,” which means, “I do Scrum, but I don’t do ___,” where the blank is some essential practice in Scrum. So if a team tells you that they are using Scrum (or

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The inability to hit delivery deadlines, or the fact that 75% of the organization's resources is spent on rework. Related goals might be to meet deadlines 90% of the time, or reduce rework to 25%.

The goal-problem approach starts with a business goal (e.g., product delivery or improvement goal) and works backward to determine what improvement actions are necessary to achieve that goal. Here is an example.

During a client visit to help plan a process improvement program, we learned that the group was about to establish seven teams to work on the seven Process Areas of CMMI Level 2. We suggested that the practitioners and managers temporarily forget about Level 2 and state all the major problems they had. They were then asked to state the goals they were trying to achieve over the next six to 18 months. After one hour of discussion, they created a list of 23 items. A sample list of problems is shown in Figure 1.

The next step was to have the group compare the list of goals and problems with the topics of the framework they were using (in this case CMMI). In Figure 1 we have listed example practices from the model that specifically relate to each problem. The intent is to list a few actions to get started, not list every applicable practice in the model.

**What was the scope of the improvement program?**

The scope of the improvement program was to address the problems and goals of the organization. 21 out of the complete list of 23 items (91%) map to CMMI Level 2. When all the goals and problems had been addressed, 46% of the Level 2 activities were implemented.

The key difference between this approach and addressing the seven Level 2 PAs in parallel is that the goals and problems tell you which pieces of each PA to address first. Regardless of the improvement model or standard being used, the goal-problem approach tells you how to scope and sequence your improvement program.

**Dealing with items that don't match the improvement model or standard**

In Figure 1, not all of the problems in the list closely match the areas of CMMI. For example, there is not much in the CMMI to address problem #7 specifically. In this situation, one has to determine which areas are the most important for the organization to fix now. Serious problems should be worked on first.

**What can be learned using this approach?**

There are three significant lessons to be learned from adopting the goal-problem approach:

1. The goals and problems help the organization identify which pieces of a process improvement model or standard to work on first. A model or standard should no longer be seen as providing an all-or-nothing approach, which often leads people to do everything at once, regardless of whether it is appropriate.

2. Any process document that is developed to solve a problem will be meaningful and useful. The process improvement team will be less tempted to gold plate the process, since its scope will be defined by a problem.

3. The motivation of the group to work on improvement issues will be increased. The improvements will be directed toward improving the group's ability to perform. Barriers to success will be solved systematically.
Addressing all of the items in the model or standard

One of the primary concerns with this approach is that an organization will not address all of the items in the model or standard being used, since there might not be goals or problems related to all of the items.

When the first set of goals and problems have been worked, the next step is to repeat the cycle and determine the next set of goals and problems. This new set can then be compared to the remaining items in the improvement model or standard.

There will, of course, be situations where a few of the items of the model or standard are not used when solving a problem or achieving a goal. These items should be left until the end of the improvement cycle. At that time, one of two scenarios occurs. First, the outstanding items will be put to good use. It will become clear how to use them. Second, the items will be declared ‘Not performed.’ If this occurs, verify with your appraiser or auditor that this is an appropriate choice. You might or might not have missed a critical practice.

Summary

Process improvement should not be an academic endeavor. It can be focused solely on solving problems and achieving business goals. Use your goals and problems to guide your improvement activities.

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Agile), then ask questions to determine if your team is really Agile or Agile-declared? They might be doing only one small aspect of the method.

Sticky issue #2

Using Scrum in safety critical systems

Safety critical systems, such as medical devices, aviation and defense systems, expect specific practices to be performed that lower the risk of poor quality. If your Scrum team is only breaking its work into four-week increments, conducting daily meetings to track project status and doing nightly builds, then it won’t meet typical safety-critical expectations such as requirements analysis, quality assurance, design for reliability, qualification testing, configuration management and traceability. These practices can be added to Scrum, but one cannot assume they are being done, even if the team members say they are following a defined process.

Sticky issue #3

Scaling Scrum takes work

Scrum was initially designed as a lightweight development process for small co-located teams. It does not automatically contain everything you need to run a large team across multiple locations and time zones. To scale Scrum you will need to determine:

- How multiple Scrum teams will work together to manage scope changes, communicate interfaces, identify dependencies and coordinate status. The solution to this is often referred to as having a “Scrum of Scrums,” where Scrum leaders meet as a Scrum team. However, this takes a lot of work when requirements and scope are in flux across numerous teams in different time zones.
- What level of documentation is needed and where it will be stored and updated for team use. A core Agile value is that documentation is less valuable than a working product. This is true, but in a large-scale team split across time zones, verbal communication is limited and error-prone.

Summary

1) Scrum can co-exist with other development methodologies. Additional practices can be added to the Scrum method while maintaining the concept of developing small increments.

2) Beware that current Scrum/Agile teams might not be using the method correctly now.

3) Agile does not automatically scale up; work is needed to manage teams that are dependent upon each other.

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3 Definition of terms
IPM = Integrated Project Management
OT = Organizational Training
PI = Product Integration
PMC = Project Monitoring and Control
PP = Project Planning
RD = Requirements Development
REQM = Requirements Management
TS = Technical Solution (design and implementation)
VAL = Validation
VER = Verification

4 For a full description of this approach, see the book reference on page 4.
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Here is the book’s Table of Contents:

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