

# CSM Practicing Certification Renewal Assessment

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Scrum depends on the inspect and adapt mechanisms of process control to manage the complexity of projects. For inspection to work, everyone must know what is being made visible. To implement the Scrum process, such regulating mechanisms as defined roles, involvement versus commitment, time-boxes, and regular cycles are used.

1. Describe one project on which you have used Scrum over the last twelve months. Describe:
  - Purpose - what business goal was the project intended to deliver?  
The project was a “technical debt reduction” project in which the business value is the avoidance of future expected maintenance costs for a software system.
  - Length - what was the duration of the project?  
The project, including pre-work before the Scrum process was used, has lasted for 3 months and included 4 2-week iterations. It is nearing completion.
  - Cost - what were the budgeted and actual costs?  
I do not have access to this information.
  - Value - what were the projected benefits and actual (if measured) actual benefits?  
The projected benefits are the avoidance of a large (>\$10,000.00/server/month) maintenance contract cost with the vendors involved.
  - Size - how many people were on the project team(s), how were they organized into teams?  
There were nine core team members assigned full-time to the project as well as several more people who participated in delivering work on a part-time or as-needed basis.
  - Teams - were the teams cross-functional and self-organizing? Were the teams collocated in an open space? Were the teams physically separated within one location, or located in more than one physical location?  
The team was cross-functional including developers, testers, a business analyst, a project manager (separate from the Scrum Master – took care of administrative work), and most members of the team were willing and able to contribute outside of their area of specialty. For example, developers assisted with test creation and execution. The team was physically co-located in an open space. The open space was adapted to the requirements of the team including everything from desk arrangements, computer locations, all the way to getting additional plants (vegetation) in the space.
  - Initiation - how was the project initiated? How was the team trained to use the Scrum process?  
A “project discovery” workshop was held with the core team members to accomplish the following:
    1. Introduction to agile and scrum including test driven work and user stories
    2. Basic team building exercises
    3. Initial project backlog developmentAn apprentice Scrum Coach who had taken the Scrum Master training course was also a member of the team.  
Prior to the “project discovery” workshop, the project was part of a non-agile process during which a traditional requirements document was created. This document was used to inform the development of the backlog, but was discarded after the initial backlog was created.
  - Reporting - how did you report progress to management and the customers?

The team room has information radiators that demonstrate burndown and story/task completion. The project manager was responsible for traditional reporting including team member hours, and software lifecycle milestones (the project exists in a corporate environment where there are some compliance constraints that required plan-based milestone reporting).

As well, at the end of each sprint/iteration the product owner reviewed the work accomplished and accepted it.

- **Change - what difficulties were surfaced by Scrum that had to be resolved? How were these resolved?**  
One primary difficulty that was surfaced was an incompatibility between two versions of software. This incompatibility required collaboration with the vendor to assist in resolving the incompatibility by having them provide customized configuration files. This issue was identified extremely early due to the test driven development process.  
As well, several members of the team were facing external pressures to commit time to other projects. As Scrum Master I encouraged these team members to examine alternatives to taking time away from the project including discussion with managers, rescheduling meetings to more acceptable times, and refusing non-critical work. In most cases, but not all, these difficulties with time management were resolved to the benefit of the project.  
Some team environment issues were also surfaced early on including inadequate telecommunications equipment and inadequate wall/whiteboard area. These issues were also resolved successfully.
- **Management - what was the previous role of the ScrumMaster? Who took on the role of Product Owner? To what degree were they successful in fulfilling their roles?**  
As Scrum Master, I was engaged as an external consultant to launch the project and to mentor the apprentice Scrum Master. The launch was successful and the mentorship is ongoing and going well. The Product Owner was previously a business-side methodology consultant focusing on Lean practices. She was successful in fulfilling her role in prioritizing the backlog items and being available to the team to resolve questions. As well, she was able to shield the team somewhat from external requests for time.
- **Engineering - what software engineering practices or environment had to be changed?**  
A substantial successful effort was put into test automation using WinRunner. The technical environment is non-object-oriented. As well, some improvements in the process for deploying an updated system were made. These improvements focused on the technology and practices used for configuration management. In particular, special arrangements were made to expedite a normally cumbersome code promotion process. Some of this improvement was part of a general Lean initiative in the organization.
- **Stabilization - for how long did the software have to be stabilized before it could be released? How did you structure this stabilization process?**  
This was not an issue for release of non-production servers and software. The production servers and software have not yet been released.
- **Success - to what degree was the project successful? To what degree was the Scrum process instrumental in the success of the project?**  
The project has been very successful so far in a number of dimensions: speed (anecdotally this project would likely have taken 3 times as long using the old corporate SDLC), customer satisfaction, team satisfaction, and problem identification and resolution. Scrum played a large but not exclusive part in this success. The team was building on the work of some Lean initiatives to improve project success. Scrum was critical for the early identification of problems and contributed to the other dimensions of success mentioned.

- Scrum Process - to what degree was the Scrum process implemented "out of the box?" To what degree did you have to modify the Scrum process for this project? For each modification, how did you formulate the modification so that the basic inspect/adapt mechanisms continued to function? What parts of Scrum couldn't be implemented, or failed, and why?
  1. Sprints were reduced in duration to two weeks. This modification was made in order to increase the inspect/adapt frequency.
  2. An overall project burndown chart was not maintained. Only the sprint burndown charts were maintained. The team agreed that the project burndown was not necessary given the easy visibility of the project backlog as "Story Cards" taped up in the work space.
  3. Backlog items were not estimated. The team instead decomposed the backlog items into tasks and estimated those. These task estimates formed the basis for choosing the amount of work to perform in a sprint.
  4. Due to the non-user facing nature of the work on this project, product owner acceptance was based on less direct or tangible results including demonstrations of tests completing and verbal confirmation from team members on work completed. This was not considered a significant risk given the nature of the project work.

2. How do you cause the accuracy of Product Backlog estimates to improve? To what degree does their accuracy matter?

Product Backlog estimates can be improved in a number of ways. One method is simply to refine the backlog items by learning more about them. This may reveal that the items be split up into smaller items. As the team's understanding of the Product Backlog items improves and the items are refined, the team is able to produce better estimates.

Another method of improving the estimates is simply through practice. The team will reflect on how close their estimates were to reality between iterations. This feedback, will allow the team to examine the reasons for their inaccuracies. To the degree that the team and the Product Owner consider this important, they will make efforts to improve their estimates.

In general, the accuracy of estimates is not essential. The estimates are used to feed into the burndown charts, but are not used for planning per se. This distinction is critical for stakeholders and the performing team to understand. The team commits to a Sprint goal, not to specific estimates.

3. How do you cause the accuracy of what a team commits to for a Sprint to what the team actually delivers?

Over the course of several sprints, the team learns its capacity for work through the idea of velocity (actual hours worked over ideal hours completed), through reflecting on the behavior of the sprint burndown charts, and by examining specific examples of tasks that were inaccurately estimated and investigating the reasons for that inaccuracy. This inspection process allows team members, and the team, to learn what sort of mistakes in commitment are being made. In the project described above, the team had a tendency to over-commit. Inspection of the burndown charts has enabled them to choose their commitment to work more and more accurately.

4. What metrics do you use to track the development process? Which metrics have been changed, removed, or newly implemented as a result of using Scrum?

Overall project delivery time (or time to market) is used organization-wide to measure the development process. In the old organizational SDLC, process compliance was a very important metric, however its importance has been reduced significantly as a result of using Scrum. All projects have a business case which includes a projection of Net Present Value. Due to the nature of this project as a technical debt reduction project, it was exempted from the requirement to have an NPV business case.

5. What type of training, resources, or tools would best help you successfully employ Scrum in the future?

An in-depth presentation/course about agile/Scrum for project performers would be useful (and I

am currently working on authoring such a resource/course).

6. (Optional) Scrum and Extreme Programming are sometimes used together. What must be considered when this is done?