

CSM Practicing 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 are defined as roles, involvement versus commitment, time-boxes, and regular cycles are used.

Describe one project on which you have used Scrum over the last twelve months.

Describe: The purpose of the project was to migrate a line of business contact center off an old network carrier's interface over to a new network interface, which provides additional technology, business capabilities, and is more cost effective.

Purpose – what Business goal was the project intended to deliver? The Business goal was to be able to retire the old network interface to be inline with the rest of the lines of business who had already migrated and take advantage of the new technological capabilities that a more intelligent platform provides.

Length – what was the duration of the project?

- The original project duration for an initiative such as this would take 6-8 months following a waterfall methodology. This project was taken into our Product Backlog and incremental value has been delivered over two-week sprints. So far, 75% of the project has been delivered over a total of three sprints and I forecast that two more sprints will be required for total project completion. This is a total of ten weeks for project delivery versus thirty-two weeks in a waterfall approach. This total time-to-market could further be decreased; however, the project team has also delivered small enhancements that were prioritized based on business value-add.

Cost – what were the budgeted and actual costs?

- The project was budgeted for 510 hours. Each sprint, we have steadily reduced the number of resources required to complete an equal amount of work. So far, we have used approximately 275 hours and I would anticipate coming in 10% under the original budget.

Value – what were the projected benefits and actual (if measured) benefits?

- The line of business involved in this project will save the cost of being on the old network interface, which would be \$135K/yr., plus approx. \$50K new hardware, \$15K/month circuit cost, and any/all associated technical support.

Size/Teams – how many people were on the team(s), and how were they organized? Were they cross-functional and self-organizing?

- The team was originally 7-8 individuals composed of developers, system/UAT testers, and business systems analysts. During the earlier sprints, approximately six team members were engaged in delivering this project and the remaining team members worked on smaller enhancements that were prioritized in our Product Backlog. As we finish up our third sprint, I have seen the team slim down to one business systems analyst, one developer, and one system tester. This team of three has been able to complete a majority of the project work within the sprint, while using our platform Architect and other senior developers as a reference from time-to-time. The other team members have been able to complete other enhancements/projects, resulting in an increased throughput for our Business Customer. The team members have increased their versatility by cross-training – i.e., one of our business systems analysts is now able to make minor code changes, our systems tester corrects defects as he finds them instead of logging the defect and passing it along to a developer for correction, another business systems analyst has completed UAT testing on project and enhancement level work. The team has formalized their cross-training relationships where senior team members have responsibility for the development of less experienced members. Developmental feedback is exchanged between this pair-programming relationship and will be re-visited on a regular manner to properly evaluate progress and ensure that everyone's cross-training needs and desires are being met.

Initiation – how was the project initiated? How was the team trained to use the Scrum process?

- The team initially went thru a week-long Lean and Agile bootcamp. Due to our two week sprints, we are able to quickly share retrospective feedback across the team to make improvements and find points to sustain. I worked with another Scrum Master to educate our Customer and guide them thru the requirements of a Product Owner. The initial challenge was creating the Product Backlog, so that it was in a “ready to work” state. Concerning this specific project, we spent time with this Customer and educated them on the Agile and Scrum processes, so they understood how business-value prioritization would occur and the expectations of an Agile Customer. Since implementing Scrum and leaning out our process, we have reduced total-time-to market (TTM) for enhancements by 67% and still continue to gather project-related metrics to measure that amount of reduction.

Reporting – how did you report progress to management and Customers?

- Our primary means of reporting to management and Customers is our Burndown Chart. Internal to the team we create a sprint tracker that is updated daily on the progress for individual tasks and stories. This information is then calculated to update the Burndown. We encourage our Customers, as well as our management, to visit the room to take advantage of the visual controls and information radiators, so that there is little reporting overhead that the team or Scrum Master has to handle.
- Other reporting tools for the team include:
 - Sprint Goals
 - Storyboards (Story – To Do – WIP – Verify – Done)
 - Risks & Issues
 - Organizational and Sprint Impediments
 - Current Product Backlog
 - Lessons Learned during the Retrospective (What Didn't Work?/What Worked?/What do we need to change?)

Change – what difficulties were surfaced by Scrum that had to be resolved? How were these resolved?

- Each day presents its own challenges and we typically find ourselves asking how using Scrum helps us address those challenges. The largest challenge for us so far has been changing Customer behavior. In the past, there was very little Customer engagement, requirements were “thrown over the wall”, and the Customer waited for big value months down the road. We have worked closely with our Product Owner to educate our Customer-base on what it takes to be a good Agile Customer and what it means to have work “ready” to be accomplished. In the past, the Customer had plenty of time to gather business requirements, ask questions of business systems analysts, etc. However, to deliver as quickly as we can, this pre-work must be completed within a two week period prior to entering a sprint planning meeting. Another challenge we face is that our Customer-base is ever-changing; therefore, we find ourselves educating Customers before each sprint. To address this, we have been proactive by reaching out at an organizational level to educate people on Agile and Scrum. Over time, the amount of Customer education should decrease as we start having repeat Customers. The key component that we keep circling back around to is the fact that our Business Partner, or Product Owner, owns the continued prioritization of work. This removes that responsibility from the teams based on available resources and allows the most important work to get done first and fast. Senior management no longer looks to direct – they look to remove impediments. They have seen how quickly the team can move on their own and do what they can to remove barriers. The support from Senior Management has been extraordinary and helped to maintain the momentum of the team.

Management – what was the previous role of the Scrum Master? Who took on the role of Product Owner? To what degree were they successful in fulfilling those roles?

- I transitioned from a Senior Project Manager to the role of a Scrum Master. During the transition, I still had responsibilities for a waterfall project and could already see the advantages that Scrum could provide in that space. A Business Operations Analyst was placed in the role of Product Owner. Although the role of Product Owner might not be one of an analytically nature, our Product Owner was also familiar with the business process for requesting work and how prioritization occurred on the business side. This knowledge created a well-rounded Product Owner. The point we have continuously stressed with our Business Customers is that “if your project work is important to you, then you need to be involved and committed to the team that is going to deliver it for you.” The level of engagement from our Product Owner continues to improve.

Engineering – what software engineering practices or environment had to be changed?

- In our environment, test-driven development is extremely difficult because we cannot compile code and run automated tests against it. We have improved on defining test criteria early in the process and testing early, as opposed to later. We have also empowered and trained system testers to fix defects as they find them, instead of sending it back to a developer.

Stabilization – for how long did the software have to be stabilized before it could be released?

- How did you structure this stabilization process? Once the code is UAT tested and Customer acceptance is complete, we wait seven days due to change and configuration management process adherence. During this time, additional communication is sent out to our contact center environment highlighting what changes would be occurring and then right before the production release, awareness is made for the changes once again. In one instance, there was a part of the migration to the new platform where we only moved a certain portion of the code into production. This allowed for some production testing before larger portions of code were propagated.

Success – to what degree was the project successful? To what degree was the Scrum process instrumental in the success of the project?

- So far, the project has been extremely successful. The performance of the team, based upon historical metrics, is that total-time-to-market has reduced by 67%, thruptut has been increased by approx. 67%, and process cycle efficiency (PCE) has increased from 4% to 17%.

Scrum Process – to what degree was the Scrum process implemented “outside the box”? To what degree did you have to modify the Scrum process? How did you formulate the modification in such a way that the basic inspect/adapt mechanisms continued to function? What parts of Scrum couldn’t be implemented, or failed, and why?

- Our transition to the Scrum process was fairly immediate as soon as the team came out of training. Everyone felt that the only way we could identify process changes needed and potential issues was to start doing work and provide timely and grounded feedback about what we were experiencing. There were some slight modifications that we have had to make initially to include BAU (Business-As-Usual) work in the Scrum process. There were pieces of waterfall projects that we not yet complete and resources from our team had been key resources on those projects. We still had a responsibility for inspecting and adapting this work, but had to deal with the historical dependencies for other project managers and dealing with non-Agile teams. We continued to function in a Scrum fashion with the BAU work being on our storyboards, defining acceptance criteria, and conducting sprint reviews for Customer story acceptance.

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

- Due to the fact that we have two-week sprints, we plan two-weeks out for what may exist on the Product Backlog. Our Product Owner prioritizes what product backlog preparation needs to be done and the team will spend some time during a current sprint helping to develop User Stories and estimates. The accuracy of this exercise is important to us because it helps us effectively prepare for our next Sprint Planning meeting.

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

- Heading into our very first sprint, we did not have a good understanding of how much work we could get accomplished in the Scrum process and over a two week period. The team committed to a conservative capacity and we have tracked our Velocity since then. We have seen our Velocity increase and the team’s sprint goals have become more aggressive. I merely provide the Velocity data to the team and let them make the decision. I focus on looking at the Velocity from the previous sprint, lessons learned during the retrospective, and stakeholder feedback. I combine this information to understand what questions, if any, need to be proposed to the team regarding what their commitment is to the Customer and exceeding vs. meeting expectations.

4. What metrics do you use to track the development process?
 - The Burndown Chart is the primary tool and visual control for the team and the Customer. We have the team update the sprint matrix that contains the user stories and tasks, so that we have a continuous picture of where the team stands in meeting the sprint goal. The storyboards are also a tracking mechanism for seeing what is To Do, WIP, Verify, and Done.

5. What type of training, resources, or tools would help you be successful in implementing Scrum in the future?
 - I think one misperception we went into Scrum with was thinking that the team clearly understood what it meant to be self-organizing and self-managing. This type of training at the same time that the team was learning about Agile and Scrum would have been useful. I have provided input to the team about what self-managing “looks like”, but it has still taken several sprints to see improvement in this area. Having eight to nine sprints behind us, we are pulling the team together and doing a workshop about what self-managing means and some tools/methods to assist the team going forward.

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