IT6501

Assignment 1: Current Trends Report

Abstract

Scrum is a widely used agile framework across many industries to help improve teamwork in achieving a desired goal. There are specified processes involved that express a continuity of better performance, influencing a change in working culture.

Andrew Graff

2231290

Word Count: 1300

Table of Contents

Introduction

In this report we will be investigating a current trend that affects systems analysis and design. The topic we will discuss is Scrum. At first glance I recall the word scrum from rugby. This scrum is rather different, though a slight commonality that it involves a team with various roles and moving the ball forward. In this report we are examining what is scrum, it's implementation and pros and cons for how this works for systems development.

The Scrum framework was invented by Ken Schwaber and Jeff Sutherland in 1993 (Sutherland, 2004).

What is Scrum?

Rawsthorne and Shimp (2013) identify "Scrum as its core, by simply having a team that gets its work accomplished all by itself".

We learn Scrum operates as a framework based on Agile methodology. The scrum team involves three core people with a certain set of practices.

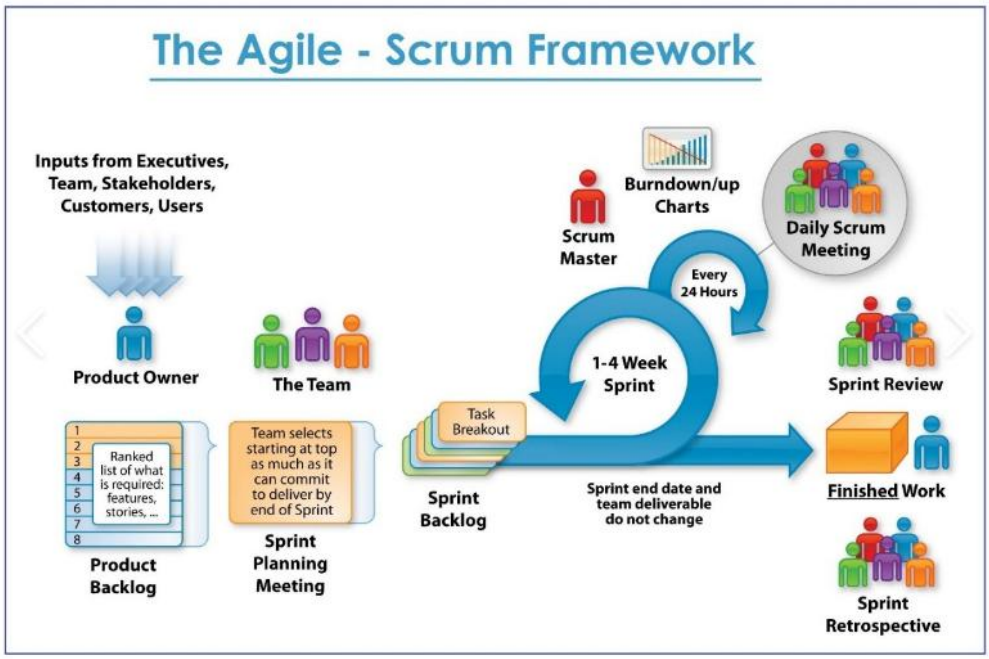

Image src: [scrum framework image - Search Images (bing.com)]

The Product owner (Stakeholders, Executives etc.) decides what software or product will be built. The Team is made of up several members also known as developers who are cross

functional and a Scrum master who essentially works as a coach, helping team members to remain focused goals.

Main components of the Scrum Framework

Scrum Artifacts (Scrum work/values)

Product backlog: Is the most valuable part of Scrum. Product owners and team gather to discuss, prioritize and create tasks of requirements in line with the vision. This is often done at a high-level, (Rubin, 2012).

Sprint backlog: Development team lists items from the product backlog for the current sprint. The team will see what needs to be developed to accomplish the work. These are visible for everyone to identify what is ready, in progress, and have not yet started.

Product Increment: Each sprint, a product is incremented by the previous build, along with the added work in the current sprint. Sprints provide a deliverable product in short iterations ready for the product owner.

Scrum Activities

Sprints: Sprints break down the work into smaller tasks. Hron and Obwegeser (2018) explains "Scrum splits development into iterations not longer than four weeks. At the end of each sprint, a shippable product increment is delivered to the user."

Sprint planning: Building the sprint requires the team to agree on a goal for the sprint to achieve, based off the product backlog. Tasks are timeboxed and assigned to the development team.

Daily Scrum Meeting: Scrum master and team get together to have a chat about what they had done since last daily meeting, plan for the day and any obstacles. In the image we can see a burndown chart which "is a graphical representation of the work remaining verses time (Talreja, 2023)".

Sprint Review: Feedback on the outcome for sprint iterations to see what work has been completed.

Sprint Retrospective: See what ways for the team could be more effective and efficient. Encouraging a team learning culture of trial and error.

These components are part of the process, that is adapted and needs to be somewhat religiously followed. A way of learning new techniques and approaches to develop complex products (Sachdeva, 2016).

Current status of Scrum

The current status of scrum today, remains a popular preferred choice of framework to build and develop an information system. According to parabol statistics the use of Scrum has increased from 40% in the first survey to 66% in the new survey from 788 respondents (Digital.ai, 2023).

An interesting journal article I have come across where the Scrum framework is involved, was for New Zealand Government. It talks about insights from three Scrum Teams by using a mental model to analyze project delivery outcomes in the public sector.

Three teams of 4-5, focused on different types of application with varying project duration. All sprints ranged from 2-3 weeks and teams delivered applications with 200+ end users. Team (A) members were all participants of delivering software using the Scrum framework.

	Team A	Team B	Team C
Type of application	Business intelligence reporting application	Mobile data application	Business intelligence reporting application
Project duration	4 months	12 months	6 months
Sprint length	3 weeks	2 weeks	3 weeks
Team size	4 (All participated)	5 (4 participated)	5 (4 participated)
Average development team IT experience	10-15 years	8-25 years	10-15 years
Level of team Scrum experience	~12 months	~12 months	6-12 months
Formal Scrum training received	All team members	Some team members	Some team members
Number of end-users of the application	200 end users	350 end users	200 end users

Table 1 Team Characteristics

Edmonson and Chiu (2020) above reports “Team A achieved a high self-reported positive evaluation for both the product owner and the development team members”.

An article I have come across where Scrum was implemented and now presently used, was the BBC (British Broadcasting Corporation). The industry had issues with delays in projects, teamwork and culture. The New Media Division had been using an ineffective traditional waterfall strategy for software development “a project to be split into multiple fixed phases, with each phase requiring the analysis and work from the previous phase” (Andrei et al. 2019).

Scrum was introduced to the BBC by Andrew Scotland with hopes to use this framework as a solution to combat these issues. “Very quickly we started to see sessions where the entire team got together. Not just the software team. The design team, editorial team all talking together. Teams could articulate their issues or problems in a way they couldn’t before”, (Scotland, 2006).

Other notable industries who have also used the Scrum framework are Education sectors. “Scrum favors the creation of a conductive environment for students to be creative, enabling...”, (Kuz, 2021).

Benefits and problems related to Scrum

The main benefits of scrum are teamwork and collaboration. The daily scrum meeting meant teams would interact on a regular basis, short discussions on individual work progress and collectively as a whole. Sparking new ideas amongst the development teams in co-operation with product owners.

A scrum master would facilitate the values and practices of scrum to help drive the team towards an encouraging, motivated and disciplined atmosphere. “Scrum masters are often people-orientated and enjoy helping team members grow and improve”, (Raeburn, 2024).

The sprint iterations provided reassurance for product owners to see development with flexibility to make any changes and feeding results back into the loop.

Problems related to scrum are time to market could be of pressure to the team. Scrum creates stress and anxiety in the productivity of individuals (Dottin, 2016). The resistance to change, we saw how the BBC Media Division culture were refined to their traditional process that adapting to a new framework would be a challenge.

Another problem was the availability of the product owner. The product owner is crucial in their involvement in managing the backlog. Scotland (2006) reports a project was delivered after it’s full cycle and met 70% of expectations. It was discovered the product owner was not present at any of the sprint planning.

Conclusion

An analyst would need to understand scrum and the agile framework because it may be a potential working environment. Understanding the framework, the language, iterative process, teamwork and collaboration. These are important because analysts can see how scrum works and may find their own involvement and contribution.

Together, it is important with the combination of all three roles, practices and values all work cohesively to deliver business objectives and overall influencing better interaction for an interactive world.

References

(Andrei et al. 2019)	Andrei, B. A., Casu-Pop, A. C., Gheorghe, S. C., & Boiangiu, C. A. (2019). A study on using waterfall and agile methods in software project management. *Journal of Information Systems & Operations Management*, 125-135. JISOM-SU19-A12.pdf (rau.ro)
(Digital.ai, 2023)	Digital.ai. (2023).17th State of Agile Report. 17th State of Agile Report | Analyst Reports | Digital.ai
(Dottin, 2016)	Dottin, G. (2016, February 11). *Here's Why Agile Technique and Scrum Destroys Any Company.* Medium. Here's Why Agile Technique and Scrum Destroys Any Company. | by Garreth Dottin | Medium
(Edmonson and Chiu, 2020)	Edmondson, S., & Chiu, Y. T. (2020). Exploring the Impact of Mental Models on Scrum Outcomes: Insights from Scrum Teams in New Zealand Government. "Exploring the Impact of Mental Models on Scrum Outcomes: Insights from" by Sarah Edmondson and Yi-Te Chiu (aisnet.org)
(Hron and Obwegeser, 2018)	Hron, M., & Obwegeser, B. (2018). Scrum in practice: an overview of Scrum adaptations. *Proceedings of the 51st Hawaiii International Conference on System Sciences, pp. 5446.* Author Guidelines for 8
(Rawsthorne and Shimp, 2013)	Rawsthorne, D., & Shimp, D. (2013). *What is Scrum?.* Scrum Handbook. Scrum_Handbook_STS.pdf (scrumguide.org)

(Kuz, 2021)	Kuz, A. (2021, October 20). *Scrum: A new framework applied to education.* Eduweb. https://doi.org/10.46502/issn.1856-7576/2021.15.03.1
(Raeburn, 2024)	Raeburn, A. (2024, February 2). *What is a Scrum master and how do I become one?*. Asana. What Is a Scrum Master and How Do I Become One? [2024] • Asana
(Rubin, 2012)	Rubin, K.S. (2012). *Essential Scrum: A Practical Guide to the Most Popular Agile Process.* Essential Scrum: A Practical Guide to the Most Popular Agile Process - Kenneth S. Rubin - Google Books
(Sachdeva, 2016)	Sachdeva, S. (2016). Scrum Methodology. *International Journal Of Engineering And Computer Science ISSN: 2319-7242.* 11_ijecs-libre.pdf (d1wqtxts1xzle7.cloudfront.net)
(Scotland, 2006)	Scotland, A. (2006, December 20). *Scrum Boosts Effectiveness at the BBC* [Video]. InfoQ. Scrum Boosts Effectiveness at the BBC - InfoQ
(Sutherland, 2004)	Sutherland, J. (2004, October). *Agile Development: Lessons learned from the first scrum.* Microsoft Word - The First Scrum 1993.doc (jeffsutherland.com)
(Talreja, 2023)	Talreja, A. (2023). *Scrum Burn Down Charts – What, How, and Why to use them.* Teaching Agile. Scrum Burn Down Charts -

	What, How, and Why to use them (teachingagile.com)