

# The Journey to Lean and Agile

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Submitter:

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## Team Leader and Members

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- **Donna Yamasaki** - Team Leader, Certified Scrum Master (CSM), Certified Scrum Product Owner (CSPO), Lean Certified Practitioner
- **Patrick Rogers** - Team Leader, Advanced CSM, CSPO Lean Yellow Belt
- **Emily Weaver** – Lean CSM, CSPO, Lean Certified Practitioner
- **Angelie Gurule** - CSM, CSPO, Lean Certified Practitioner
- **Bobby Cook** – CSM, CSPO, Lean Certified Practitioner
- **Wendy Rager** – CSM, CSPO, Lean Yellow Belt
- **Mark Boyce** – CSM, Lean Yellow Belt
- **Carlos Garrido-Ramirez** – CSM, CSPO
- **John Ruzicka** – CSM, CSPO, Lean Certified Practitioner

## Project Overview

The all-volunteer Lean and Agility Teams lead Technology Delivery Services (TDS) to empower self-managing teams to deliver customer value rapidly and repeatedly in small cycles, promoting a sense of ownership in the organization. They use Lean to eliminate unnecessary process steps, and Agile to break large projects into smaller, high-value pieces that can be completed and production-ready in short, repeated cycles called Sprints.

## Project Goals

### The Problem

IT efforts at UCOP evolved over time into very distinct silos. Each group knew tasks for their specific area, but not necessarily how those tasks affected others. There was a lack of collaborative development effort or prioritization of shared services requests, and minimal visibility into the work a group was performing. Attempts at improvement often resulted in unintended consequences, such as micromanagement, burdensome processes, and blaming.

Teams constantly had too much work in progress to ever address mounting technical debt. They scrambled to finish customer projects and focused on closing tickets rather than delivering value to customers. Delivery was often unpredictable. Teams would get stuck on problems they couldn't resolve themselves, halting projects for long periods of time. This often went unnoticed due to many overlapping projects planned on the same timeline.

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Traditional Waterfall project planning also did not solve these problems. Improvement in Waterfall is often based on planning further out, specifying in even greater detail, trying to perfect estimation, and controlling more tightly. These attempts failed, but we repeated the same behavior because we didn't know any other way.

### The Solution

The Lean and Agile framework implementation in TDS emphasizes solutions, innovation, and iterative customer feedback (early and often) instead of expansive, up front technical specification. It continuously drives cultural and process improvement. It is now **everyone's** job to understand customer needs. Teams and customers actively work together from the beginning of a project and throughout.

Quick Definitions	
Lean (aka Lean Six Sigma)	A method that relies on a collaborative team effort to improve performance by systematically reducing variation and eliminating waste.
Agile	A method based on iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.
Kanban	A visual workflow management system used in Lean and Agile.

#### V2MOM

TDS Leadership collaborated with managers to devise a "V2MOM" to guide our culture change:

- **Vision:** Empower the team to support customer success
- **Value:** Trust, Initiative, Progress—Not Perfection
- **Method:** Experimentation, Challenge the status quo, Self-organizing teams, Learn from failure
- **Obstacles:** "that's how we've always done it," lack of motivational tools/levers, siloed organization, policy counter to vision
- **Measure:** customer success (**their** metric), staff engagement and job satisfaction, throughput (velocity / productivity)

### Agility Team

A team of volunteers with Agile and Lean experience formed an Agility Team. This team is chartered with leading the adoption of Agile and Lean across the organization, communicating with the organization, coaching new and existing teams, training, and running hands-on workshops.

### Value Stream Maps

The Lean team facilitated group sessions to create "Value Stream Maps (VSMs)." A VSM shows every step in an existing process. A facilitator gets the team to look closely at their process but passes no judgment and does not try to "solution" or "lean."

From the VSM, teams see where they can improve their processes. Because teams, not outsiders, identify the improvements they are much more receptive to change.

### Making Work Visible

Making work visible is a critical part of the Lean and Agile journey. With Agility Team guidance, TDS teams created Kanban boards showing work backlogs, items meeting the Definition of Ready, work in progress (WIP), items meeting the Definition of Done, and items blocked from making progress

Once a week, the Agility team facilitates a Gemba walk where TDS reviews the Kanban boards for each team and asks three questions:

- What achievement are you most proud of this week?
- What technical debt have you identified or eliminated?
- What items are blocked (team “Roadblocks”) and beyond the power of the team to unblock?

Rather than stalling projects, roadblocks are now adopted by specific managers, leadership, or SMEs – helpers who have more authority, influence, or insight. The helper acts as a Servant Leader who owns resolving the Roadblock, reports progress to the team, and eliminates the problem.

### *A Change in Mindset*

Team members are empowered to **pull** tasks from a list items that are ready to be worked, rather than having assignments **pushed** into their queue. Product Owners (PO) work with the Scrum Master (SM) to prioritize tasks, but the team decides how many tasks it can complete in a sprint, using an estimation system proven to predict what the team can deliver.

Traditional managers receive coaching on how to become servant-leaders who help their teams clear roadblocks and build skills, rather than micromanaging how the work gets done.

Siloes are being broken down from the bottom to the top of the organization. Leadership and frontline staff have a new forum in the Gemba walk for sharing information in both directions. Teams have become more cross-functional, so they have all the skills necessary to complete work and make it releasable.

VSM sessions to remove waste from existing processes continue to occur.

Members of scrum teams are happier and seeing their achievements roll out quickly. They are self-managing, drive their own improvement, and are trusted to figure out the best way to get their own work done.

Failures are celebrated, and then we move on quickly. There is no “blame game.”

### *Customer Benefits*

Customer benefits to Lean and Agile became obvious early on. We get much more feedback from customers and teams are no longer stuck on roadblocks for inordinate amounts of time.

We’ve gone from delivering large projects only at completion and, instead, delivering smaller pieces to customers on a bi-weekly basis. Customers see tangible results sooner and quick course corrections can be made long before problems have grown unmanageable and difficult to resolve.

Technical debt is being resolved as teams find they have more time available to work on internal projects due to better management of external ones via Lean and Agile.

Agile teams are making significant gains in weeks or months, instead of years. Work is reprioritized easily with a minimum of waste or angst. Work is done in smaller pieces, making it easier to understand, easier to realistically estimate, and making delivery possible on shorter time scales.

Customers get completed, releasable work faster than before.

### *Measuring Success*

Work-in-progress gains are measured in reduced number of tasks a team member has to juggle at the same time. Teams can set a WIP Limit on their boards to create the focus needed to get tasks done.

Roadblocks are resolved in days or weeks, rather than months or never.

Teams are finding value in the new approach:

The Kanban Board is the best marketing tool to promote the value being accomplished by the EOC. - Steve

The use of the Kanban Board has given the EOC the opportunity to tell a story of [w]hat [v]alue we bring to the Organization! - Brian

I appreciate seeing what other teams are working on, then realizing how my work intersects and supports others. -Mark

The Kanban board is like a load balancer. It allows the team to actively see where the load is and how to better balance the load. -Rohit

We have a large pool of CSMs who can facilitate scrum teams.

We have a large number of Kanban teams, with Kanban boards continually evolving and positive comments from the Gemba walks.

We have delivered 19 projects using Agile and completed 7 Lean evaluations.

### Collaborations with Other Teams

The Lean and Agile team provides coaching and training. This includes general Lean training, Scrum Master training, Product Owner training, and general sessions to help others on the journey.

We collaborated with other departments, customers and business partners such as Risk Services, Systemwide HR, and Research Policy.

The Agility Team established an organizational roadmap of projects and dependencies, which facilitates cross-team collaboration and sets an example for other organizations via our work.

### Timeframe

Starting in 2017, all TDS employees, at various points, attended Lean “Yellow Belt” training to become familiar with the basics of Lean Six Sigma. After that, 40 people attended an Agile boot camp,

The Lean and Agile journey ramped up in January 2018, as this timeline shows:

The Lean and Agile Journey 2018	
January	Agile consultants interviewed and contract awarded.
March	Survey done. TDS staff from various areas interviewed. Assessment report delivered. Nine volunteers become Certified Lean Practitioners.
April	40 people attend an Agile Boot Camp. Lean team begins creating Value Stream Maps (VSMs) of processes.
May	Leaders attend Agile training. Boot camp attendees form eight Agile pilot teams.
June	Agile team formed entirely of volunteers, backlog developed, and decision made to initially focus on Infrastructure team.

The Lean and Agile Journey 2018	
July	Agile team demos sprint process to managers. Kanban consulting for Infrastructure begins.
August	Conceptual org chart shown at Town Hall meeting. TDS-wide Kanban board created. First Gemba walks occur.
September	35 additional team members and 12 managers trained in scrum. Leaders begin walking the TDS board weekly.
October	All infrastructure teams have been interviewed, have an Agile coach, and have a visible Kanban board. AWS scrum team trains and drafts AWS governance and standards.
November	Reorganization announced. Lean and Agile teams merged. AWS scrum team publishes tagging standards and does proof-of-concept (POC) on importing a VM.
December	Staff transitions formalized and AWS scrum team delivers workshops.
Ongoing	New scrum and Kanban teams forming ....

### Technology Utilized

The Lean and Agile journey was done using brainpower and lots of sticky notes, blue masking tape, markers, walls (and sometimes doors and windows), and scissors.

In seriousness, while there are tools that can certainly help with Lean and Agile (such as ServiceNow and Jira), the journey can be accomplished without a lot of technology—all that is required is a team that is willing to learn, work hard, and share their knowledge to make UCOP a better place.