BREAKING BAD: BREAKING DOWN LARGE, COMPLEX PROCESSES AND IMPLEMENTATIONS

FOCUS ON EFFICIENCY

In an effort to streamline class and space scheduling at UC San Diego, a multi-departmental team created a process improvement framework utilizing Lean Six Sigma that may be applied to breaking down and rethinking other complex processes across campus.

Large-scale, complex business and technical processes often have two fates: multiple failed attempts at revision and/or implementation, or a slow, prolonged death because no one dares to tackle a revision. Neither serves the users or technical teams, and both are incredibly painful.

No matter the urgency of addressing a process, whether a high-impact problem or simply a process in need of updating or adjustments, these large, intricate processes are difficult to accomplish due to some common factors: cross-functional stakeholders, timeline, engagement and experience, and lack of sponsorship structure.

UC San Diego created a pilot project, "Breaking Bad," which breaks down and incrementally addresses the large complex processes previously used by departments to plan their annual schedule for using class spaces. At the time of the project's inception, there were four different obsolete or failed systems that existed in silos across the university intended to perform the same class scheduling process. The Registrar, the Division of Biological Sciences and the Office of the Executive Vice Chancellor of Academic Affairs partnered in this pilot.

The pilot project looked at class-scheduling communication within departments, which was followed by the development team's work on a new web application that would unify the departments under a single scheduling process. The project was then introduced to the central Registrar's office, where general campus space allocation occurs, and third-party software was adopted to assist in room-assignment optimization.

Multiple Lean Six Sigma black and green belts performed in succession to simplify and ensure success of this pilot project.

MILESTONES

2015
- The executive chancellor's office explores the possibility of a new application for departments, divisions and units to improve the ability to schedule classes.

2017
- Project commences.

Aug 2017
- Lean Six Sigma black belt "Department Gathers Classroom Information" project is completed.

Sep 2018
- Instructional scheduling assistant web application is live.

Feb 2019
- Lean Six Sigma green belt "Class Proposal Submission" project is completed.

June 2019
- Lean Six Sigma black belt "General Assignment Classroom Scheduling" project is completed.

Oct 2019
- Presentation is made to the UC San Diego Business Excellence Community of Practice consortium.

QUANTIFICATION AND RESULTS

Total cost savings to date for the pilot project is $615,000. As work continues, the savings will increase.

As a result of the Lean Six Sigma black belt "Stay Classy" project, there was a summer session cost avoidance of $62,986 and a soft savings for core campus systems of $280,000.

As a result of the Lean Six Sigma green belt "Class Proposal Submission" process:

- All departments used the new instructional scheduling assistant software tool for summer 2019 submissions, resulting in overall reduction of errors and types of errors.
- With fewer errors, processing time was cut by 25 percent per department; the Registrar's processing time was reduced by 50 percent.
- Email chain cost avoidance was $3,666 annually for the Registrar and $4,680 annually by department.
- Immediate savings for summer term was $2,880, and the projected annual savings is $34,367

As a result of the Lean Six Sigma black belt "General Assignment Classroom Scheduling" project:

- Annual hard and soft savings in labor redistribution, reduction of services and supplies, and time savings for multiple staff and instructors totaled $226,500.
- Overall processing time was reduced by 56 percent inclusive of an 87 percent savings for assignment steps.
- Rolled first-pass yield (making it through without re-work) improved from 9 percent to 30 percent.
- Phone and email communication traffic decreased by 33 percent.

IMPACT AND BENEFITS

A process-improvement model is now established with this pilot. In broad strokes, the phases include:

- Identifying a complex project
- Breaking a project down into discrete chunks
- Fluidly linking Lean Six Sigma projects to ensure project momentum
- Creating formal feedback loops for true continuous improvement

As this process-improvement project now moves into new areas, an instructional scheduling assistant software has been launched, and a new student information system is in the works.

"Stay Classy" Lean Six Sigma project impact:

- Number of steps reduced from 150 to 40
- Number of processes reduced from 75 to 1
- Send policy framework (email silos) eliminated
- Staff time on process reduced
- Processing errors reduced
- Sub-processes are eliminated

Feb 2020

- Series25 and 25Live scheduling software is live.

PROJECT TEAM

BREAKING BAD:

Ahren Crickard
Office of the Executive Vice Chancellor

Katie Frehafer
Division of Biological Sciences

Kevin Waldrop
Executive Vice Chancellor Business Office

"STAY CLASSY":

Ahren Crickard
Project Manager

Team Members:
Katie Frehafer
Jude Poole
Stephen Hamilton
Duke Lee
Nicole Oliver
Victor Vazquez
Phillip Faniola

"CLASS PROPOSAL SUBMISSION":

Katie Frehafer
Project Manager

Development Team:
Jude Poole
Duke Lee
Nicole Oliver
Victor Vazquez
Cameron Hom

"Class Proposal Submission" Lean Six Sigma green belt project impact:

- Faster processing times
- Reduction in errors
- Increased employee satisfaction
- Increased customer satisfaction
- Cooperative coalition for future changes

"General Assignment Classroom Scheduling" Lean Six Sigma black belt project impact:

- The implementation of a scheduling software and a revised business process yielded several benefits for the academic departments, Registrar Scheduling and UC San Diego as a whole, and resulted in:
- A significantly shorter timeline for creating accurate room status reporting
- Faster initial results to departments for easier adjustments when required
- Value created where there was a concern for change management as teams developed teamwork and ownership through the new process development

LESSONS LEARNED

1. Transparency throughout the project is important. It sets the stage for a shared environment, and anyone may come on board at any time. Consistent communication is also paramount for both momentum and trust.
2. Recognition for the effort of those involved is valuable in order to ensure continued momentum. In this case, work was recognized with lunches, swag and gift cards.
3. Be aware of what is promised and realize it's not possible to deliver every "bell and whistle"; promising too much erodes trust. It's best to under-promise and over-deliver.
4. Overlapping of projects saved time. By starting the future project/phase before the current one is completed allows for the combination of meeting times, questions, walk-throughs and testing to share resources in real time. Additionally, the workgroups are up and running before the next project manager enters the scene.
5. There is great value in the voice of the customer, particularly with a longer phase-overlapping timeline. Providing input at various milestones allows for informed adjustments with increased customer participation and value.
6. A strong infrastructure is necessary for distributed teams to work together.
7. Do measure data early and often, communicate as much as possible, and consider timing impacts to end-users' business process as early as possible.
8. Don't take on the responsibility personally – give the team ownership of the solutions.

ISA Workgroup Members:
Dana Brehm
Mathew Haack
Catherine Peters
Alyssa Simons
Veronica Abreu
Kimberley Newmark

Summer Session Workgroup Members:
Renee Lee
Matthew Sapien
Lisa Bargabus
Becky Arce

"GENERAL ASSIGNMENT CLASSROOM SCHEDULING":

Kevin Waldrop
Project Manager

Cindy Lyons
Sponsor

Ric Van Der Linden
Lean Six Sigma Mentor/Coach

Ahren Crickard
Lean Six Sigma Mentor/Coach

Registrar Scheduling:
Kimberley Newmark, key team member
Monica Molinary
Wendy Salazar
Sharon Mitchell
Valerie Krikes
Bryan Yeaman

Department Schedulers:
Catherine Peters, Biology
Kelly Escobedo, Economics
Melissa Wolf, Education Studies
Alyssa Simons, Literature
Scott Rollans, Mathematics
Toni Moore, Physics
Ariane Parkes, Political Science

Information Technology Services key team members:
Ryan Rose
Viet Truong
Jonathan Whitman

Biology ITS key team members:
Katie Frehafer
Jude Poole

Three UC San Diego team members with their Focus on Efficiency award, from left, Kevin Waldrop, Katie Frehafer and Ahren Crickard.

FURTHER REFERENCES

Link to Business Excellence Community of Practice "Breaking Bad: Breaking Down Large, Complex Processes and Implementations"
https://www.youtube.com/watch?v=6MI-V7JmNzw