LEAN SIX SIGMA
A BRIEF OVERVIEW
AGENDA

1. What is Lean Six Sigma (LSS)?
2. How can LSS be applied to processes?
3. Results of LSS at UAA
4. Next Steps
WHAT IS LEAN SIX SIGMA?
UAA LEAN VISION STATEMENT

“Release creative and resource potential to maximize value for UAA students, staff, faculty, the institution, alumni, and our community through intense customer focus, seamless operational excellence, and an unrelenting culture of continuous improvement.”
GUIDING PRINCIPLES

IMPROVE THE CUSTOMER EXPERIENCE

+  

REDUCE WASTE

+  

GENERATE UNIQUE VALUE

LEAN
LEAN SIX SIGMA = PROCESS IMPROVEMENT
THE TWO HALVES OF LEAN SIX SIGMA

LEAN is the war against WASTE:
Focusing on eliminating elements of an activity that do not add value from the perspective of the customer

SIX SIGMA is the war on VARIATION:
Centered on increasing the percentage of time a process completes successfully and accurately and reducing inconsistency, defects/mistakes, and rework.

WE NEED BOTH
Lean is a set of principles, concepts and techniques designed for a relentless pursuit in the elimination of waste... giving customers:

1. What they want
2. When they want it
3. At the highest quality
4. And the lowest possible cost

Lean was first popularized by Toyota Motors as the Toyota Production System (TPS)
EACH STEP IN A PROCESS IS EITHER

VALUE ADDED OR NON-VALUE ADDED

“IF YOU CAN’T EXPLAIN IT SIMPLY, YOU DON’T UNDERSTAND IT WELL ENOUGH.”
—ALBERT EINSTEIN
MUDA – “THE WASTE”

*Muda*—Japanese noun which translates to *futility, uselessness, wastefulness*. Consists of elements of an activity that do not add value from the perspective of the customer.
Six Sigma measures defects in production or service processing in terms of defects per million occurrences.

- 3 Sigma: 66,800 per million
- 4 Sigma: 6,200 per million
- 5 Sigma: 230 per million
- 6 Sigma: 3.4 per million

Six Sigma measures variation, not averages.

Customers only care about variation.

If your customer experience falls into this category, does being told “our average is really much better” do anything?
CUSTOMER CENTRIC

VALUE

Paper Files
Extra Approvals
Fax Machines
Mistakes
CUSTOMER
CUSTOMER CENTRIC

VALUE

Excessive approvals (eliminated)

Paper Files (Reduced)

Mistakes (reduced)

CUSTOMER
CUSTOMER CENTRIC

VALUE

CUSTOMER
APPLYING LEAN SIX SIGMA
THE DMAIC METHODOLOGY

**DEFINE**
- Identify and document the problem
- Identify customer needs
- Formulate a team
- Draft a project charter

**MEASURE**
- Create baselines
- Collect Data
- Construct Process Flow
- Validate Measurement System

**ANALYZE**
- Examine data by watching the process
- Identify Root Causes

**IMPROVE**
- Prioritize root causes
- Innovate, select, and implement solutions
- Validate the improvement

**CONTROL**
- Ensure Solution is Sustained
- Create and document a control plan
ADOPTING KAIZEN

- Kaizen (change for better) is an alternative approach to change, based on small, incremental steps adding up over time instead of large projects, or disruptive innovation
- A statistician, Dr. W. E. Deming became consultant to Japanese businesses, bringing with him the concepts that became known as “Kaizen” to decimated post-WWII Japan

EXAMPLE @ UAA

Business Problem: Waiting for signatures to DocuSign envelopes slows down approval processes

Result: Identified waiting for signatures being the result of emails ending up in spam. Force-redirecting DocuSign emails to the inbox resulted in over 10% increase in DocuSign envelope velocity systemwide, or a reduction of 4,340 hours of time spent waiting for signatures–monthly.
KAIZEN WORKS

• Incremental change circumvents challenges associated with radical innovation
  – Fear of failure
  – Assumption of risk
  – Need to retrain
• Incremental change produces visible results more quickly
  – Provides motivation
  – Demonstrates progress
• Incremental change produces a culture of continuous improvement

A journey of a thousand miles begins with the first step.
—Lao Tzu, Chinese Philosopher and founder of Taoism
Developing a project charter creates a shared understanding of the project, describing essential characteristics, while serving as a contract between the project sponsor(s), stakeholders, and the project team.

SIX ELEMENTS OF EFFECTIVE CHARTERS
1. Explains a vibrant business case
2. Problem statement
3. Project scope
4. Goals and objectives
5. Realistic milestones
6. Defined roles and responsibilities
GOALS & METRICS CLEAR
Primary Metric: “Labor hours spent per student”
Balancing Metric: “Total labor hours”
Goal: “...decrease labor hours...by 80%”

Problem Statement:
For over 5 years, UAA Office of Student Financial Assistance has spent 18.21 hours processing each UA Foundation General Scholarship student award. This is compared to the 0.28 hours spent per each student financial aid award. Reducing the hours spent processing each general scholarship award can save up to $70,000 in value annually and can potentially add value to students’ overall experience.

Project Objective (on the Primary Metric):
To decrease the amount of labor spent processing each UAA Foundation General Scholarship Application and Selection by 80% as measured by a swim lane process diagram.

Business Case/Financial Impact:
\[
\text{Total Hours Spent Processing Per Award} = \frac{2423/133}{82.72} \times 32 \times 133 = 62,001.41 \text{ in potential value}
\]

Customer Impact:
- Increase the available labor hours to add value to the student’s experience
- Potential increase in the amount of students that enroll in UAA
- Potential increase in student’s total credit hour enrollment

TEAM ROLES
- Defined team members, champion, project managers, SMEs, process owner
UAA ITCC Workflow
Changing Course Instructors

This document identifies the process for the University of Alaska Information Technology Services Call Center (ITCC) to change the instructor(s) for a Blackboard course.

Introduction
This document identifies the process for the University of Alaska Information Technology Services Call Center (ITCC) to change the instructor(s) for a Blackboard course. Users added to the course with the Instructor role can modify the course content. Users removed from the course will no longer be able to modify or view it.

Major Stakeholders:
- IT Services Team Leadership
- IT Services Management
- Departmental/MAU Leadership
- Vendor(s)
- Timothy Shull (ITCC Technician) Information Technology Services (Anchorage)
- Mark Weisman (Team Lead) Information Technology Services (Anchorage)

Systems Necessary:
1. IT Services Central Computing
2. Blackboard®™ or System admin logon

Supporting Information
3. Creating an ITSM Incident Procedure
4. Creating an ITSM Assignment Procedure

Defined Workflow
1. A user with the Instructor role in a Blackboard®™ course can add other users to the course and change their role to Instructor.
2. To add a user to a course follow the procedure in UAA IT Workflow - Blackboard - Enroll User.
3. If an instructor must be removed from a course, the account is usually disabled instead of removed to avoid deleting changes the user has made to the course.
4. To remove a user from a course follow the procedure in UAA IT Workflow - Blackboard - Remove User from Course.
5. To disable a user in a course, follow the procedure in UAA IT Workflow - Blackboard - Disable User in Course.

Desired Outcome
Instructors can be added or removed from a Blackboard®™ course.

Potential Treats to Completion
Technicians may be unable to log in to Blackboard®™. The server may be experiencing a slowdown or outage. Information can be lost if it is not backed up.

Organizational Escalation
1. Tier 3 ITCC Information Technology Services (Anchorage)
3. Mark Weisman (Team Lead) Information Technology Services (Anchorage)

Estimated Time to Completion
It should take 2 minutes to create the incident in FrontRange® IT Service Management™.
BUSINESS PROCESS MAPPING & VALUE STREAM MAPPING

- Uses a systems perspective
- Focuses on customer requirements
- Helps reach agreements on changes
- Links work and information flow
- Documents delivery and quality performance
- Allows process redesign to meet specific objectives
- Helps increase understanding of how a process works, while exposing waste and problems with flow
STRIVIING FOR CULTURE CHANGE

Common Language and Tools

Improvements Best Done by Employees

Freedom to Experiment and fail

Management Facilitates vs. Directs

Engagement in Process Improvement

Employee and Team Recognition

Executives Clear Roadblocks

Commitment to Communication and Transparency
LEAN SIX SIGMA BELT LEVELS

WHITE BELT
- 6-7 hour course that provides basic understanding and awareness of tools
- Does not lead projects, but will participate in project teams

YELLOW BELT*
- 2-3 day course that provides a moderate understanding of concepts and tools
- May lead small projects, but mostly helps support teams

*The Yellow Belt is not currently offered by UAA

GREEN BELT
- 5-7 day intensive or semester-long academic course with completion of at least one project
- Facilitates improvement projects and serves as a project mentor
- Is expected to train teams of White Belts and assist in the training of Green Belts
- Considered a part-time job

BLACK BELT
- Two weeks to over a year with substantial project management experience required
- Leads and implements 3-4 complex projects per year
- Trains, mentors and develops Green Belts
- Considered a full-time job
- Master Black Belts are internal consultants that facilitate and are familiar with all tools

Next White Belt Training: December 14, 2017 - Register at link.leanhighered.org/next
LEAN SIX SIGMA RESULTS
Lean Six Sigma: Across UAA
Overview of Trained Employees

Lean Six Sigma is a growing part of our culture.
PROJECT EXAMPLES

- END-TO-END ELECTRONIC EMPLOYEE REIMBURSEMENT
- ONBASE-BANNER INTEGRATION
- ELECTRONIC FORM PROCESSING
- REDUCING TIME-TO-APPROVAL FOR DEPARTMENT-SPECIFIC TRAVEL PROCEDURES
- REDUCING PROCESS TIME FOR SCHOLARSHIP APPLICATIONS
- REDESIGNING CLASSROOM AV SUPPORT PROCESS FOR AFTER-HOURS FAILURES
- CONSOLIDATING DUPLICATE PURCHASES OF SOFTWARE LICENSES
BY THE NUMBERS

$1.13M VALUE RECAPTURED

330 EMPLOYEES TRAINED

70+ PROJECTS

$493.95K STAFF TIME SAVED
LEAN SIX SIGMA
NEXT STEPS
OPPORTUNITIES

1. Take advantage of free training open to all University of Alaska employees; training is also offered via interactive distance delivery to community campuses and employees from Statewide, UAF, and UAS

2. Select processes for *Kaizen* rapid improvement workshops

3. Receive free process improvement consultations from the Lean Center of Excellence

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MORE INFORMATION AVAILABLE AT UAA.LEANHIGHERED.ORG
Employee Training

Establish Lean Launches

Rapid Improvement Workshops

Create a Lean Community of Practice

Lean Culture
QUESTIONS

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MORE INFORMATION AVAILABLE AT UAA.LEANHIGHERED.ORG