UC San Diego’s Continuous Improvement Culture

November 13 & 14, 2018
Presented by Allorah Pradenas & Antonio Nava
### UC San Diego by the Numbers

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>35,816</td>
<td>Total Campus Enrollment</td>
</tr>
<tr>
<td>84,198</td>
<td>Freshman applicants for 2016</td>
</tr>
<tr>
<td>$3.8 billion</td>
<td>Fiscal year 2014 revenues; 27 percent of this total is revenue from contracts and grants, most of which is from the federal government for research</td>
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<tr>
<td>8%</td>
<td>Total revenue from the State of California</td>
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<tr>
<td>$1.1 Billion</td>
<td>Research funding secured during fiscal year 2014 to support research in all fields</td>
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<tr>
<td>8,058</td>
<td>Degrees conferred in 2016</td>
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<tr>
<td>16</td>
<td>Number of Nobel Laureates who have taught on campus</td>
</tr>
<tr>
<td>155</td>
<td>Memberships held by current and emeriti faculty</td>
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UC San Diego Embraces Lean Six Sigma Culture

Mission: We will transform California and a diverse global society by educating; generating and disseminating knowledge and creative works; and engaging in public service.

Vision: Student-centered, research-focused, service-oriented public university.

Strategic Plan Goal 5: Creating an agile, sustainable, and supportive infrastructure by ensuring a dedication to service, people, and financial stewardship.
About the Office of Operational Strategic Initiatives

Mission

To continuously advance the framework for UC San Diego’s sustainable excellence by identifying opportunities and providing solutions that improve overall service, dedication to people, and financial stewardship.
Continuous Improvement Culture

- **Lean Bench** - Select set of campus expert practitioners of Lean Six Sigma who engage and lead crucial efforts around process improvement

- **Business Excellence Community of Practice** - A forum to share tips, best practices, resources, and institutional knowledge to align and support the Universities’ organizational missions

- **Process Palooza** - A day-long annual competition and conference focused on continuous improvement

- **Lean Six Sigma Training**
  - White Belt and Yellow Belt - Offered by OSI
  - Green Belt and Black Belt - Offered by UC San Diego Extension

2,000+
Top-Down Support

- Chancellor Support, Scholarships, OSI, Measurements
- Projects
- Continuous Improvement
- Project Management

Bottom-Up Support

- Ideation Program, Trainings, Communities of Practice
- Change Management
- Data Analysis
Scored Portfolio to Maximize Impact
Identifying Value in Higher Ed

<table>
<thead>
<tr>
<th>Lean Six Sigma</th>
<th>Lean Six Sigma in Higher Education</th>
</tr>
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<tbody>
<tr>
<td>Did we...</td>
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</tr>
<tr>
<td>• Reduce costs?</td>
<td>• help a researcher create more time to spend in their lab, perform research, submit proposals, or publish?</td>
</tr>
<tr>
<td>• Improve Quality?</td>
<td>• Improve the student experience, directly in the classroom or through experiential activities and opportunities?</td>
</tr>
<tr>
<td>• Increase Revenues?</td>
<td>• help a faculty member create more time to spend with students, performing research, or publishing?</td>
</tr>
<tr>
<td></td>
<td>• help a faculty or research administrator focus on their most mission critical work?</td>
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What is Lean Six Sigma?

Lean Six Sigma is a methodology that combines the principles of Lean and Six Sigma to improve the efficiency and effectiveness of processes. Lean focuses on waste reduction by streamlining a process, while Six Sigma focuses on preventing defects through problem-solving. Lean Six Sigma strengthens Six Sigma by incorporating problem-solving techniques and improving processes to deliver greater results.

SPEED + ACCURACY = RESULTS
Pursuit of Perfection

To achieve Six Sigma, a process must fit within the customer specification limits 99.9997% of the time (i.e., only 3.4 out of 1 million instances are considered defects).
Basic LSS Concepts

Everything we do is a process

Always focus on the customer and where value is added

All processes have variation and waste - no process is perfect!

All variation, defects, and waste have a cause

Known causes can be eliminated, reduced or controlled

View improvements in a systemic way
The 5 Lean Principles

- **Voice of Customer (VOC):** The process of capturing customer expectations, preferences and aversions through reactive (e.g., complaints, returns, service calls) and proactive (e.g., interviews, surveys, focus groups) feedback channels.

- **Perfection:** Iterative and continuous nature of process improvement.
DMAIC Model
Identifying Process Waste

- What do you do?
- How can you:
  - Eliminate?
  - Simplify?
  - Streamline?
  - Minimize?
8 Wastes: DOWNTIME

- **Defects**: Efforts caused by rework, scrap, and incorrect information.
- **Overproduction**: Production that is more than needed or before it is needed.
- **Waiting**: Wasted time waiting for the next step in a process.
- **Non-Utilized Talent**: Underutilizing people’s talents, skills, & knowledge.
- **Transportation**: Unnecessary movements of products & materials.
- **Inventory**: Excess products and materials not being processed.
- **Motion**: Unnecessary movements by people (e.g. walking).
- **Extra-Processing**: More work or higher quality than is required by the customer.
Voice of the Customer (VOC)

“It takes too long to get my file reviewed!”

“Our students never fill out this form correctly.”

“Our patient satisfaction scores keep dropping.”
Kaizen/Rapid Process Improvement Event

- An event focused on improving a process attended by:
  - Owners and operators
  - Customers
  - Project sponsors
- Can be completed very quickly (less than a day or over the course of several weeks)
- Creates buy-in from all stages of the process
- Considers downstream impacts
- Creates a safe space that is focused on process, not people
Kaizen Format

Measure Current Process
- Objective analysis of current state
- Value Stream Map
- Data Driven

Prioritize Solutions
- Identify biggest opportunities to make improvements
- Identify root causes

Develop Action Plan
- Assign owners and deadlines
- Progress Updates
Controls: Mistake Proofing
LSS Belt Levels

- Black Belt
- Green Belt
- Yellow Belt

White Belts:

1. Basic LSS Terminology
2. How to identify Process Issues
3. LSS Concepts
LSS Belt Levels

- Black Belt
- Green Belt
- **Yellow Belt**
- White Belt

**Yellow Belts:**
1. Basic LSS Tools Application
2. How to identify root cause
3. How to select improvements
LSS Belt Levels

- **Black Belt**
- **Green Belt**
  - Yellow Belt
  - White Belt

**Green and Black Belts:**
1. Project-based application
2. How to measure effectiveness of changes
3. How to leverage tools effectively
Breaking Silos and Reaching Diverse Areas of Campus

IT Services
Create a culture of service ownership and continuous improvement within the recently-unified IT Services (ITS), and weave this thought process into the everyday work-life of each individual.

Integrated Procure-to-Pay Solutions
Create a single channel to onboard any type of non-payroll payee to reduce manual work, status inquiries, and reduce risk of penalties.

Associated Students
Reduced the appointment process for student workers from 21 days to 4 days.

Reproductive Medicine
Rapid Improvement events resulted in over 40 process improvements focused on driving increased patient satisfaction.
### Impacts of LSS Projects (cont.)

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<tr>
<th>Category</th>
<th>Impact Description</th>
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<tr>
<td>Improved delivery of manufactured products</td>
<td>• Reduce hotel and venue contract cycle time from 5+ days to 3 days or less</td>
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<tr>
<td>Increased capacity of expensive equipment</td>
<td>• Reduce resolution time for ITS systems downtime activity, resulting in more productivity, less rework, greater compliance, and an annual savings of $250K ($285K to ~$3K)</td>
</tr>
<tr>
<td>Improved safety</td>
<td>• Reduce number of knife cuts in Housing Facilities by 50%</td>
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<tr>
<td>Better inventory record accuracy</td>
<td>• Create and implement process for tracking, measuring, and billing for oncology drug waste in IV rooms. Resulted in approx. $1.6M annual revenue recovery</td>
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<tr>
<td>Quality improvement</td>
<td>• Improve UCSD Alumni Association Workzone tool to increase user satisfaction survey score from 4 to 8.5 points</td>
</tr>
<tr>
<td>Productivity improvement</td>
<td>• Reduce delivery time for ARUP lab paperwork to reach billing department from 5-10 days to &lt;5 days</td>
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<tr>
<td>Improved report delivery time and accuracy</td>
<td>• Reduce time to generate quarterly Chemistry/Biochemistry facility reports from 5 hours to 1 hour by automating the process</td>
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<tr>
<td>Faster delivery/approval process</td>
<td>• Improve ITS onboarding process to increase completion rate of onboarding form from 48% to 100% by eliminating unnecessary steps</td>
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Discuss

- How do you currently collect and respond to the Voice of your Customer?

- Are there identifiable areas of waste in your processes?
  (waiting, extra processing, defects, non-utilized talent, etc.)

Next Steps

- What is your 15%?
- Where do you have discretion and freedom to act?
- What can you do without more resources or authority?
Key Takeaways

- LSS empowers employees at all levels to be change agents
- Formal training provides a common language and tools
- LSS emphasizes collaboration between departments, and can address institutional silos
- Change initiatives are more successful when true root cause is addressed, and when all levels of staff are driving the change
Creating Positive Change Through Strategic Partnerships: LSS Consulting and Training

- 6σ LSS Workshops (5s, Personal Kanban Workshop)
- White Belt Training
- Yellow Belt Training
- Customized Kaizen Sessions

Save the Date
December 12, 2018

Process Palooza
UC San Diego Learning Toward Success
Thank you!
Any questions?

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