Leadership of Lean Processes: Tools for Change, Changing the Culture

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Lean in Higher Education

• Provides overview of lean processes and focus on leadership responsibilities. Points out need for leader commitment to the lean processes. (Balzer, 2010)

• Balzer’s book on Lean higher education provided relevant examples of how to significantly improve critical services and processes by eliminating duplication of steps. Provides practical case studies proving Lean works in higher education. (Bozkus, 2010)
Lean in Higher Education

• Lean is key to sustainability of colleges and universities. Universities often focus on profile and marketing and often overlook operational efficiency as a mechanism for cost containment. (Comm & Mathaisel, 2005)

• Lean Workout as an academic course to redesign grade change processes. (Dorman, 2011)
Lean in Higher Education

• Business School using lean to design and deliver graduate courses. Improving consistency of course delivery, lectures, assignments and expectations. (Emiliani, 2004)

• Lean is a critical piece to higher education business curricula with the potential for daily application in all aspects of business. (Fliedner & Mathieson, 2009)
Lean in Higher Education

• Lean thinking provides necessary tools to operationalize continuous improvement. Lean principles overlap with Baldridge criteria and TQM initiatives. (Flumerfelt and Banachowski, 2011)
What is Lean?

Lean is a set of principles, concepts and techniques designed for a relentless pursuit of elimination of waste and continuous improvement.
Goals of Lean

• Flexible and responsive to the customer
• Improve quality
• Zero mistakes
• Eliminate waste
• Reduce costs
• Continuous improvement
• People oriented
• Employee driven
Lean Vocabulary

• Waste
• Value Added
• Non-Value Added
• Current State
• Future State
• Cycle Time
Waste

• Any business activity that does add value to the customer, which includes:
  – Overproduction/Overservicing
  – Waiting
  – Transport
  – Extra Processing
  – Inventory
  – Motion
  – Defects
Value Added

• Any activity that adds value to the customer or makes a physical change within the process.
Non-Value Added

- An activity that uses time, resources and space but does not add value to the product itself.
Current State

• The current state defines where we are right now, the “as-is,” including all areas of defects, waste, wait, etc.
Future State

- The future state is a new set of conditions that has been determined that will improve both process and information flow; the “ideal way.”
Cycle Time

• The entire time it takes to complete a process from beginning to end.
Lean Tools

• Standard Work
• Value Stream Mapping
• First Time Right
• Visio®
• 5 Whys
• Visual Management
• 6S
• Fishbone Diagram
• Spaghetti Chart
Standard Work

• A set of documented processes for each business services unit that:
  – Establishes standards to complete tasks
  – Identifies where standard work processes should reside
The Importance of Standard Work

- Defines standard labor cost
- Defines manpower requirements
- Defines how to do and time to complete tasks
- How much to make (Standard Work)
- Defines how to manage a Lean business services operation
- Establishes a baseline for discipline for lean activities
Value Stream Mapping

- A visual representation of a process which indicates the main steps, branches, sequences, and outcome.
First Time Right

Refers to having a standardized process to ensure each time the work takes place, there are no defects – First Time Right prevents re-work

Example: Working at a bank and verifying the points of a check
Visio®

- A software program that allows you to transfer data captured in Excel into a value stream map that includes attribute information.
5 Whys

• A question-asking method used to explore the cause/effect relationships underlying a particular problem.
Visual Management

• The visual indicators used to ensure a process produces what is expected, and if not, what must happen.
6S

• Safety
• Sort
  – Eliminate unnecessary items
  – Everything else is stored or discarded
• Set-in-order
  – A place for everything and everything in its place
• Shine
  – Clean and organize as part of daily duties
• Standardize or sustain
  – For identical work all workstations should be the same
• Sustaining
  – maintain the new way of operation
Fishbone Diagram

- **Machinery/Equipment**
  - Ovens Worn Out
  - Bad Delivery Vehicles

- **People**
  - No Show Employees

- **Stale Ingredients**
  - Orders not Handled properly

- **Materials**

- **Processes**

- **Late Pizza Deliveries on Sunday**
Spaghetti Chart

Area: Printing and Mailing

Process: Annual Appointments

Distance: 250 ft.

- Envelopes
- Printer
- Scissors, glue, etc.
- Desk
- Desk
- Desk
- Recycling
Brainstorming Projects

- Organically grown
- Individual contributors can submit suggestions to the Lean Champion
- Steering team discusses what “keeps them up at night”
- Customer Feedback generates possible projects
Listing Potential Projects

• A comprehensive list of potential projects is managed by the Lean Champion
• Projects are identified by type; e.g., revenue generating, cost avoidance, cost reduction, etc.
• Upon completion of a project, or appropriate resources being available, a potential project will move to an active project
Selecting Projects

- The Steering Team meets approximately once a month to discuss, approve and deny projects
- A cost-benefit analysis is conducted
- Projects are selected based on financial data and business and customer impact – biggest bang for our buck
- When introducing Lean to an institution, start with low-hanging fruit
Process Improvement Project

Steps

1. Identify the Project
2. Identify the Deliverables
3. Identify the Team Members
4. Identify the Training Requirements
5. Identify Other Resources Needed
6. Schedule and Plan Activities
7. Identify the Current State
8. Future State and Implementation
9. Succeed and Sustain
Standard Project Cycle

Opportunity Identified

Process Improvement
Team organized

Team trained in Lean Service Tools

Project deliverables determined

Brainstorm solutions; Design future state

Evaluate current state using standard Lean Service Tools

Observe processes and collect data to define current state

Team meets regularly and Leader assigns tasks

Further Analysis of project

Final approval of recommendations

Future State Implemented
Leadership of Lean

• Starts at the top and is carried out through the lean process
• Leaders role is to remove obstacles that prevent productivity
• Positive relationship to employee productivity
Leadership of Lean

• Empowers employees to take ownership of problem solving within units

• Leaders must make an honest assessment of self and their work environment.

• Listening provides a key to employee creativity, trust and commitment.
Lean Teams

Usually consist of 6-8 people

Team Leader
Team Members
Resource Member
Steering Team Member
Fresh ‘eyes’ Member
Finance and Business Services
Lean Structure
Lean Structure in Finance and Business Services
Lean Leadership Structure in Finance and Business Services

**Executive Steering Team**
- VP & Senior Staff + Lean Champion
- Provides overall direction
- Identify target Lean processes
- Approve team goals and metrics
- Assures sustained results
Lean Leadership Structure in Finance and Business Services

**Lean Champion Leader**

- Learns Lean methodology
- Coordinates Lean Project initiatives
- Trainer, Facilitator, Coach
- Maintains program metrics
- Maintains Standards
- Oversees Lean Leader Certification Program
- Executive Steering Team Member
Lean Leadership Structure in Finance and Business Services

**Resource Support Team Member (RST)**
- Process owner + key customer + stakeholder + expert
- Provide direction / resource / support to Process Improvement Team (PIT)
- Help & Support MU-Lean PIT members
- Engage with MU-Lean PIT during event as required
- Approve process redesigns if applicable
- Support PIT in implementing new process
Lean Leadership Structure in Finance and Business Services

Process Improvement Team (PIT)

- *PIT Team Leader*
- Cross functional, multi-layered
- Walk process and collect real-time data
- Redesign process
- Develop action plans
- Create Standard Work
- Write procedures and develop metrics
- Implement process changes
Lean Leadership Structure in Finance and Business Services

Department Steering Team

- In addition to the Finance and Business Services (FBS) Executive Steering Team at the Division Level, the larger Departments have Department Steering Teams and Assistant Vice President Assists Process Improvement Team (PIT) as Steering Member
Lean Structure in Finance and Business Services

- Division Executive Steering Team – VP and Senior Staff
  - Department Steering Team – AVP & Senior Team
  - Lean Manager/Champion
  - All Other Departments

- PIT
- Resource Team Member
Lean Leader Certification and Development Program

• Complete the following modules of the Miami University Supervisor Development Series:
  – Myers-Briggs® Introduction to Type
  – Communication’s Role in Management
  – Conflict Management – Thomas-Kilmann Conflict Mode Instrument®
  – Building a Reputation of Integrity – Ethics
  – Change Management
  – Micro-Inequities Awareness
  – Budget 101
  – Building and Maintaining Your Team.
Lean Leader Certification and Development Program

- **Objective** – Establish a program to grow our key Lean Leaders and recognize their efforts to improve Miami University operations through their efforts to lead MU-Lean Teams through continuous improvement projects. These Lean Leaders will become the key cultural change agents for Miami University and represent potential future leaders.
Lean Leader Certification and Development Program

- **Requirements:** In order to become fully certified, the Lean Team Leaders must successfully complete the following requirements:
  - Complete the MU-Lean 2-Day Formal Training Program
  - Complete MU development course “How To Conduct Efficient and Effective meetings”
Lean Leader Certification and Development Program

• Complete a modified “Get Lean” Certification Program, consisting of the following courses:
  • How to Develop New Metrics in a Lean Culture
  • Human Error Reduction
  • Fundamentals of Negotiation
  • Culture and Cultural Changes
  • Managing Projects in a Lean Environment

• Successfully participate in 5 process improvement projects, and serve as leader for 3 projects.

• Curriculum subject to change based on institution’s needs
Lean Leader Certification and Development Program

**Lean Certification Levels:**

- Lean Leader
- Senior Lean Leader
- Senior Department Lean Leader (appointed)
- Senior Divisional Lean Leader (appointed)
- University Lean Champion (appointed)
Leadership and Culture Change

• Developed Lean training modules in house
  – Lean overview
  – Lean Orientation
  – Lean 2 day training
  – Lean Leader Certification
Lean Culture at Miami

Observations from Dr. David Creamer, Vice President for Finance and Business Services and University Treasurer

– In his 2011 assessment of the current state and his observations stated that:

– Primary Goal - to create a culture that is constantly looking to improve

– Today:
  • Very distributed decision making now, and control, trying to reverse this culture
  • A lot of overlapping activities, a lot of change management issues
  • Internally trying to stand on their own and be able to train
  • We know we need a better way to keep score on financial tools
Lean Culture at Miami

• Major Objectives
  – Assist the Miami University departments in their next steps for continuous improvement of operations
  – Introduce the strategy and tools of Lean principles in business service operations and assist with project application.
  – Develop the internal capability for Miami to manage and train their own organization in Lean Improvement activities.
  – Change the Culture
  – Self Sufficient
Lean Culture at Miami

“Our commonly held attitudes, beliefs, goals and practices about our surroundings and work environment are inherent, yet invisible. We must view our university through the lens of entrepreneurial thinking. The implementation of Lean methodologies begins to open doors to this type of thinking.”

Mr. David Hodge, President of Miami University
2011 Annual Address
Leadership and Culture Change

• Standardized Lean workbook
• Standardized reporting process
• Incorporating Lean into new employee orientation
• Public recognition for lean successes
What is it Going to Take to Make it Work?

• Led from the top
• A strategic and systematic approach
• Structured training program (virtual and real-time)
• Support for individuals making the changes that are required
• Have measurements in place
• Never be complacent
Lean Project Improvements

Sundial Pizza Delivery

• Reducing average delivery time of pizza from 35 minutes down to 25 minutes.

• The team leveraged technology along with improved delivery dispatching methods to reduce the average pizza delivery time to a residence hall by nearly 30%.
Lean Project Improvements

Reduction in Unemployment Expenses

• Evaluated, benchmarked, and streamlined Unemployment process and payment.
• Identified a way to pay “bill” online and save $500 per year.
• Estimated annual savings of $21,000.
  – These savings were generated as a result of evaluating our current process, and identifying easy wins, such as improved record keeping, and monitoring of requirements.
Lean Project Improvements

**Student Organization Payments**

- Identified the process for allowing Student Organizations to use Buyway for check requests and S Numbers.

- Currently, several student organizations are using the system as part of the initial pilot program.

- It has been very well received, and is an excellent example of how a Lean project supports our vision of “creating the best student experience possible.”
Lean Project Improvements

myMiami improved for students and families

• Reduce confusion regarding payment of bills

• Provide vital information to parents

• From the user-friendly tabs for information concerning student bursar account summaries; financial aid requirements and awards; student account information meal plans; student course schedules and grades; and student housing and meal plan information.
Lean Project Improvements

myMiami improved for students and families (Cont.)

• Also, from one screen, parents will be able to access a detailed account summary, pay bills, and add funds to other Miami accounts.

• Student Accounts personnel will be able to assist parents and students with questions about on-line bill payments by being able to move through the process and “see what the parent is seeing.”

• 20% decrease in calls regarding student accounts
Lean Project Improvements

Centralized Food Service Forecasting

• To create a system of centralized forecasting for Student Dining Services at the Demske Culinary Support Center, rather than by various individual location managers.

• The extra time that this opens up will provide managers with the opportunity to develop revenue generating programs such as special dinners.

• Estimated Savings of $1,324,276
Lean Project Improvements

Improved Efficiency and Expansion of Online Bookstore Orders

• To evaluate the online ordering process and identify ways to reduce supply lead time, reduce wait time, reduce inventory, and also extend demand lead time. This team will also seek to implement a modified version of the online ordering process at the regional campuses.

• Estimated annual savings $100,000
Lean Project Improvements

**Solid Waste Lean project**

- Kicked off on June 19

- The team’s charge is to implement process improvements that reduce the University’s solid waste by 20% and increase recycling to 55% for the entire campus.

- Miami sends approximately 2,817 tons of waste to landfills annually.
Lean Inspired Project Improvements

Carillon Catering Storage Areas

• Used the Lean concept of 6-S (Sort, Set in Order, Shine, Safety, Standardize, and Sustain) to better organize their storage areas within the Shriver Center.

• Identified the most used items, and rearranged their storage to ensure that those items were easiest to access. By using this Lean concept, the group will reduce the waste of motion, transportation, and others!
Lean Inspired Project Improvements

Equipment Information Capturing

• To have all equipment information electronically available to be able to make informed decisions and to aid in planning and scheduling maintenance activities.

• $15,000/year sustainable savings in efficiency gains
References


MacInnes, R. (2009). The lean enterprise memory jogger for service. GOAL/QPC. Salem, NH.
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