Michigan Tech
Continuous Improvement Using Lean Principles
Fiscal Year 2014 Report

Kaizen Improvement Events

Event Name	Sponsoring Department	University Strategic Goal	Description	Results
Salary Adjustment Internal Process	Human Resources	1.1.1	Documented the current and ideal future state of the yearly employee salary increase process. Performed a gap analysis to aid in the development of a standardized step-by-step process.	1) Reviewed the annual salary process and identified opportunities to reduce data entry errors, departmental complaints, and processing times. 2) Created templates for the communication process surrounding the salary increase process. 3) Created a timeline and step-by-step outline of action items to ensure the process is completed in a timely, efficient manner and to help train new personnel.
Lean Computer Drive Organization using 5S	Office of Continuous Improvement	1.3.4	5S is a Lean method for workplace organization. Created a standard for adding, changing, and removing files from the Lean drive. Eliminated unnecessary and outdated files. Reduced time needed to find files. Created procedures to sustain improvements.	1) Reduced the size of the Lean drive from 8.06 GB to 6.19 GB. 2) Reduced the number of root folders from 16 to 12. 3) Eliminated 185 loose files on the drive and created a reminder to check for loose files. 4) Created a standardized work document for making any changes to the drive.
Cap and Gown Process Map	Merchandising Operations	1.3.3	Created a visual process map for the graduation cap and gown ordering, procurement, distribution, and return process that was improved through a previous kaizen event.	1) Created a visual aide to guide Memorial Union bookstore employees through the cap and gown ordering process. 2) Created a training supplement for new employees.
Food Service Computer Drive Organization using 5S	Dining Services	1.3.4	Created a standard for adding, changing, and removing files from the Food Service drive. Eliminated unnecessary and outdated files. Created procedures to sustain improvements.	1) Established standards for file maintenance on the Food Service drive. 2) Reduced the size of the drive from 5.11 GB to 3.55 GB. 3) Reduced the number of folders from 1,574 to 796. 4) Reduced the number of files from 12,311 to 6,132. 5) Reduced the number of root folder items from 130 to 22.
Lean Library Value Stream Map	Office of Continuous Improvement	1.1.2 1.3.3 3.1.5	Mapped the process of Lean Library book loans to identify opportunities for improvement. Cleared up confusion about loan policies and practices.	1) Created a value stream map for the Lean Library loan process. 2) Identified opportunities for improvement. 3) Implemented a set of standards and guidelines for loaning books from the Lean Library. 4) Created a knowledge folder for loaning books to train new employees.
Closing Sponsored Program Files	Vice President for Research	1.3.3	Simplified the process of closing Sponsored Program files through the use of process mapping. Eliminated non-value added steps and created standards for future closure decisions.	1) Estimated annual savings of $300.00 2) Reduced cycle time for closing Sponsored Program files from 5.77 to 3.18 minutes per file. 3) Reduced the number of boxes used for Sponsored Program files from 12-14 down to 7-9 per fiscal year. 4) Freed up space in active file drawers which saves time when looking for files and shifting files to make room.
5S Blitz Workshop	Office of Continuous Improvement	1.1.2 1.3.4	Provided workshop participants with an introduction to Lean. Applied the Lean tool, 5S, to organize workspaces, eliminate waste, and sustain improvements in areas like an inefficient office layout, a lack of filing standardization, etc.	1) Workshop included seven projects: Facilities Management, Sponsored Programs Accounting, JR Van Pelt and Opie Library, Human Resources, Mechanical Engineering-Engineering Mechanics, 2 from Business Operations, and the Office of the Provost 2) Sorted, set in order, shined, standardized various work spaces of the workshop participants to make more efficient work environments. 3) Created audits to help sustain the improvements that were made.
Memorial Union Computer Drive Organization using 5S	Memorial Union	1.3.4	Created a standard for the use and maintenance of the Memorial Union shared drive. Eliminated unnecessary and outdated files. Created procedures to sustain improvements. Reduced confusion and frustration when saving and locating files, folders and pictures.	1) Reduced the number of root folders from 176 to 12. 2) Reduced drive space from 490 GB to 2.53 GB. 3) Removed the number of users with access to drives from 83 to 11. 4) Eliminated all loose files on the drive (124 to 0).
Facilities Property Management Value Stream Map	Facilities Management	1.1.2 1.3.3	Defined the current process and determined an ideal future state for Facilities Management's property management process.	1) Developed a communication tool to report problems and improvement suggestions to the Executive Director of Facilities Management. 2) Recommended that both Primary and Secondary equipment coordinators should be within Facilities Management to simplify and enhance communication between the Property Office and Facilities Management, while also allowing those closest to the work and equipment to be responsible for the property management process.
Track and Field Clinic Process Mapping	Athletics and Recreation	1.1.2 1.3.3 1.3.4 2.1.2 2.2.2	Created from scratch a process for clinic planning and execution. The team, composed of six student athletes and a coach acting as champion, were taught and then used Lean tools and problem solving techniques to map out the ideal process for clinic operations.	1) Resulted in a successful clinic with 14 participants, $545.00 in revenue, and 100% customer satisfaction. 2) Created an ideal state process map which helped drive the brainstorming effort for determining the equipment and personnel needs of the clinic. 3) Identify potential issues and determine the best countermeasures for resolving them using a Process Decision Program Chart (PDPC).

Event Name	Sponsoring Department	University Strategic Goal	Description	Results
Blue Key Communication Gap Analysis	Student Activities	1.1.2 2.2.2 2.3.3	Analyzed barriers preventing communication between members of the Blue Key student organization, as well as communication between members and officers.	1) Developed a plan to be carried out by the Blue Key officers to improve communication within the organization and create a sense of pride and accountability in members.
Termination Process	Human Resources	1.2.1 1.3.3 3.2.5	Standardized the procedure for terminating physical and electronic access of employees separating from the university.	1) Established and implemented a Termination Checklist to be used when employees separate from the University to ensure a standardized approach to terminating physical and electronic access. 2) Established and implemented a notification memo to timekeepers and supervisors regarding employees who have not worked within the last 30 days. 3) Lowered the risk of university information/data and physical security being compromised.
Assigning Student Employee Titles	Human Resources	1.2.3 1.3.3	Standardized the list of student employee titles and applied poka-yoke (error-proofing) to the student titles field entry on employee status change forms.	1) Reduced the number of student employee job titles from 300+ to 70. 2) Created a drop-down list of job titles on electronic personnel action forms (EPAF) to eliminate free-text field entry errors. 3) Eliminated rework loops back to EPAF approvers due to data entry errors.
Holiday Luncheon Value Stream Map	Dining Services	1.3.3 1.3.4	Documented the process of executing the recent highly successful holiday luncheon in order to have the same or better results for years to come.	1) Created a value stream map to identify and document each step in the process of planning and executing the luncheon. 2) Developed a timeline for completion of the process so that steps aren't skipped, and deadlines aren't missed. 3) Created a "best practices" training aide for the new catering manager.
Department Computer Drive Organization using 5S	Accounting Services	1.3.4	Created a standard for the use and maintenance of the Accounting Services shared drive. Defined the purpose of each shared file storage location to reduce confusion about where to store files. Eliminated unnecessary and outdated files. Created procedures to sustain improvements.	1) Reduced the number of files on the drive from 57, 523 to 36, 432. 2) Reduced the number of folders on the drive from 4,818 to 3,134. 3) Reduced the number of root folders from 47 to 17. 4) Developed standards and created a quarterly audit for maintenance of the drive. 5) Determined which shared file storage locations to use for different types of files.
Retail Dining Blueprint	Dining Services	1.3.3 1.3.4 2.2.2 3.2.5	Organized ideas and prioritization of objectives regarding future improvements to the Memorial Union retail dining outlet.	1) Established a structured improvement plan for Memorial Union retail dining that will be executed incrementally over the next fiscal year.
Residential Dining Blueprint	Dining Services	1.3.3 1.3.4 2.2.2 3.2.5	Organized ideas and prioritization of objectives regarding future improvements to each of the three residential dining halls.	1) Established a structured improvement plan for residential dining that will be executed incrementally over the next 5 years.
Graduate Degree Completion Process	Graduate School	1.2.3 1.3.3	Mapped the Graduate Degree Completion process to better understand it from a student's point of view. Simplified the process and reduced questions on what steps need to be taken.	1) Created and implemented a web and print checklist that is more easily accessible by students which outlines the requirements necessary for completing a graduate degree. 2) Created a timeline to help guide students as they progress in their degree completion journey. 3) Added process description pop ups on the web version of the checklist to explain each step of the process in more detail.
Payroll Termination Process	Human Resources	1.2.1 1.3.3	Mapped the current process for developing the final paycheck after employee terminations resulting from death, involuntary separation, voluntary separation, and retirement. Identified areas where lack of standards were causing confusion, errors, and/or numerous rework loops.	1) Created a standard checklist for forms and information that needs to be gathered and submitted to payroll upon employee termination of employment. 2) Developed a timeline for the collection of information once an employee terminates. 3) Identified and eliminated communication barriers between departments that were preventing the flow of information and forms.
Process Mapping Workshop	Office of Continuous Improvement	1.1.2 1.3.3	Provided workshop participants with an introduction to Lean. Applied the Lean swim lanes tool to create process maps. Developed a visual depiction of the current state of a participant-selected process to identify opportunities for improvement.	1) Workshop included five projects--2 from Dining Services, 2 from Human Resources, and 1 from the Humanities Department. 2) Developed a current state process map for all participating departments based on their identified process under review. 3) Identified areas of waste and opportunities for improvement within each of the chosen processes.

Strategic Goal Alignment: Michigan Tech has a strategic plan which helps align the daily activities of the various departments. Continuous improvement using Lean principles aids in this effort.

University goals supported in the above table:

Goal 1: A world-class and diverse faculty, staff, and student population.

    1.1: Outstanding professional environment for all members of the Michigan Tech community.

      1.1.1: Provide competitive compensation, recognition, and rewards to attract, retain, and support faculty and staff.

      1.1.2: Support professional development and leadership opportunities for faculty, staff, graduate, and undergraduate students.

    1.2: A diverse, inclusive, and collegial environment.

      1.2.1: Inspire an engaged community that actively seeks improvement through acceptance and understanding.

      1.2.3: Promote mutual appreciation and collaborative opportunities among academic disciplines.

    1.3: Exceptional infrastructure, rich cultural environment, and a welcoming, aesthetically pleasing campus.

      1.3.3: Implement high quality services that are efficient and responsive.

      1.3.4: Use resources, laboratories, and equipment safely and to maximum effectiveness.

Goal 2: A distinctive and rigorous discovery-based learning experience grounded in science, engineering, technology, sustainability, the business of innovation, and an understanding of the social and cultural contexts of our contemporary world.

    2.1: Integration of research, instruction, and innovation that achieves the University Student Learning Goals.

      2.1.2: Strengthen existing programs and develop new offerings in emerging interdisciplinary areas.

    2.2: Transformative educational experience grounded in a high-tech, high-touch, residential environment.

      2.2.2: Develop student creativity, leadership, team building abilities, critical thinking skills, and ethical awareness.

    2.3: Graduates with the ability to respond to the needs and challenges of the 21st century.

      2.3.3: Improve students' communication skills.

Goal 3: World-class research, scholarship, entrepreneurship, innovation, and creative work that promotes sustainable economic and social development in Michigan, the nation, and the world.

    3.1: Growth in research and graduate education.

      3.1.5: Encourage and value interdisciplinary activities.

    3.2: Innovation and economic and social development in Michigan the nation, and the world.

      3.2.5: Increase cross-cultural exchanges to promote understanding and discovery of new knowledge.