LEAN PROBLEM SOLVING – ONLINE COURSE

In this course that simplifies every-day problem solving, learn how to use an A3 problem-solving document to:

- Map Out a Process
- Define a Problem
- Discover the Root Cause(s)
- Evaluate Solutions

- Prioritize Improvements
- Successfully Launch Improvements
- Use PDCA to Sustain Improvements

FORMAT:
- Self-paced online training

DURATION:
- 3 hours of online modules

LANGUAGES:
- English

CERTIFICATION:
- Issued upon completion of all online course work
- .4 Continuing Education Units / 4 Learning Units
- Available for print or download
- Digital badges can be added to social media profiles and/or email signatures

LEAN PRACTITIONER

TRANSPLACE

LEAN PROBLEM SOLVING - ONLINE COURSE AGENDA

LESSON 1:	
1.1	Seeing Problems
2.1	River of Waste
2.2	Levels of Problem Solving
2.3	Fix and Contain Problem Solving
2.4	ORLOE Problem Solving

LESSON 2	
3.1	Review Phase Overview
3.3	Problem Statement
3.4	Process Mapping
4.1	Learn Phase Overview
4.2	Pareto Chart
4.3	Fishbone Diagram
4.4	5 Why Analysis

LESSON 3:	
5.1	Optimize Phase Overivew
5.2	Solution Selection
1.2	Lean Management Systems
6.1	Execute Phase
6.2	Building the Solutions Team
6.3	Implementation Management

LESSON 4:	
7.1	Applied Learning Exercise
7.2	Next Steps

TRANSPLACE

ORLOE A3 – PROBLEM SOLVING METHOD

ORLOE A3 FOR PROBLEM SOLVING

STATE DATE: 3.12.2020   **END DATE:** 3.21.2020

TEAM MEMBERS: Ana B. & Clint M.

REVIEW: UNDERSTAND THE PROBLEM
CREATE VISIBILITY TO THE CURRENT STATE & HIGHLIGHT PROCESS INPUTS & OUTPUTS

PROBLEMATIC PROCESS:

Brewing Coffee

PROBLEM STATEMENT:

From Jun-Jul 2019, customer service levels fell 10% below the goal of 87% resulting in a 13% dip in sales

CONTAINMENT:

Each pot of coffee brewed is tasted by an employee before approved for customers and each cup is measured for correct temperature before served to customers

PROCESS MAPPING / IDENTIFICATION OF STEPS

BAG OF COFFEE BEANS IN HAND → GRND COFFEE BEANS → ADD GRINDS, FILTER AND WATER TO COFFEE MAKER → BREW COFFEE → COFFEE FINISHED BREWING

GRND COFFEE BEANS
OPERATOR
COFFEE TYPE
COFFEE QUALITY
GRND COMPLETE
INTERPRETATION
AMOUNT OF COFFEE BEANS
BEAN MEASURING TECHNIQUE
COFFEE MEASUREMENT DEVICE
COFFEE GRINDER MACHINE

ADD GRINDS, FILTER AND WATER TO COFFEE MAKER
OPERATOR
COFFEE MAKER
POT
CLEANLINESS
FILTER TYPE
FILTER BRAND
AMOUNT OF GROUND COFFEE
COFFEE MEASUREMENT DEVICE
COFFEE "HISTORY" AFTER GRINDING
COFFEE TYPE
COFFEE QUALITY
WATER AMOUNT
WATER TEMPERATURE
WATER QUALITY

BREW COFFEE
OPERATOR
COFFEE MAKER
POT
CLEANLINESS
MACHINE DRIP RATE
ELECTRICITY STRENGTH
SETTING ON MAKER
FILTER TYPE
FILTER BRAND
COFFEE MEASUREMENT DEVICE
COFFEE "HISTORY" AFTER GRINDING
AMOUNT OF GROUND COFFEE
COFFEE TYPE
COFFEE GRIND SIZE
COFFEE QUALITY
WATER AMOUNT
WATER TEMPERATURE
WATER QUALITY

LEARN: DETERMINE THE CAUSES
USE THE PROCESS INPUTS & OUTPUT TO UNCOVER THE ROOT CAUSE(S)

TOLLGATES

Identify all potential contributing factors to the problem

Evaluate all factors to identify the critical (few) root cause(s)

ROOT CAUSE(S):

The Coffee is sour because there isn't a standard process throwing out expired creamer at the end of shift.

ROOT CAUSE ANALYSIS

PARETO CHART

PARETO ANALYSIS TEMPLATE

MEASUREMENT	FREQUENCY	PERCENT	CUMUL %
Specialists	44	53.01%	53.01%
Analysts	24	28.92%	81.93%
Engineers	9	10.84%	92.77%
Developers	3	3.61%	96.39%
Service	3	3.61%	100.00%
TOTAL	**83**		

Number of New Hires in 2015 & 2016

FISHBONE DIAGRAM

5 WHY ANALYSIS

5 WHY ANALYSIS EXAMPLE

PROBLEM STATEMENT: The Washington Monument is deteriorating

1. WHY: Why is the Washington Monument deteriorating?
   ANSWER: It's deteriorating due to the use of harsh chemicals.
2. WHY: Why do they use harsh chemicals?
   ANSWER: They use harsh chemicals in order to clean the pigeon poop
3. WHY: Why are there so many pigeons?
   ANSWER: Pigeons eat spiders and there are a lot of spiders on the monument
4. WHY: Why are there so many spiders on the monument?
   ANSWER: They eat gnats and there are a lot of gnats around the monument
5. WHY: Why are there so many gnats around the monument?
   ANSWER: The gnats are attracted to the light at dusk

ROOT CAUSE CONCLUSION: The light at dusk attracts gnats

OPERATE: STABILIZE & SEE
IMPLEMENT LEAN MANAGEMENT SYSTEMS TO STABILIZE & SEE PROBLEMS

Standard Work, Visual Management, 5S, Quality at the Source, CTQ Checklists, Performance Dashboards, Go See Leadership & PDCA

OPTIMIZE: SELECT THE BEST SOLUTIONS
EVALUATE & SELECT ROOT CAUSE COUNTERMEASURES TO SOLVE PROBLEM

TOLLGATES

Brainstorm & explore multiple solutions

Select realistic solutions that address the root cause(s)

SELECTED SOLUTIONS:

Descale coffee makers once per week during non-peak kitchen days/times

EVALUATION OF POTENTIAL SOLUTIONS

EASE VS. IMPACT MATRIX

	HARD	EASY
HIGH IMPACT		
LOW IMPACT		

EXECUTE: IMPLEMENT & VALIDATE SOLUTIONS
DEVELOP A PLAN TO LAUNCH, MONITOR & SUSTAIN THE SOLUTION

TOLLGATES

Implement a plan for ongoing process monitoring & PDCA

Share the learning and celebrate appropriately

TEAM MEMBERS:

Mark W   Leeanna M
Kelley P   Ana B
Clint M   Julia K.

SOLUTION IMPLEMENTATION

PLAN: Descale weekly to achieve 90% satisfaction

DO: Clint & Julia to descale every Tues @ 4pm

CHECK: Compare customer satisfaction to target

ACT: Adjust the plan to meet target