COMPLEXITY’S SILVER BULLET:
USING GREAT PROCESSES TO SOLVE GREAT CHALLENGES

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ONCE UPON A TIME…
COMPLEXITY
A complex system is one in which there are multiple interactions between many different components.
NORMAL ACCIDENTS
CONNECTIONS - LOOSE

a  time  b  time  c

capacity
CONNECTIONS - TIGHT a b c d e f g
INTERACTION - SIMPLE

a b c
VULNERABILITY

Interactions

Coupling

Linear

Tight

Complex

Loose

Normal Accidents, C. Perrow
VULNERABILITY

Interactions

Coupling

Linear

Tight

Complex

Loose

Normal Accidents, C. Perrow
VULNERABILITY

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Tight

Loose

Normal Accidents, C. Perrow
Interactions

Coupling

Linear

Complex

Tight

Loose

Power Grids

Air Traffic Control

Normal Accidents, C. Perrow

COMPLICATED
COMPLEX

Interactions

Coupling

Linear

Complex

Tight

Loose

Power Grids

Air Traffic Control

Intensive Care Unit

Manufacturing

Normal Accidents, C. Perrow
Interactions

Linear Complex

Tight Loose

Power Grids

Intensive Care Unit

Air Traffic Control

Coupling

Manufacturing

Normal Accidents, C. Perrow

LEAN IMPACT
IDENTIFY WHAT CREATES COMPLEXITY IN YOUR ORGANIZATION?
INHERENT COMPLEXITY

DESIGN COMPLEXITY

PROCESS COMPLEXITY

UNNECESSARY COMPLEXITY
STRATEGY SYSTEM
PEOPLE SYSTEM
PROBLEM-SOLVING SYSTEM
DAILY MANAGEMENT SYSTEM
COMPLICATED OR COMPLEX?
ORGANIZATIONAL COMPLEXITY LEADS TO INDIVIDUAL COMPLEXITY
ORGANIZATIONAL COMPLEXITY LEADS TO INDIVIDUAL COMPLEXITY
OUR ONE RULE

Use good judgment in all situations.

Please feel free to ask your department manager, store manager or Human Resources any questions at any time.
SAFETY CULTURE
STRATEGY SYSTEM
PEOPLE SYSTEM
PROBLEM-SOLVING SYSTEM
DAILY MANAGEMENT SYSTEM
LEADERS AS TEACHERS
PSYCHOLOGICAL SAFETY
We cannot change the human condition, but we can change the conditions under which humans work.

James Reason, Professor of Psychology
THE INDIVIDUAL COST OF COMPLEXITY
Each team is going to receive a combination of letters and numbers that you will have to remember.

Then you will both receive a task and you will have 60 seconds to perform this task.

At the end of the 60 seconds you will have to write down the number and letter combination you were given. DO NOT WRITE IT DOWN AHEAD OF TIME. NO PHOTOS ALLOWED.
SCARLET TEAM

A12

GRAY TEAM

*E9r%oF3
STOP MULTITASKING
STRATEGY SYSTEM
PEOPLE SYSTEM
PROBLEM-SOLVING SYSTEM
DAILY MANAGEMENT SYSTEM
“Simplicity does not precede complexity, but follows it.”

Alan Perlis
UNDERSTAND PROCESS FLOW
LEARN FROM THE PAST
LEARN FROM THE FUTURE
REdundancy
STRATEGY SYSTEM
PEOPLE SYSTEM
PROBLEM-SOLVING SYSTEM
DAILY MANAGEMENT SYSTEM
EVERYDAY PROBLEM SOLVING
SHORTEN FEEDBACK LOOPS
The Lean Management System

TRUE NORTH
- Voice of the Customer
- Voice of the Process
- Voice of the Employees
- Voice of the Financials
- Voice of the Suppliers

Leading Metrics
- Safety
- Quality
- Leadtime
- Cost
- Hourly, Daily, Weekly

Strategy System
Problem Solving System
Daily Management System
People System

Go See Ask Why? Show Respect

Line of Sight

Voice of the Customer
Voice of the Process
Voice of the Financials

Value Stream

DMAIC

A3 Thinking

Peg Pennington, Center for Operational Excellence