USMC Lean Six Sigma Green Belt

Notional Agenda

Monday

- Intro
  - Facilitating
- Simulation Round 1
- Define Phase
  - Charter
  - SIPOC
  - Voice of the Customer

Tuesday

- Define Phase
  - Communication Plan
  - Develop/ Execute Plans
- Measure Phase
  - Data Collection
  - Walk the Gemba
  - Value Stream Mapping

Wednesday

- Analyze Phase
  - Data Tools
  - Statistics
  - Statistical Process Control
- Improve Phase
  - Lean Principles
- Simulation Round 2

Thursday

- Improve Phase
  - 5S
  - Poka-Yoke
  - Standard Work
  - Visual Workplace
  - Implementation
- Simulation Round 3

Friday

- Control Phase
  - Control Plan
  - Sustainment
  - Benefits
  - Design for Six Sigma
- Training Closeout
- Final Exam

Administration

- Classroom location
- Restrooms
- Refreshments
- Starting / ending times
- Lunch / Breaks
- Class evaluations
- Parking Lot

Participation and Conduct

- Everyone participates with equal voice.
- High level of participation needed for success.
- Single discussions (respect the speaker).
- *All* ideas welcome.
- Function as a team.
- **HAVE FUN!**

Ground Rules – Class Exercise

- Develop Ground Rules.
- Students provide Ground Rules suggestions.
- Class discusses and accepts Ground Rules.

Goals & Expectations – Team Exercise

- Team Selection
  - Teams will be used throughout Green Belt course.
- Each team assigned a Post-It Note color to use.
- Each team will write each expectation on a Post-It Note and provide to the Instructors.
  - Team Members may need to do introductions.
  - Discuss and document goals & expectations.

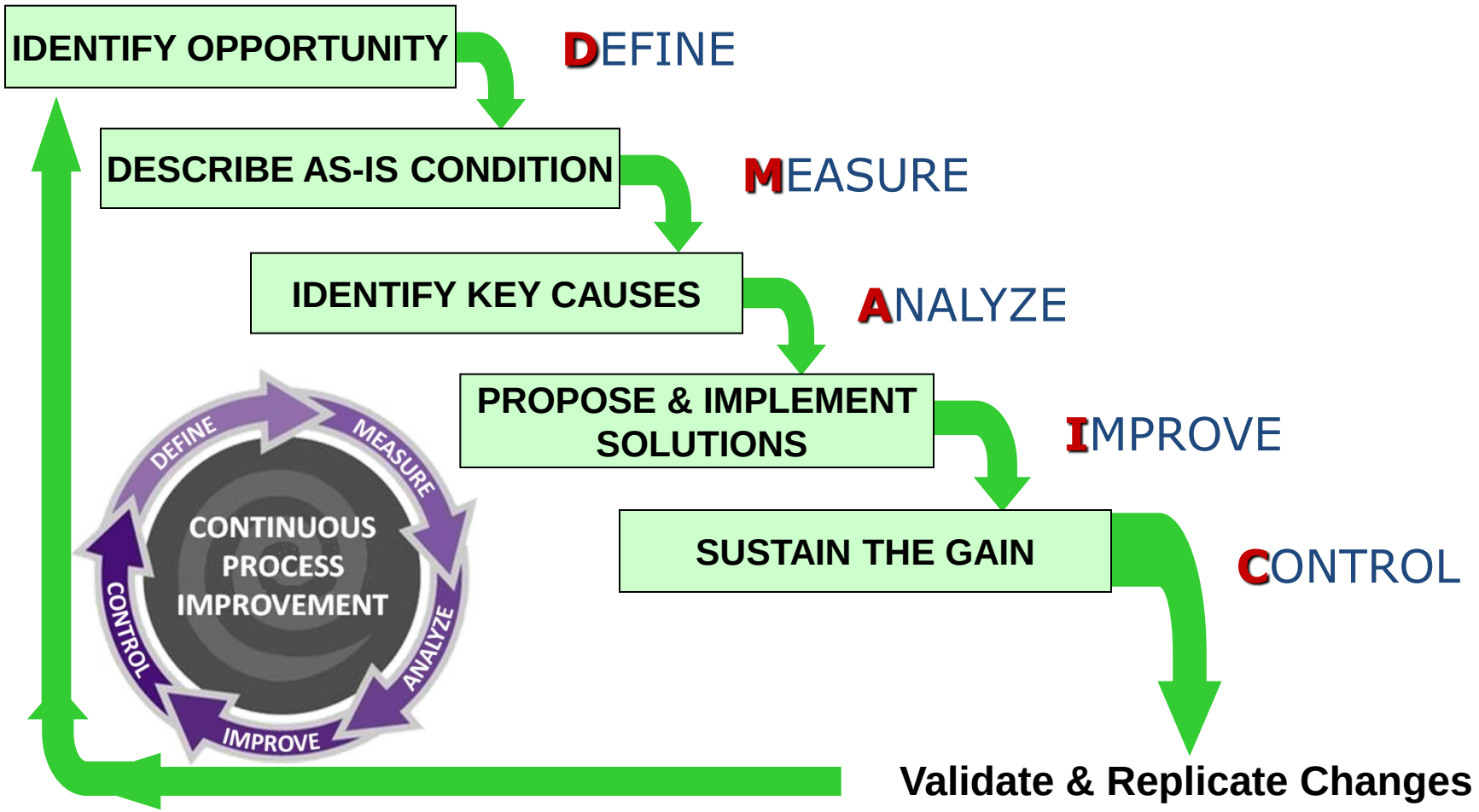
***Note: Instructors will review expectations at the end of the course.

5 minutes

CPI / LSS Program

- Lean Six Sigma (LSS) is widely accepted as the most effective Continuous Process Improvement (CPI) method.
- LSS is a proven problem solving methodology.
- Performance & Innovation (P&I) has experienced CPI support staff.

Course Structure: DMAIC



Why Use CPI?

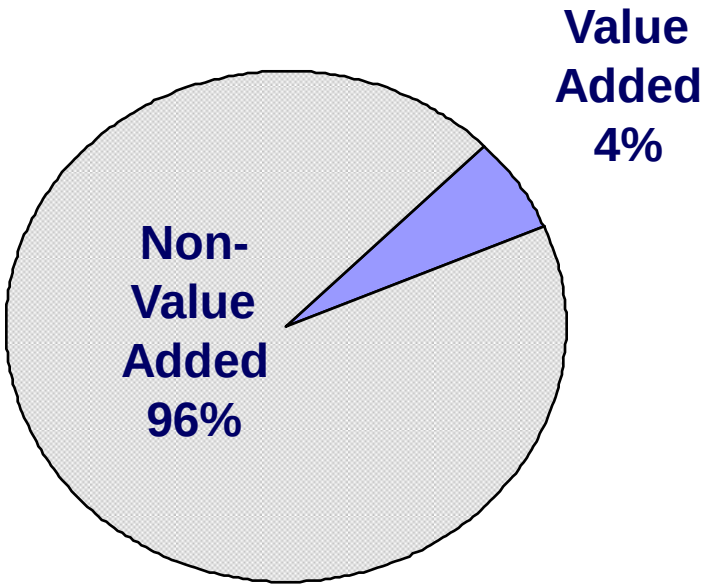
"There are four purposes for continuous process improvement: easier, better, faster, cheaper – and they appear in that order of priority." – Shigeo Shingo

- **Easier** – Reduce frustrations for employees, work smarter; not harder.
- **Better** – Make a process more efficient / effective, improve quality.
- **Faster** – Reduce lead time to fulfill customer demand.
- **Cheaper** – Reduce cost to customer.

Change in Focus

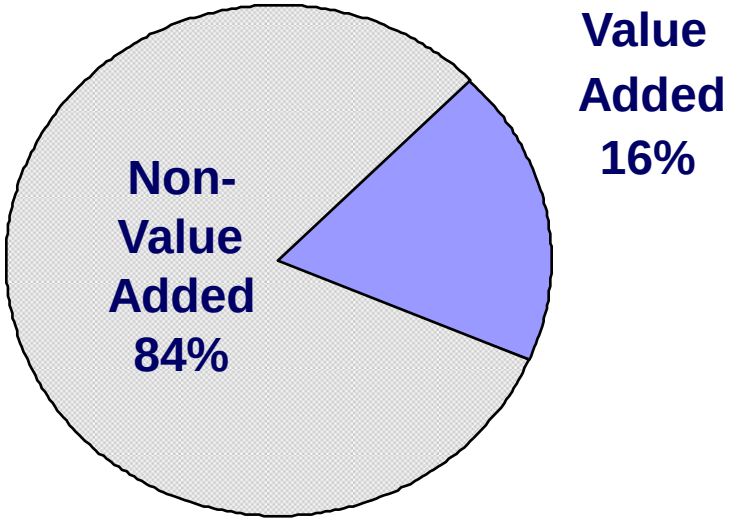
Transactional or Production Processes

80's



Before CPI

Today



After CPI

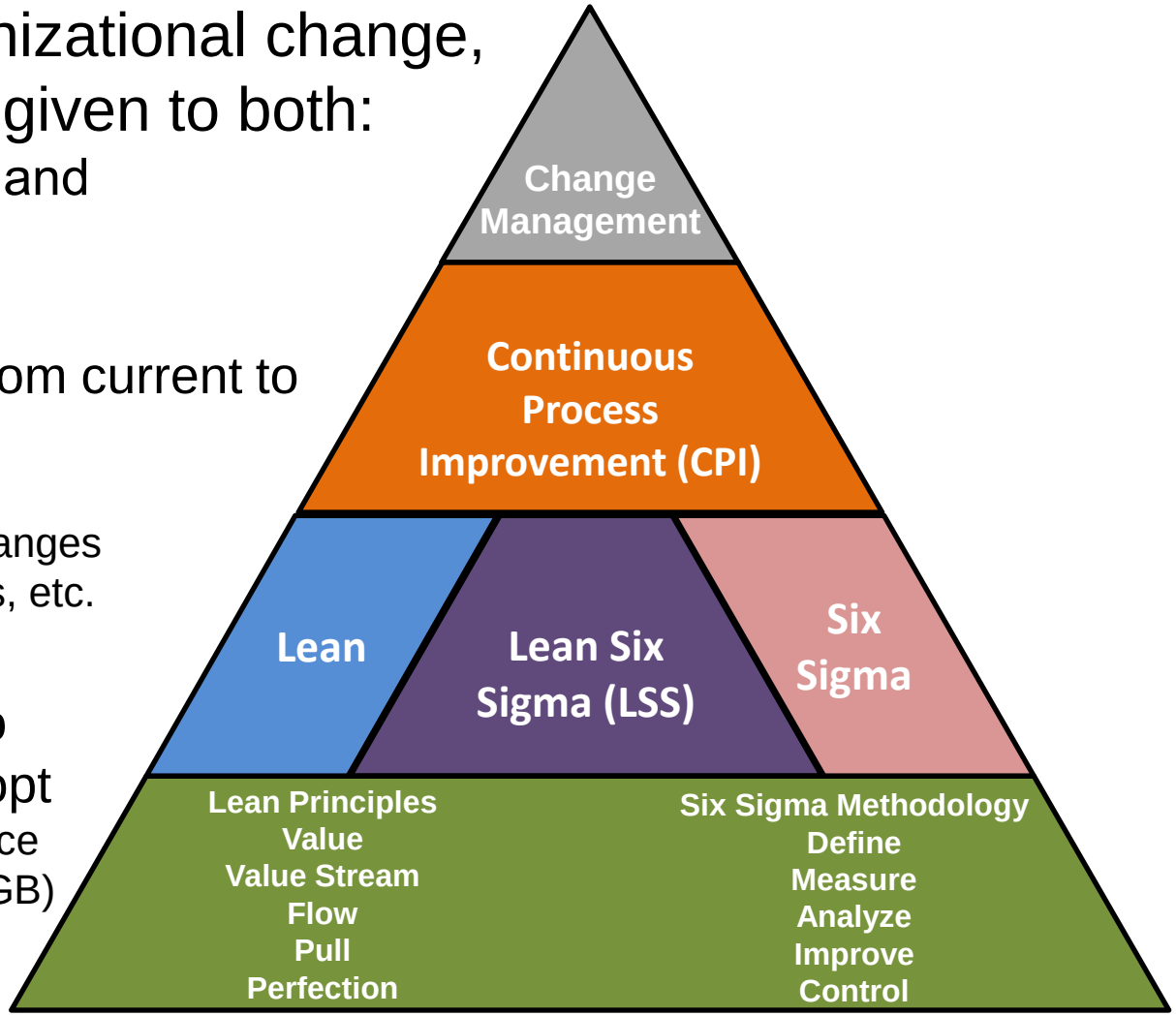
Change Management

- Change Management Purpose - improve the effectiveness and efficiency of the organization.
  - Process Improvement Culture Development.
  - Continuous quest for excellence.
- Change Principles
  - **Change is continuously occurring.**
  - Process required to manage change.
  - Ongoing process - not a stand alone project.

"It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change." – Charles Darwin

Change Management & CPI / LSS

- For successful organizational change, attention, should be given to both:
  - The “process” side, and
  - The “human” side
- **Process Side**
  - Activities to move from current to future state
    - Develop plans
    - Process or system changes
    - Infrastructure changes, etc.
- **Human Side**
  - Assist employees to understand and adopt
    - Alleviate staff resistance
    - Meet training needs (GB)
    - Secure buy-in



“It is not necessary to change. Survival is not mandatory.” - Edward Deming

Critical Elements for CPI Implementation

- **Leadership commitment.**
- CPI Projects aligned to customers critical requirements.
- Personnel with the attitude and aptitude for CPI are selected & trained.
- Program training & support.
- Sharing information and knowledge.

Course Goals

At the end of this course you will be a Green Belt able to:

- Understand Lean Six Sigma (LSS) / Continuous Process Improvement (CPI) tools and how to apply them to your workplace.
- Understand the impacts of the Triple Constraints on processes.
- Lead and Facilitate Projects or Events to attack and solve current day problems.
- Assist Black Belts on Command-wide Projects and Events.

Lean Six Sigma Delivers Results

- LSS/CPI enables organizations to remove waste (Muda) which improves mission capability. (Process Side)

- Helps organizations reduce variation (Mura) and eliminate defects through standardize work. This helps to provide consistency and reliability. Mura drives Muda. (Process Side)

- Reduces overburden (Muri) for staff. This helps to relieve stress, reduce mistakes, improve efficiency and quality of life. (Process and Human Side)

Introduction

Lean Six Sigma Defined

Lean

Eliminate Waste

Improve Flow

Six Sigma

Reduce Variation

Eliminate Defects

Lean Six Sigma

Together providing the customer with the best possible Value in Quality, Cost and Delivery

History of Lean and Six Sigma

- Henry Ford: Continuous flow production, reduce waste; Henry increased flow and reduced variation.

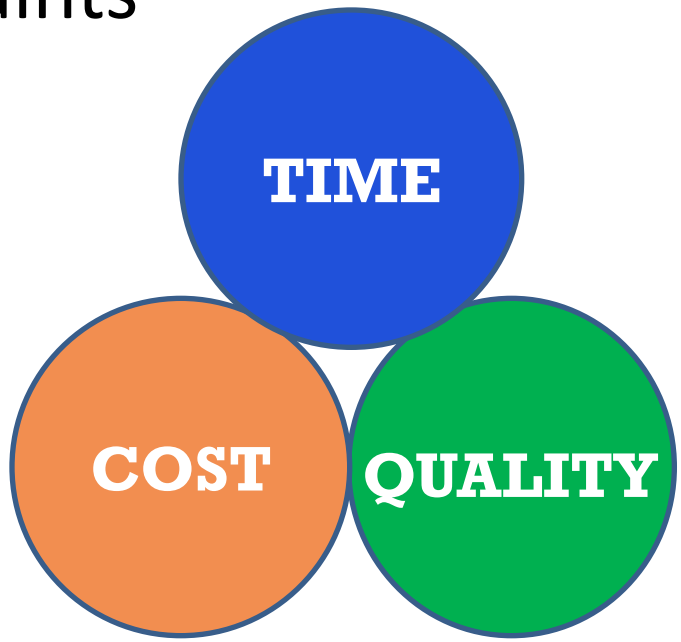
- Kiichiro Toyoda and Taiichi Ohno: Low inventory
- Toyota Production System: Quality and efficiency

- U.S. Supermarkets: Pull systems
- Shigeo Shingo: Mistake proofing, reduced set-up

- Motorola: Focus on early cycle defects, Six Sigma 1988

Triple Constraints of Projects

- Project Management Constraints
  - Scope (Quality)
    - Clear and Specific
  - Cost (Resources)
    - Money and Effort
  - Schedule (Time)
    - Amount of Time to complete process tasks



  - Prioritizing Constraints
    - Should be based on the view of the customer.

What is Lean?

Tools and Methodology to:

Eliminate Waste

WAR ON WASTE!

Improve Flow

By using:

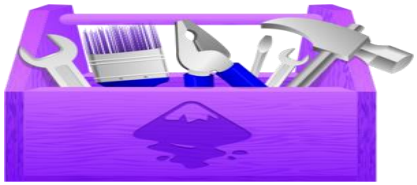
Just-in-Time

Batch Reduction

Pull/Kanban

Standard Work

Value Stream Mapping



Lean Toolbox

Set Up Reduction

Visual Controls

5S + 1

Poka-Yoke

Cellular Flow

Lean Principles

- **Value** specified from the customer's perspective.
- The **Value Stream** has been identified each service.
- The product / service **Flows** without interruptions.
- The customer can **Pull** value through the process.
- Continuous pursuit of **Perfection**.

Value

- Critical starting point for Lean.
- **Can only ultimately be defined by the customer**.
  - NO two customers define Value identically.
- Critical questions we must ask ourselves.
  - Do we truly understand Value from our customer's perspective?
  - Are we truly focused on providing that Value?
  - What are the barriers & obstacles preventing us from focusing on and providing that Value?

$$Value = \frac{Features \ x \ Performanc \ e \ x \ Quality}{Cost \ x \ Time}$$

8 Types of Waste (Muda)

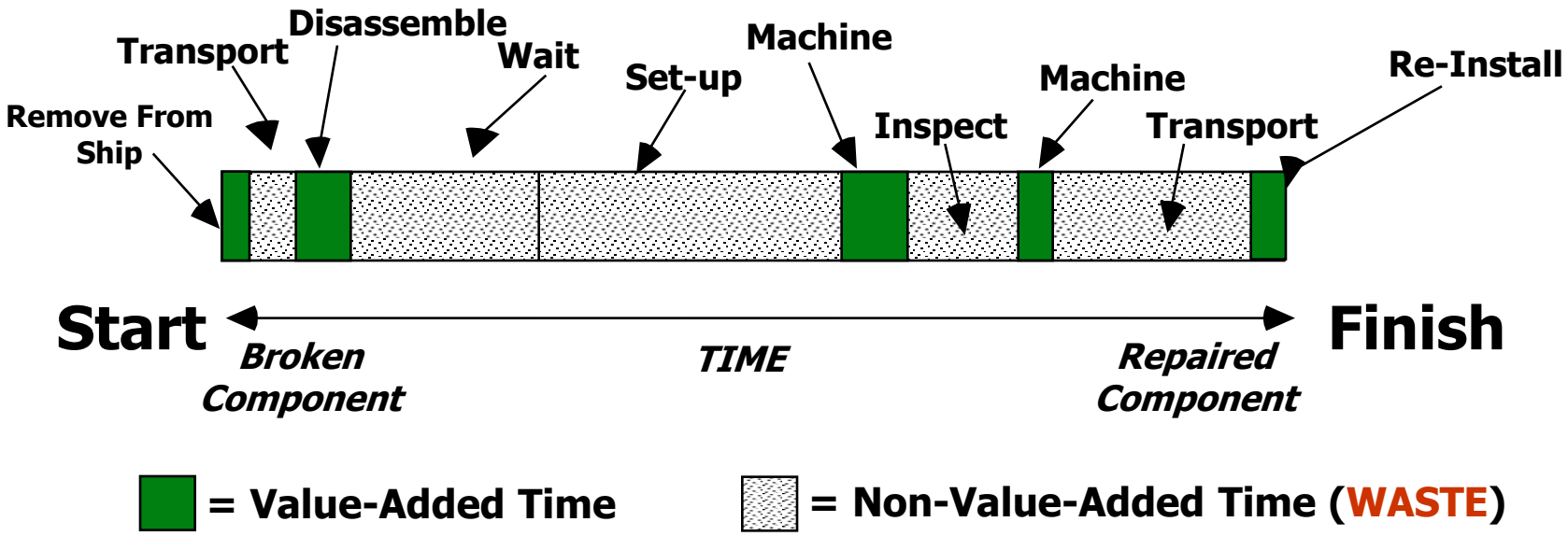
Identify and **Eliminate** these Wastes:

Types of Waste:

T	Transportation
I	Inventory (Excess)
M	Motion
W	Waiting
O	Over-Production
O	Over-Processing
D	Defects
&	
U	Under Utilization of people

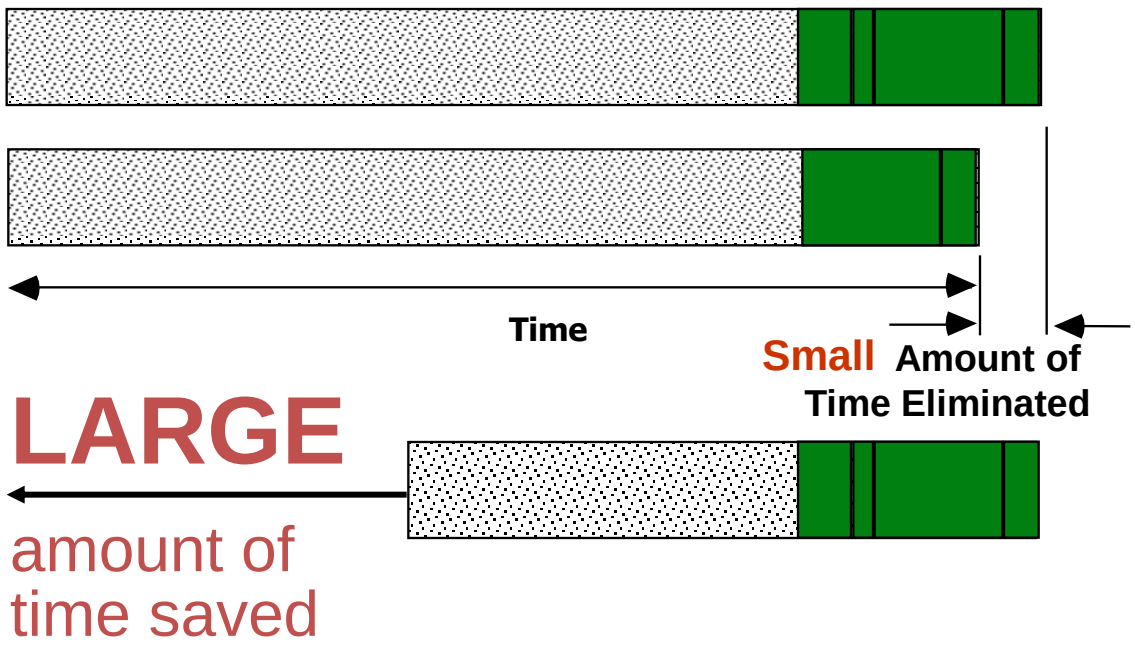
The Value of Time

Within the 8 wastes, **Time** is a significant factor.



"95% of all troubles in an organization are the result of the system (processes) and only 5% are the fault of people." - Edward Deming

The Value of Time



Traditional Focus

- Improve Value-Added work steps.
- Better tools, machines, instructions.
- Result: Small time savings.

Lean Focus

- Make all of the Value Stream visible.
- Reduce or eliminate Non-Value-Added portions of the process.
- Result: Large time savings.

Note: *The focus is not on the value-added steps or the people performing them. Instead, the focus is to remove barriers and better support the people doing the work!*

Value-added time is only a very small percentage of the total time.

What is Six Sigma?

Tools and Methodology to:

Eliminate Defects

WAR ON VARIATION!

Reduce Variation

By using:

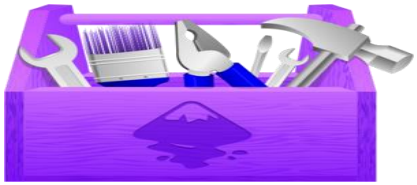
Measurement Systems Analysis

Pareto Charts

DMAIC

Statistical Process Control

Value Stream Mapping



Six Sigma Toolbox

Analysis of Variance

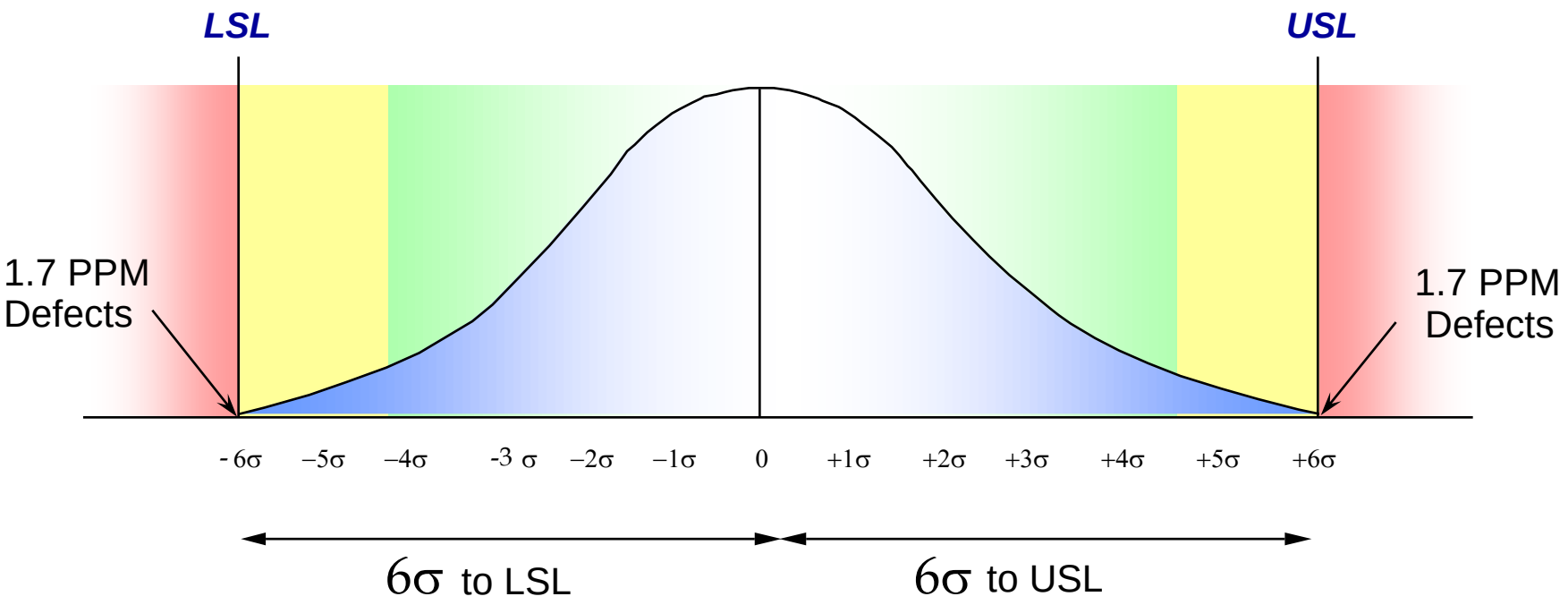
Control Charts

Voice of the Customer

Histograms

Cause and Effect Diagrams

Six Sigma



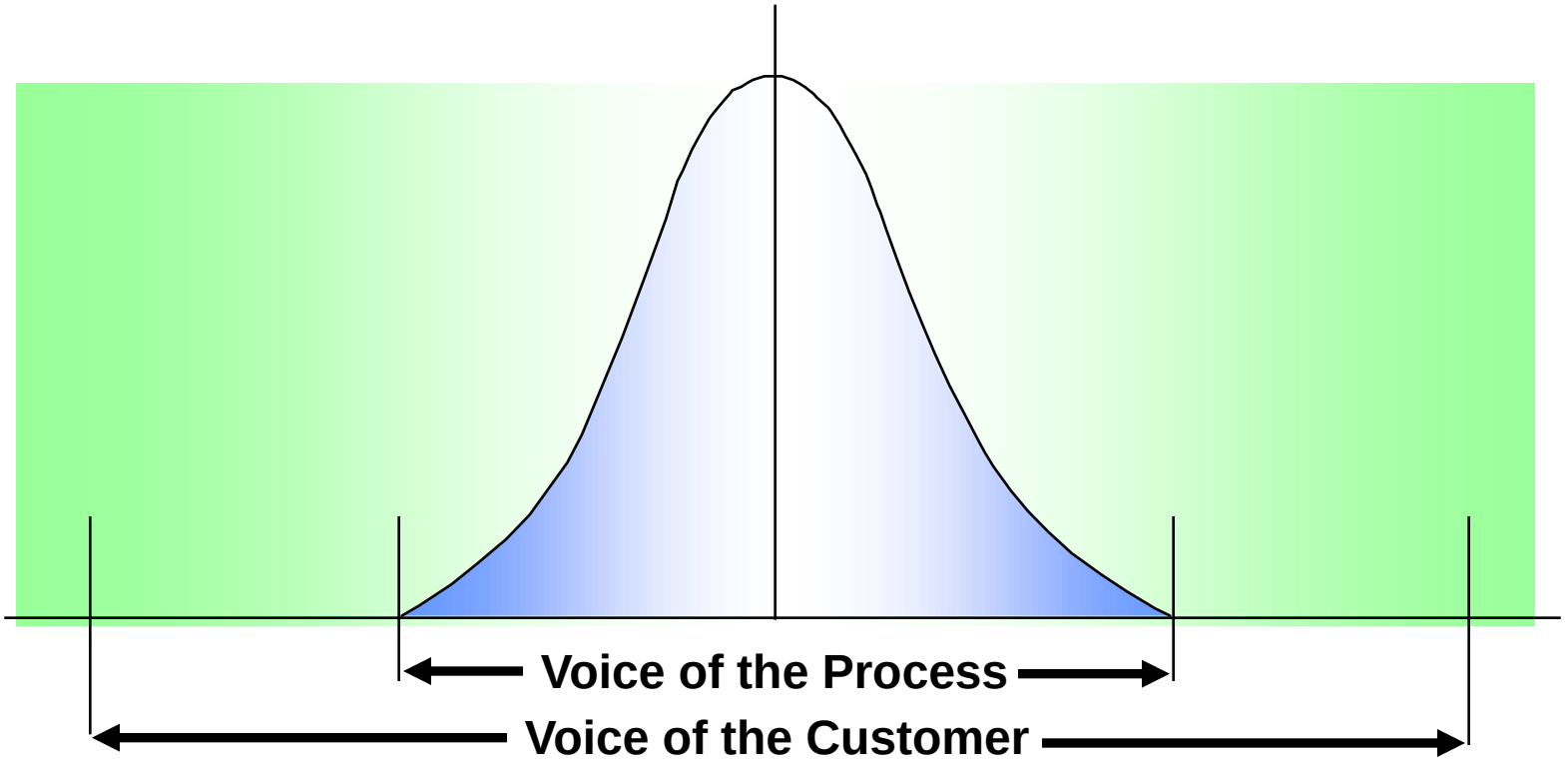
Six Sigma is focused on the reduction of variation, through use of project management tools, statistical process control, and team oriented tools to achieve consistent and reliable results.

Why "Six Sigma"?

Hey, 99% is good enough right?

99% or 3.8 σ (Sigma)		99.99966% or 6 σ
• 20,000 lost postal mail items per hour.	→	• 7 lost postal mail items per hour.
• 15 minutes of unsafe drinking water per day.	→	• 1 unsafe minute every seven months.
• 2 long / short landings per day at a major airport.	→	• 1 long / short landing every five years.
• 5,000 incorrect surgical operations per week.	→	• 1.7 incorrect operations per week.
• 7 hours of lost electricity per month.	→	• 1 hour without electricity every 34 years.
• 20,000 incorrect prescriptions per month.	→	• 68 wrong prescriptions per year.

Critical Relationship Between Process and Customer



MEASURED IN UNITS OF STANDARD DEVIATION (SIGMA)

Source: ASQ LSS Training Material

DMAIC Improvement Process Road Map

Activities

Define	Measure	Analyze	Improve	Control
• Review Project Charter • Validate Problem Statement and Goals • Validate Voice of the Customer and Voice of the Business • Validate Financial Benefits • Validate High-Level Value Stream Map and Scope • Create Communication Plan • Select and Launch Team • Develop Project Schedule • Complete Define Gate	• Value Stream Map for Deeper Understanding and Focus • Identify Key Input, Process and Output Metrics • Develop Operational Definitions • Develop Data Collection Plan • Validate Measurement System • Collect Baseline Data • Determine Process Capability • Complete Measure Gate	• Identify Potential Root Causes • Reduce List of Potential Root Causes • Confirm Root Cause to Output Relationship • Estimate Impact of Root Causes on Key Outputs • Prioritize Root Causes • Complete Analyze Gate	• Develop Potential Solutions • Evaluate, Select, and Optimize Best Solutions • Develop 'To-Be' Value Stream Map(s) • Develop and Implement Pilot Solution • Confirm Attainment of Project Goals • Develop Full Scale Implementation Plan • Complete Improve Gate	• Implement Mistake Proofing • Develop SOP's, Training Plan and Process Controls • Implement Solution and Ongoing Process Measurements • Identify Project Replication Opportunities • Complete Control Gate • Transition Project to Process Owner

Identify and Implement Quick Improvements

RIE/Kaizen, 5S, Value Analysis, Generic Pull Systems, Four Step Rapid Setup Method

Tools

Define	Measure	Analyze	Improve	Control
• Project Charter • Voice of the Customer and Kano Analysis • SIPOC Map • Project Valuation / ROIC Analysis Tools • RACI and Quad Charts • Stakeholder Analysis • Communication Plan • Effective Meeting Tools • Inquiry and Advocacy Skills • Time Lines, Milestones, and Gantt Charting • Pareto Analysis • Belbin Analysis	• Value Stream Mapping • Value of Speed (Process Cycle Efficiency / Little's Law) • Operational Definitions • Data Collection Plan • Statistical Sampling • Measurement System Analysis (MSA) • Gage R&R • Kappa Studies • Control Charts • Histograms • Normality Test • Process Capability Analysis	• Process Constraint ID and Takt Time Analysis • Cause and Effect Analysis • FMEA • Hypothesis Tests/Conf. Intervals • Simple and Multiple Regression • ANOVA • Components of Variation • Conquering Product and Process Complexity • Queuing Theory	• Replenishment Pull/Kanban • Stocking Strategy • Process Flow Improvement • Process Balancing • Analytical Batch Sizing • Total Productive Maintenance • Design of Experiments (DOE) • Solution Selection Matrix • Piloting and Simulation	• Mistake-Proofing/ Zero Defects • Standard Operating Procedures (SOP's) • Process Control Plans • Visual Process Control Tools • Statistical Process Controls (SPC) • Solution Replication • Project Transition Model • Team Feedback Session

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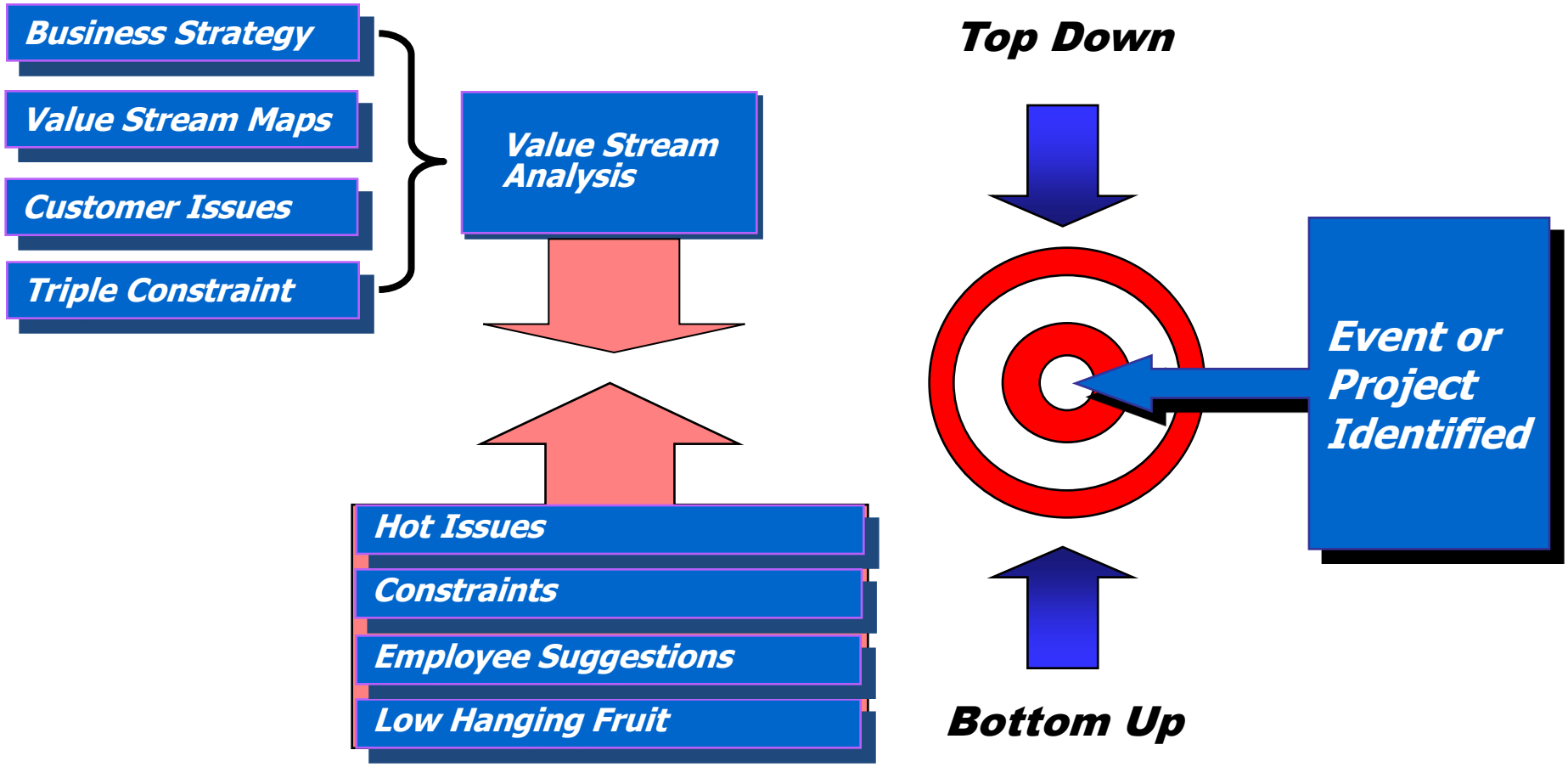
Identification of Improvement Opportunities



Top Down Identification

Senior managers will typically use the Top Down approach to target value streams for analysis.

As a Green Belt, what should I expect?

- Events / Projects are selected:
  - To improve cycle or lead time.
  - To perform at higher levels and with superior quality.
  - To reduce costs.
  - To situate the business for the future.
  - To improve throughput.

- Senior management will need your expertise for process improvement efforts and project / event success.

Bottom Up Identification

What should I be doing in my work area?

Based on the training, look for "low hanging fruit" around your work area.

- Bottlenecks (Inventory)
- Poor quality
- High rework / redo rate
- Confusion
- Redundancy

Identify processes that can be done better.

Identify your internal / external customers.

- What are their expectations?
- Would you be satisfied if you were in their shoes?

Improvement Opportunities

Name	Duration	Scope of Change	Size of Team	Time to Implement
Just Do It	1 – 2 Days	Solution ready to implement – problem well defined	Project Sponsor	Immediate
Kaizen / Rapid Improvement Event (RIE)	3 – 5 Days	Short term, high intensity effort to address a specific problem	4 – 12 (Full-Time During Event)	Immediate to Short Term
Project	3 – 6 Months	Complex problem, no apparent root cause	3 – 15 (Part-Time)	Mid to Long Term

Why a Project vs. an Event ?

A project is chosen because of one or more of the following reasons:

- Significant or unexplained variation in the process.
- **Root cause of major problem not readily apparent.**
- Complex problem.
- Significant quality problem.
- Test failures without obvious cause.
- Significant data analysis required to understand problem.

Keys For A Successful Event

- Clear, precise definition of the problem.
- Well-defined goals.
- Clear project boundaries.
- Clear statement of requirements and expectations.
- Assigned responsibilities.
- Realistic timeframes for completion.
- Well-defined, written charter.

Project Barriers to Success

- Scope or team is too small / large
- Solution in mind
- Unavailable resources
- Politics
- Wrong people
- Unclear event objectives
- Conflict
- Insufficient resources
- Uninvolved Leadership
- Shifting goals and priorities
- **Declaring victory too early**
- Monument: barrier that can't be moved

Knowledge Check: Triple Constraint

What three items make up the Triple Constraint?

Knowledge Check: Lean

Lean is….(pick one)

A. A new weight loss program for employees.

B. A war on waste.

C. Reducing manpower.

D. Adding extra inspections to get first time quality.

Knowledge Check: Eight Types of Waste

Name the 8 Types of Waste?

Types of Waste:

T
I
M
W
O
O
D
U

Knowledge Check: Six Sigma

Six Sigma is….(pick one)

A. A new way of using metrics to blame workers.

B. Complicated statistics meant to confuse workers.

C. A war on variation.

D. Adding extra inspections to get first time quality.

Knowledge Check: DMAIC

What does DMAIC stand for?

Knowledge Check: Project/Event

What are the Characteristics of a Project vice an Event?

Facilitation

Green Belt Responsibilities

Under the guidance of a Black Belt Mentor:

- **Lead, schedule, plan, and facilitate CPI events.**
- Assist team with out briefs.
- Capture results, lessons learned, & future opportunities.
- Normally works for the Project Sponsor and may be part-time or full-time.
- Train & mentor team members.

“Those who are not dissatisfied will never make progress.”
- Shigeo Shingo

Facilitation

- Green Belts need to learn facilitation to:
  - Improve presentation skills.
  - Improve skills in dealing with diverse groups of people and moving them to consensus.
  - Engage a group and get everyone involved.
  - Make meetings more productive.
  - Develop collaborative leadership skills.
- Facilitation skills are easily transferred to your primary duties.

Facilitation

IS…

- Asking questions to get team to make decisions.
- Asking for ideas about how to accomplish task.
- Observing and giving feedback.
- Ensuring everyone's input is heard.

IS NOT…

- Telling them what to do.
- Advocating your view on how to accomplish task.
- Doing the task.
- Letting 1 or 2 voices dominate discussion.

Managing vs. Facilitating

Managing

- Ensuring available resources
- Making decisions
- Assigning tasks
- Determining priorities
- Directing
- Ensuring good product
- Installing controls
- Measuring results
- Allocating rewards

Facilitating

- Ensuring optimum use of resources.
- Getting the team to make decisions.
- Clarifying roles & responsibilities; getting the team to assign tasks.
- Influencing, negotiating, mediating, teaching.
- Ensuring good team structure and process.
- Clarifying boundaries.
- Helping team measure its results.
- Reinforcing, encouraging, helping celebrate successes.

Facilitation Skills

- Manage team conflict.
- Create a collaborative environment for participants.
- Help generate ideas.
- **Maintain the focus of group discussion.**
- Clarify and communicate meeting expectations.
- Enable agreement through consensus.

Definition of a Team

To be a team, you must have…

- **Common purpose, shared goals.**
- Shared outcomes (risk and rewards).
- Specific roles for each member.
- Interdependency (must collaborate to accomplish goals).
- Structure and rules.

What Teams Need for Success

- Agreement on and commitment to goals.
- **Clearly defined roles and accountabilities.**
- Good processes for getting work done.
- Opportunity to learn from mistakes.
- Clear communication of what each team member needs from the others.
- Commitment to the principles of equality.

Communication

- Verbal Communication
  - Made up of spoken words.
  - Takes place through different media (face-to-face, telephone, etc.).
- Non-Verbal Communication
  - Made up of tone of voice, body language, gestures, eye contact, facial expressions and proximity.

Verbal Communication

It's important to be mindful of your verbal communication. Clarity of speech, remaining calm and focused, being polite and following some basic rules of etiquette will all aid the process of verbal communication.

Positive cues

- Calm voice
- Reinforcement
- Listening
- Asking questions

Negative cues

- Speech too loud / soft
- Interrupting
- Selfish / Dishonest conversations

Verbal Communication Exercise

Team member, Ben, has been a valuable asset. He's always the first to volunteer and speaks up at every opportunity, but doesn't listen to others' ideas. He sometimes speaks forcefully in an attempt to exert control and even takes the lead on group activities without being asked.

How can you ensure a good team process and team member involvement?

Non-Verbal Communication

It's important to observe your body language (non-verbal communication) for the impact it has on the team.

The team members will tend to read your body language, interpret it, and react to it.

Positive cues

- Eye contact (positive interest)
- Smiling (encouragement)
- Leaning forward (positive interest)
- Nodding yes (agreement)

Negative cues

- Evasive glances (discomfort)
- Slouching (disinterest)
- Shaking head (no agreement)

Non-Verbal Communication Exercise

It’s the first day of your Kaizen / RIE and one of your key team members, Sally, has hardly spoken a word. She sits silently, with her arms crossed and won’t make eye contact. You are depending on her expertise and need her ideas.

As the facilitator, what can you do to encourage her participation?

Brainstorming

- Brainstorming: A group problem solving technique that involves the spontaneous contribution of ideas from members of the group.
- An effective brainstorming session:
  - Develops highly creative solutions to a problem.
  - Invites the experience of the group into play.
  - **Unlocks innovation.**
  - Brings team members together.
- Brainstorming Effect: The sum of the product of the whole team together is greater than the accumulated sum of each individual added together.

Brainstorming Tips

- Rapid generation is the aim.
- No such thing as “wild” or “bad” ideas.
- Chaos can be fun.
- Take pride in your ignorance.
- Always forget to combine (don’t group ideas).
- **Build on others’ ideas.**
- Laughter fans the flames of creativity.

Brainstorming Exercise

You are members of the Board of Directors for the Lighting Company. The Chief Financial Officer has indicated that our company is spending too much money on the disposal of the packaging materials used for the input products sent to us. We are currently hauling the packaging material to a local landfill and the cost are cutting into the company's bottom line.

You have been asked to brainstorm some potential ideas on what we could potentially do with our packing materials instead of disposing of it in the current manner.

15 minutes

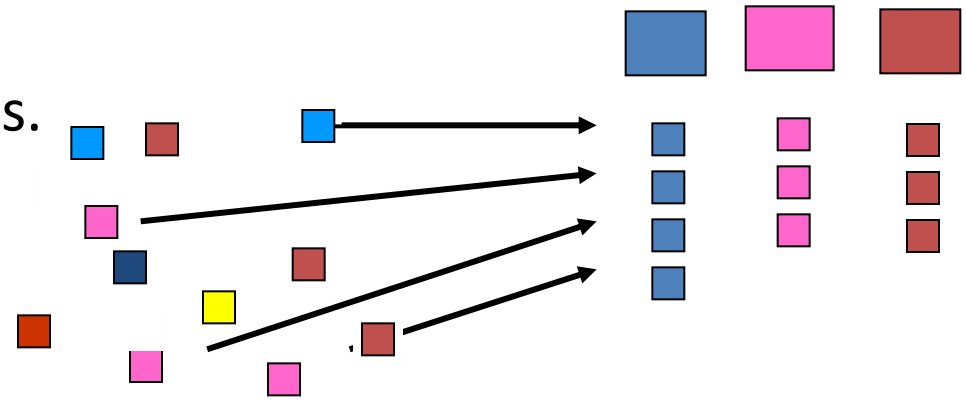
Affinity Diagram

Affinity Diagrams:

- A way to organize a large set of ideas.

Used:

- After brainstorming sessions.
- Analyzing customer comments.
- Identifying common themes.



Rules:

- Start with one. Find another. Put it there.
- No discussion of why.
- Resolve conflicts with duplicate stickies.
- Question very large groups.
- It’s over when movement stops.

Affinity Diagram Exercise

The CEO and President would like us to begin to place our ideas in categories in order to give the research and development branch a starting place to begin looking at a resolution to our packaging material problem.

Voting Methods

- Voting
  - To reach a manageable amount of ideas.
- Single Voting
  - Single vote for favorite idea.
- Multi-Voting
  - Vote for top three (or four, or five…).
- Sign-Up Voting
  - Secret ballots counted by facilitator.

The result is a short list identifying what is important to the team.

When Should a Team Use Voting Methods?

- Whenever a brainstorming session has generated a list of items that is ***too extensive*** for all items to be addressed at once.
- To provide a quick and easy way for a team to identify the most popular or highest priority items on a list, those that are worthy of ***immediate attention.***

Voting Exercise

After the successful brainstorming session, the accountants have come back and stated that we only have enough R&D funds to pursue three of the categories (or ideas) identified in the previous affinity diagram exercise.

Work with your team and identify the three categories the team thinks will have the most likely chance of success.

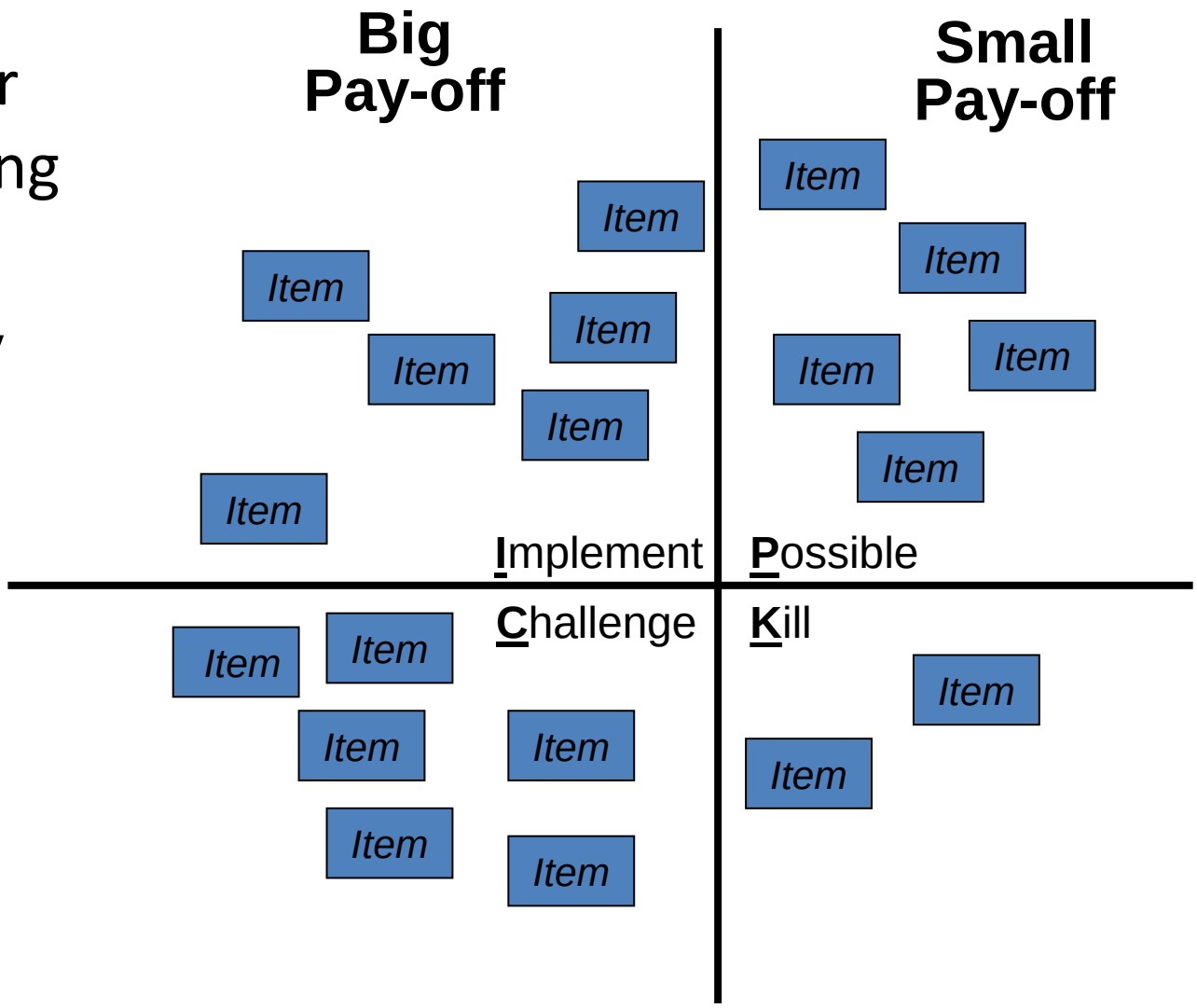
5 minutes

Prioritization Tools

- PICK Chart
- Nominal Group Technique (NGT)
- Idea Ranking/Weighting

PICK Chart

Pick Chart – a "Payoff" matrix for ranking / prioritizing ideas



Nominal Group Technique

Nominal Group Technique (NGT) - a consensus planning tool that helps prioritize options. Rankings are collected from all participants, and aggregated.

For example:

Options	Participant 1	Participant 2	Participant 3	of importance
A	ranked 1st	ranked 2nd	ranked 2nd	5=ranked 1st
B	ranked 3rd	ranked 1st	ranked 3rd	7=ranked 3rd
C	ranked 2nd	ranked 3rd	ranked 1st	6=ranked 2nd
D	ranked 4th	ranked 4th	ranked 4th	12=ranked 4th

Idea Ranking / Weighting

- **Idea Ranking -** the facilitator has participants view ideas, and rank them from most important to least important. For example, if you have a list of six ideas, each team member would rank them from 1 to 6 (each number can only be used once). This exercise helps teams to develop a more finite ranking of ideas than a "yes / no" vote.

- **Idea Weighting / Dot Voting** - Give each person in the group 10 self-stick dots). Instruct them that to choose their priorities, using "all 10 dots but no more than 4 on any ONE item." Therefore, 4 dots would indicate their top priority. Some items will have no dots. Participants actually walk up to the flip charts and place their dots next to their items of choice.

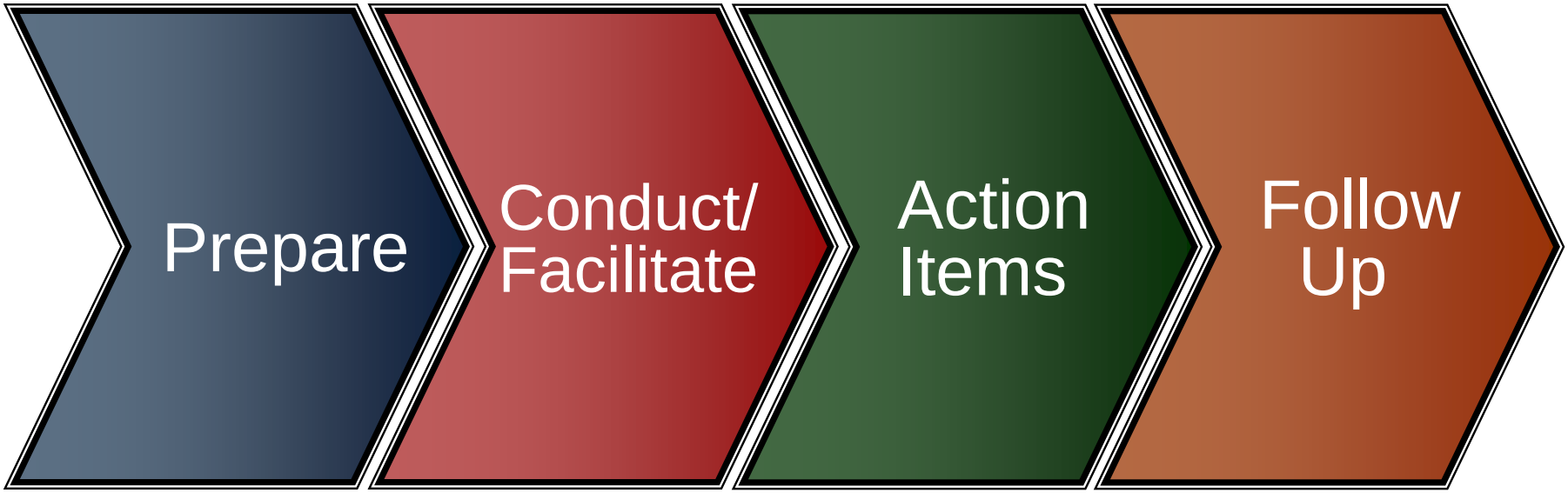
Prioritization Exercise

The Vice President of the Research and Development Branch has asked that though they have the money to pursue three areas of research, they only have the resources to pursue one at a time.

Using a PICK Chart, prioritize your ideas to determine which category she would like us to pursue first.

5 minutes

How to Run Effective Meetings



Effective Team Meetings – Step 1

Prepare

- Include appropriate team.
- Talk to subject matter experts.
- Reserve meeting space.
- Prepare any materials.
- **Conduct gap analysis.**

Conducting a Gap Analysis

- Determine what they need to know.
- Determine what they do know.
  - Determine level of CPI knowledge.
    - Previous CPI team experience.
    - Previous belt training.
  - **Determine process level knowledge.**
    - Are they SMEs?
    - Do they participate in the process or outside the process?
  - Determine experience with cross-functional teams.
- Identify the knowledge gaps.

Questions to Consider

- Who is your target audience?
- What training methods will be effective?
- What are your CPI cultural barriers?
- Who should deliver the training?
- Where should the training be held and when?
- What training materials are needed?

Training Resources

- CPI Training Course
- Team Training during projects
- Black Belt Mentors

Team Training for Events

Basic (initial)

- Ideally, before the event.
- Provides a foundation to the event.
- Take the least amount of time needed, application will prove more reinforcement than a practice exercise.

Just-in-Time

- Tool-driven; apply as needed.
- Should take no longer than 30 minutes.

Prepare an Agenda

Agenda

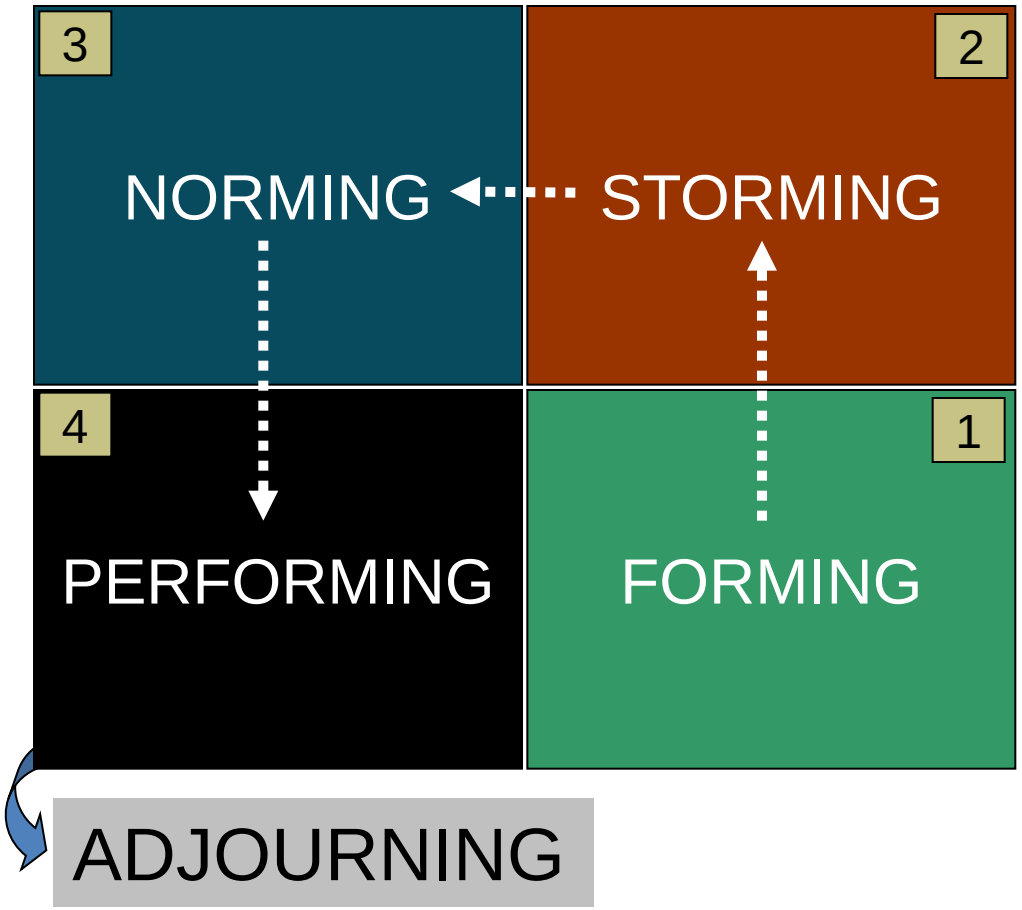
- Purpose / goal
- Desired outcomes
- Date
- Place
- Start / Stop Times

Effective Team Meetings – Step 2

Conduct / Facilitate

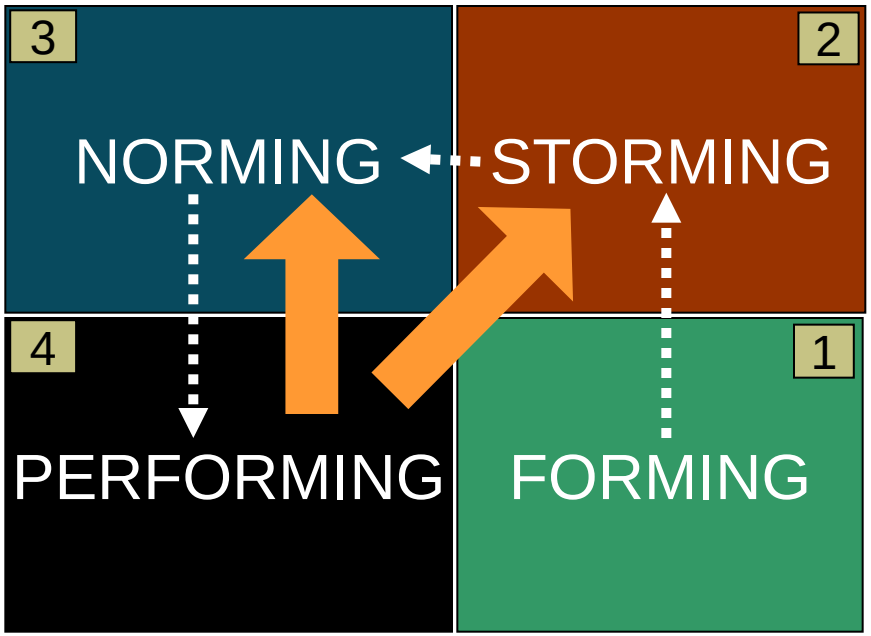
- Develop ground rules.
- Assign roles (i.e. scribe, timekeeper).
- Reiterate / clarify purpose of event.
- Ensure group maintains focus.
- At the conclusion of the event, review outcomes and get agreement.
- **Record action items.**

Stages of Team Growth



Changing Team Dynamics

Be aware of changing team members in the middle of project.



Team Dynamics are important!

Team Growth Exercise

It's day three and tension is high. Lou and Robin are not listening to each other. Both are frustrated and the unproductive debates have led to sarcasm and personal attacks. The other team members are hopeful that you, the Green Belt, can help the group come to a consensus and implement a strategy.

How can you get this team to commit and take ownership?

5 minutes

Effective Team Meetings – Step 3

Action Items

- Assign tasks to participants.
- Determine due date.
- Document action items.

RACI Chart

R = Responsible – *The person who performs the action/task.*
A = Accountable – *The person who is held accountable that the action/task is completed.*
C = Consulted – *The person(s) who is consulted before performing the action/task.*
I = Informed – *The person(s) who is informed after performing the action/task.*

Step	Action/Task	Responsible	Accountable	Consulted	Informed
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

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Effective Team Meetings – Step 4

Follow Up

- Record meeting notes.
- Document outcome.
- Note agreements.
- Track action items and timing.
- Plan follow up meeting date.

Team Daily Checklist

RAPID IMPROVEMENT EVENTS

DATE: **LOCATION:**

TEAM DAILY CHECKLIST
(Note: daily sequence of events is ONLY a GUIDE)

Day One.	Day Two.	Day Three.	Day Four.
☐ 1. Leadership Opening Comments	☐ 1. Review Day 2 Agenda (Identify additional Waste Attacks as necessary)	☐ 1. Review Day 3 Agenda (Assess current accomplishments to goals and objectives)	☐ 1. Review Day 4 Agenda (Assess current accomplishments to goals and objectives - WHAT Actions are necessary to meet our goals and objective by end of the day?
☐ 2. Review team Charter and SIPOC	☐ 2. Assign Team Actions (i.e. create new cell layout, create new diagrams, capture future state measures, create TAKT/Cycle time bar charts and loading diagrams, create standard work combination sheets, etc.) NOTE: KEY HERE IS TO DIVIDE AND ACCOMPLISH	☐ 2. Assign Team Actions (i.e. run new cell layout and debug layout accordingly, review standard work and debug work instructions as necessary, etc.) NOTE: KEY HERE IS TO ENSURE WE MEET THE GOALS AND OBJECTIVES - ARE WE ON TRACK? IF NOT, HOW DO WE GET THERE?	☐ 2. Review Status/Accomplishement of Newspaper Items
☐ 3. Conduct Team Training as necessary	☐ 3. Meet with any additional Stakeholders, review progress/plans & solicity ideas and concerns.	☐ 3. Create Necessary Communication Aids (i.e. production control board(s), key Point Sheets, work combination sheets, etc.	☐ 3. Assign Team Actions (NOTE: This is the day WE accomplish and operate to the future state)
☐ 4. Create Day 1 Plan	☐ 4. After Lunch, review team accomplishments. Assign additional actions/support	☐ 4. Develop & conduct 5-S and Safety Audit as applicable. (Ensure Audit Forms are Documented)	☐ 4. Develop & conduct 5-S and Safety Audit as applicable. (Ensure Audit Forms are Documented)
☐ 5. Review Current State Process Map boxes as applicable, create necessary diagrams	☐ 5. Notify support groups by 1:00 PM of required support	☐ 5. Validate Accomplishements identified in Day 2 Item 2 (Create new diagrams/bar charts/instructions as necessary)	☐ 5. Approximately 1:00 PM - Take appropriate after pictures and team pictures - Ensure all open actions are complete or have a plan for completion - Begin compiling NAVSEA RIE Packet Data
☐ 6. Waste Walk boxes as applicable, create necessary diagrams	☐ 6. Review Status/Accomplishement of Newspaper Items	☐ 6. Review Status/Accomplishement of Newspaper Items	☐ 6. Start Preparing for Final Presentation
☐ 7. Complete Current Value Stream Map	☐ 7. Prepare & Conduct Daily Team Leader Progress Report Out (TPR, Newspaper Improvements, Layouts, etc.)	☐ 7. Prepare & Conduct Daily Team Leader Progress Report Out (TPR, Newspaper Improvements, Layouts, etc.)	NOTE; DAY 5 IS FOR COMPLETING OPEN ITEMS AND CONDUCTING FINAL PRESENTATION PRIOR TO LUNCH
☐ 8. Create Ideal State Process Map	☐ 8. Team Leader/Co-Leader - How Late Do We Stay?	☐ 8. Team Leader/Co-Leader - How Late Do We Stay?	
☐ 9. Create Future State map	☐ 9. Develop Plan for Day 3.	☐ 9. Develop Plan for Day 4.	
☐ 10. Capture Improvement Measures and Compare to original Goals and Objectives to meet charter	☐ 10. Conduct 5-S Meeting as applicable.		
☐ 11. Prepare & Conduct Daily Team Leader Progress Report Out (TPR, Newspaper Improvements, Layouts, etc.)			
☐ 12. Team Leader/Co-Leader - How Late Do We Stay?			
☐ 13. Develop Plan for Day 2.			
☐ 14. Conduct 5-S Meeting as applicable.			
☐ ** Team Leaders need to assign action items to specific people on the teams and require follow up reports on progress at a minimum of two hour increments.	☐ ** Team Leaders need to assign action items to specific people on the teams and require follow up reports on progress at a minimum of two hour increments.	☐ ** Team Leaders need to assign action items to specific people on the teams and require follow up reports on progress at a minimum of two hour increments.	☐ ** Team Leaders need to assign action items to specific people on the teams and require follow up reports on progress at a minimum of two hour increments.

Facilitator Exercise

Things were going smoothly until the team began the process map of the current state. Now they're jumping to solutions and the group is disintegrating into smaller sub-teams with no focus for the work.

What needs to be done to get the team back on track?

Knowledge Check: Green Belt Roles

What are the Roles and Responsibilities of Green Belts?

Knowledge Check: Useful Tools

Name a useful tool for each?

1. Generating Ideas

2. Organizing Ideas

3. Picking the best idea from a list

What We Have Covered: Introduction

- How the Triple Constraint impact both projects and processes.
- Understand high level concepts of Lean, Six Sigma and the DMAIC framework.
- Identify differences between a project and a Kaizen / RIE.
- Explain team roles and responsibilities, including Green Belt practitioner, team leader, facilitator, etc.
- Understand useful tools for generating ideas, organizing ideas and picking the best idea from a list.

What's Next?

Statapult Round 1

Learning Objectives

The Statapult exercises are designed to give students experience using the methodologies and tools taught in this course.

Round 1: Current Reality

Round 2: Flow Improvements

Round 3: Variation Reduction

Simulation Requirements

1. **Exercise Requirements**

   Make the exercise work correctly and cannot be modified.

2. **Customer Requirements**

   How the customer would like the product and/or service to function.

3. **Business Requirements**

   How your “Company” functions, internal policies.

4. **Statapult Requirements**

   Constraints or capabilities of the tool used.

Failure to comply with requirements may result in fines!

Round 1

Current Reality

This round is intended to give the team experience running the current process. It includes the following phases:

- **Baseline**
- **Shoot**
- **Calculations**

Exercise Requirements – Round 1

- Each team member will be assigned a role.
- The balls will be marked as a preparation for shooting and for rework.
  - Blue dots symbolize inputs needed to complete a job function and are considered to be value added to the process.
  - Red dots symbolize the time and effort required to fix a problem.
- No permanent markings or modifications can be made to the Statapult or balls.

Customer Requirements – Round 1

- All shots must be fired at an angle of 167 degrees.
- All shots must land on the floor in a stationary target area +/-3 inches long and +/- 6 inches wide with respect to the nominal target.
- Pass/Fail data must be collected for each shot.
- The balls must be sorted based on either Pass or Fail.
- The balls must be delivered to customer with no markings (colored dots).
- All data must be collected “real time”.

Business Requirements – Round 1

- Balls must be transported in batches of 5.
- The Statapult must be recalibrated (remove & reattach rubber band) between every shot.
- Workers should only be concerned with their assigned jobs.
- All shots must originate from the floor.
- Must use forms 5O-5LO, RUK-1D-1NG, and 1-T5-L8.
- Balls are aligned with blue dot facing up.

Statapult Requirements – Round 1

- The Statapult settings and structure cannot be modified.
- The Statapult can not be aligned / modified with any tools, devices or aids.
- The Statapult can only be handled / touched by the Shooter.
- The Statapult must be placed so that the base is horizontal to the floor and in a stationary position.

Roles

Marker

Shooter

Inspector

Sorter

Customer Liaison

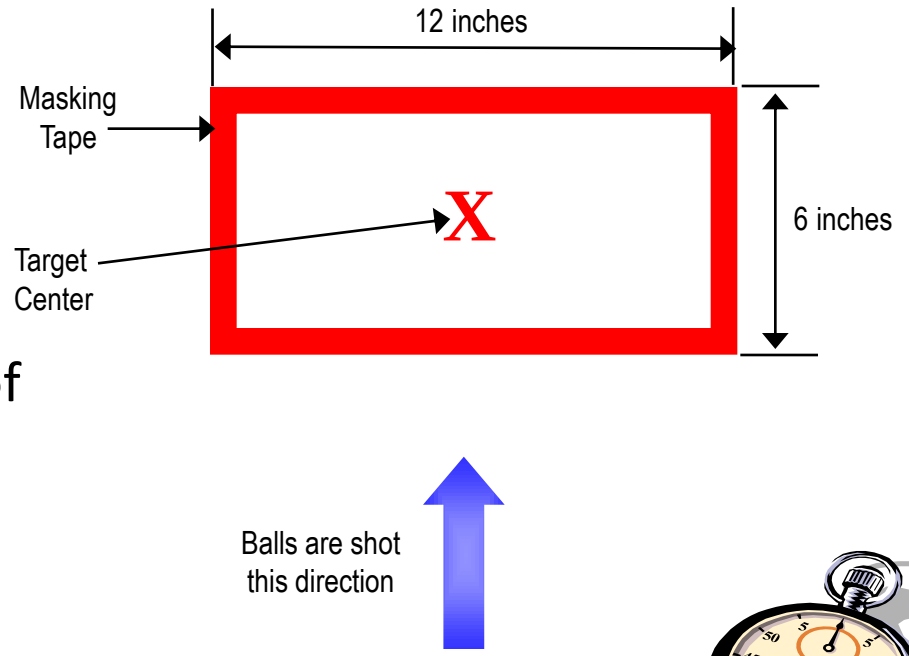
Observer(s)

Specific procedures for each role will be given out 5 minutes before the Round 1 shoot.

Baseline

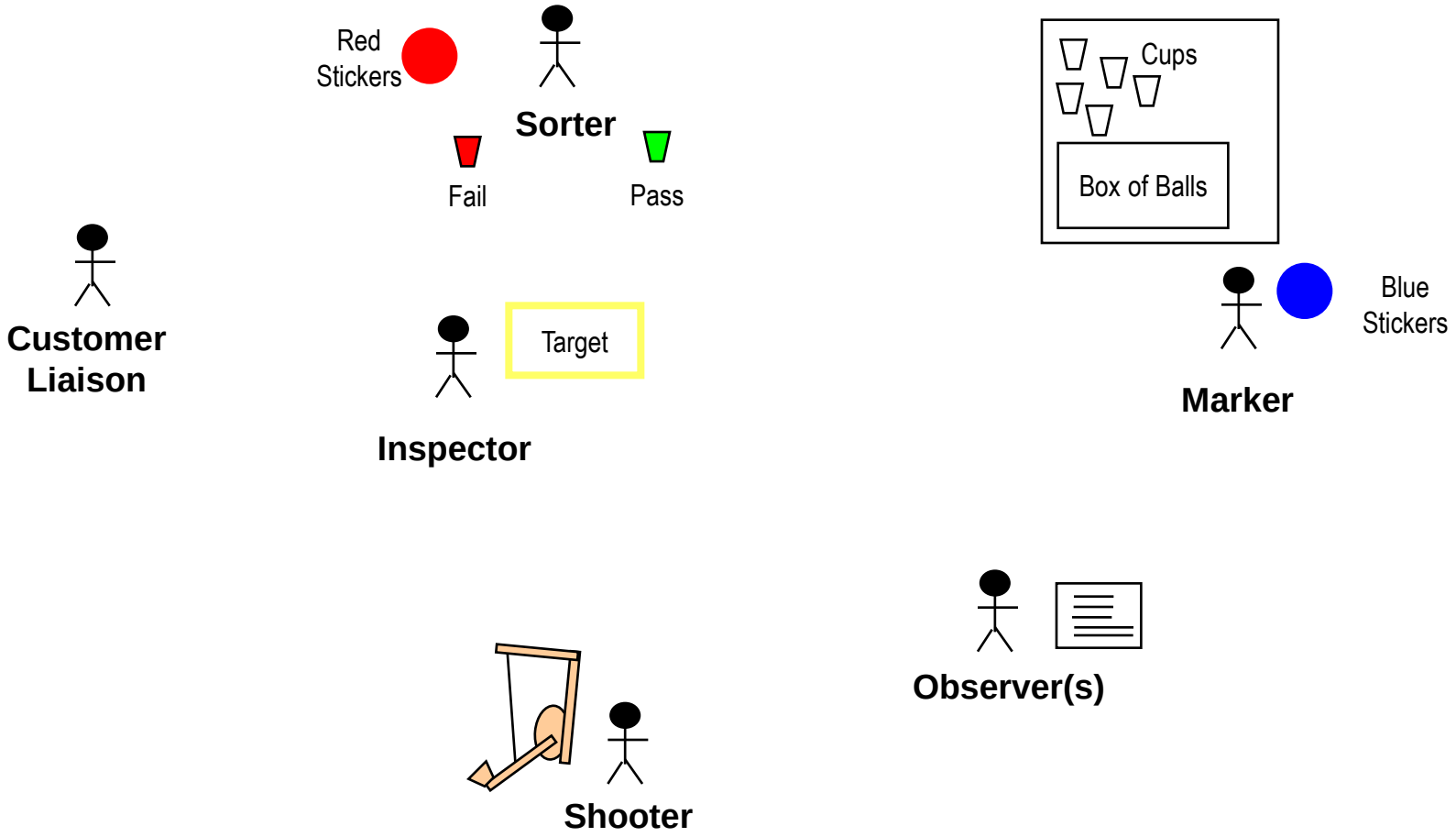
In order to run the simulation, you must determine the accuracy and precision of the process in order to set up the target area.

- Position your Statapult in area designated by instructor.
- Obtain 20 balls.
- Take 20 test shots.
- Mark the landing of each shot with an adhesive dot or piece of tape.
- Use masking tape to mark off target area.



5 minutes

Example Process Layout



Round 1 Shoot

Are you ready to start?

- Your Company has a name.
- Statapult layout is ready.
- Target area is taped off.
- Roles are assigned.
- Role instructions have been distributed.

The simulation will start simultaneously for all teams!

30 minutes

Simulation Summary Sheet

	Time to First Delivery	Total Lead Time	Lead Time per Unit	WIP	Scrap	Yield	Cost of Poor Quality	Cost per Unit
Round 1								
Round 2								
Round 3								

Exercise: What Went Wrong?

- Choose a facilitator.
- Brainstorm answers to the question, “What went wrong with the process?
- Facilitator: Do not accept solutions; record only problems.

10 minutes