DEFINE PHASE

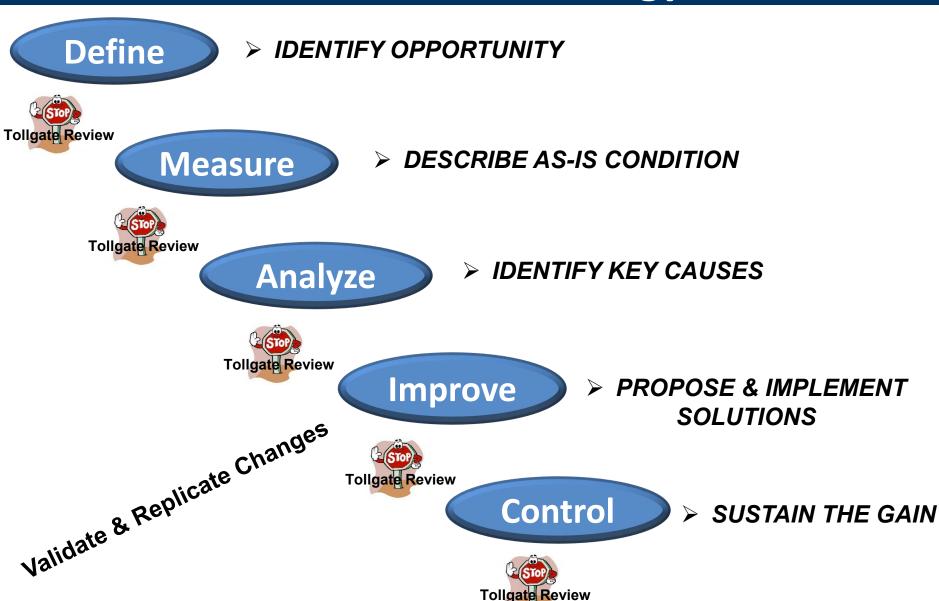# Learning Objectives: Define Phase

➢ Understand the tools necessary to complete the Define Phase.

➢ Collect and analyze Voice of the Customer data to assist in understanding the problem.

➢ Complete a SIPOC analysis to define inputs and outputs of the process.

➢ Prepare an Event or Project Charter with input from project sponsor and team.

➢ Develop a Communication Plan that informs all Stakeholders.

"Knowing that things could be worse should not stop us from trying to make things better." - Anonymous

DMAIC Methodology

Define ➤ *IDENTIFY OPPORTUNITY*

Tollgate Review

Measure ➤ *DESCRIBE AS-IS CONDITION*

Tollgate Review

Analyze ➤ *IDENTIFY KEY CAUSES*

Tollgate Review

Improve ➤ *PROPOSE & IMPLEMENT SOLUTIONS*

Validate & Replicate Changes

Tollgate Review

Control ➤ *SUSTAIN THE GAIN*

Tollgate Review

Voice of the Customer

What is a Customer?

The customer is whoever receives the outputs from the process, product, or service that a project will be improving.

"Quality in a service or product is not what you put into it, it is what the client or customer gets out of it." – Peter Drucker

Who Are Your Customers?

➢ **External Customers**
  ➢ Those persons or organizations which purchase/obtain your products or services.

➢ **Internal Customers**
  ➢ Whomever is a user of your process output within your organization is an internal customer.

Voice of the Customer (VOC)

➢ Why is VOC critical?

➢ How is VOC data gathered?

➢ How is VOC data analyzed?

"There is only one boss, the customer. And they can fire everybody in the company from the chairman on down, simply by spending their money somewhere else." – Sam Walton

Reactive Sources

– Customer complaints

    - phone

    - email

    - social media

    - Yelp, Four Square, (reviews)

– Warranty issues

– Stop being a customer

Proactive Sources

- – Surveys

- – Direct Contact

- – Focus Groups

> A proactive approach to VOC is essential to quality in your products and services.

In determining the VOC, we have to translate the customers' needs and wants into measurable requirements (qualitative to quantitative).

Source: ASQ LSS Training Material

➢ In customer-focused organizations, key employees often make personal visits to customers.

➢ Does not always require a face-to-face visit.

➢ Any employee who comes into direct contact with customers can obtain useful information by engaging in conversation and listening to customers.

➢ You gather information which are your customers needs and specifications.

➢ Can be a key source of customer information.

➢ Allows an organization to learn about external product and service problem defects.

➢ Potentially identify the gaps between expectations and performance.

➢ A panel of individuals (customers or non-customers) who answer questions about a company's products and services.

➢ Substantial advantage by providing a direct voice of the customer to an organization.

➢ Disadvantage is that they are higher cost than other methods.

➢ Easy ways to solicit customer information.

➢ Gain candid feedback about products and services.

➢ Response rate is often poor.

	V.good	Good	Average	Poor	Any other Comments / Suggestions
Quality of Food	☐	☐	☐	☐	_____
Cleanliness of Restaurant	☐	☐	☐	☐	_____
Quality of Service	☐	☐	☐	☐	_____
Friendliness of Staff	☐	☐	☐	☐	_____
Speed of Service	☐	☐	☐	☐	(Optional)
Appearance of Staff	☐	☐	☐	☐	Name _____
Value for Money	☐	☐	☐	☐	Tel _____
Restaurant Design	☐	☐	☐	☐	Workplace _____

Analyze and Translate VOC into Requirements

Voice of the Customer	After Clarifying, the Key Issue(s) Is...	Customer(s) Requirements
"I hate filling out this form!"	The form takes too long to fill out	The form takes less than five minutes to complete

Good customer requirements:

➢ Are specific and measurable (and the method of measurement is specific).

➢ Are related directly to an attribute of the product or service.

➢ Don't have alternatives and don't bias the design toward a particular approach or technology.

➢ Are complete and unambiguous.

➢ Describe what, not how.

"If you can't explain it simply, you don't understand it well enough." – Albert Einstein

Translate VOC Input Into Customer Requirements

Voice of Customer Input	Key Customer Issue	Customer Requirement
Actual Customer Statements and Comments	**The Real Customer Concerns, Values or Expectations**	**The Specific, Precise and Measurable Characteristic**
• "This mower should be easy to start." • "The cord shouldn't be too hard to pull."	Wants the mower to start quickly and painlessly.	• Mower starts within two pulls on the cord. • Mower starts with an effortless pull on the cord.
"I want to talk to the right person and don't want to wait on hold too long."	Wants to talk to the right person quickly.	• No additional menu items on voice system. • Customer reaches correct person the first time within 30 seconds.

SIPOC

Serves two purposes:

➢ Defines the scope.Helps a team and its sponsor(s) agree on project **scope boundaries -** start and end points of the process.

➢ Helps teams **verify that process inputs match outputs** of the upstream process and inputs / expectations of downstream process(es).

What is SIPOC?

➢ A process snapshot that captures information.

➢ SIPOC stands for:

Suppliers **I**nputs **P**rocess **O**utputs **C**ustomers

➢ Identifies all relevant factors of a process before detailed project work begins.

➢ Sets expectations for elements of the process that project team must consider.

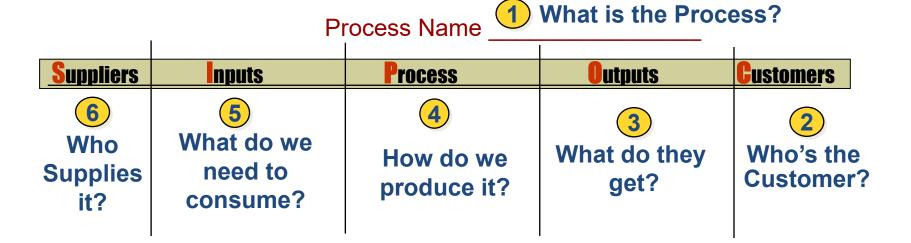➢ Distinguishes key suppliers and customers of the process.

SIPOC Elements

➤ **Suppliers** – the internal / external people or organizations that provide materials, information, or other resources for a process.

➤ **Inputs** – the resources that are supplied.

➤ **Process** – the series of **high-level** work steps that transform inputs to outputs.

➤ **Outputs** – the product, service, or information that is delivered to the customer.

➤ **Customers** – the people, organizations, or process that receive the output. External and Internal Customers. Customers may also be Suppliers.

Developing a SIPOC Chart

Process Name _____ **(1)** **What is the Process?**

Suppliers	**I**nputs	**P**rocess	**O**utputs	**C**ustomers
(6) Who Supplies it?	**(5)** What do we need to consume?	**(4)** How do we produce it?	**(3)** What do they get?	**(2)** Who's the Customer?

Entries are not linear!
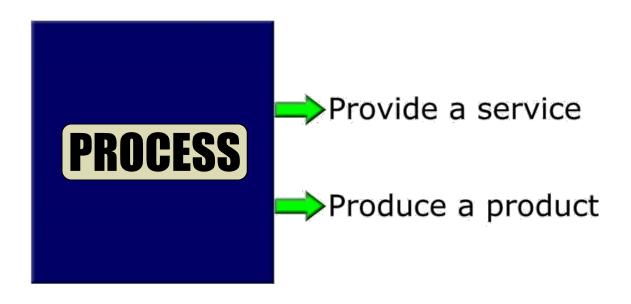
– **External Customers & Suppliers:** Those persons or organizations which provide or purchase your products or services.

- Tenant Commands
- HQ Elements
- Other Services
- Other Agencies

– **Internal Customers & Suppliers:** Whomever is a receiver / user of your process output is an internal supplier / customer.

- Commander
- Chief of Staff
- G-7 Leaders
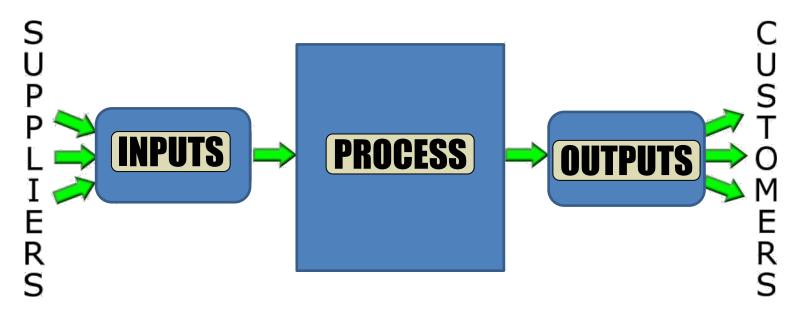- Divisions and Sections within a Command

- Tangible products or services.
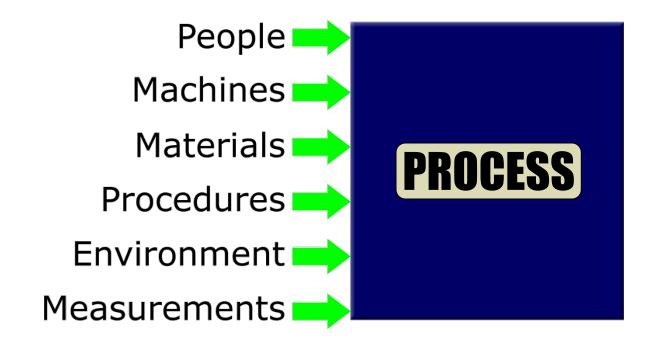- Linked to the measures as defined by the customer.

What is a Process?

➢ A process is any activity that takes inputs, performs actions on the inputs, and results in outputs.

➢ A SIPOC defines the inputs the process receives and the outputs that a process delivers.
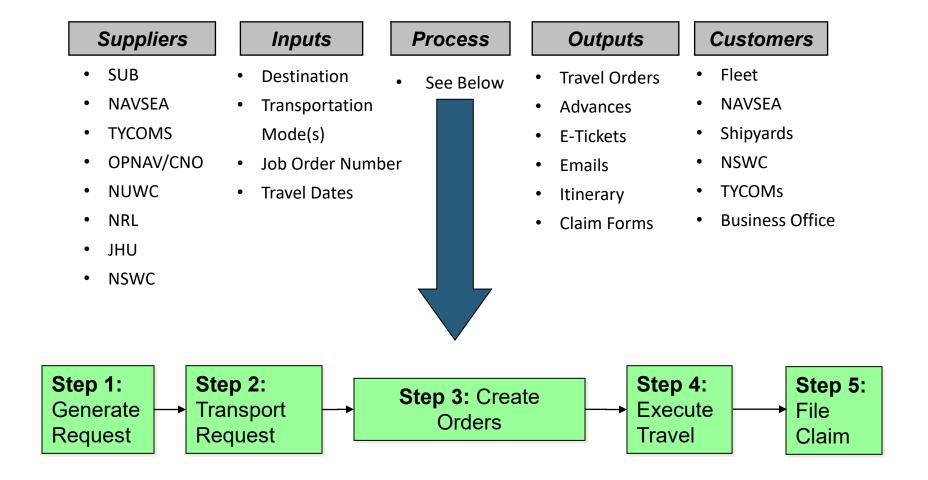
Inputs are the resources that are required to create outputs.

SIPOC Example: Processing a Travel Request

Suppliers	Inputs	Process	Outputs	Customers
• SUB	• Destination	• See Below	• Travel Orders	• Fleet
• NAVSEA	• Transportation Mode(s)		• Advances	• NAVSEA
• TYCOMS	• Job Order Number		• E-Tickets	• Shipyards
• OPNAV/CNO	• Travel Dates		• Emails	• NSWC
• NUWC			• Itinerary	• TYCOMs
• NRL			• Claim Forms	• Business Office
• JHU				
• NSWC				

Step 1: Generate Request → **Step 2:** Transport Request → **Step 3:** Create Orders → **Step 4:** Execute Travel → **Step 5:** File Claim

Charter

➤ **The team's commencement document.**

➤ Defines the team's project plan and mission.

➤ The charter does not solve the problem.

➤ **Charters are living documents that are subject to change.**

USMC Charter Template

CPI	Project Charter Organization Name Project Title	Date Initiated: Revision Date:

1. Project Information

Deployment or Implementation Champion:	Project ☐	Just Do It ☐
	RIE ☐	Other ☐

Project Sponsor:	Value Stream/HICVS:
Estimated Start Date:	Project ID #:
Estimated End Date:	Parent Project ID #:

2. Problem Statement

Problem Statement

3. Goal Statement

Goal Statement

4. Project Scope

In Scope …	Out of Scope …

Scope

5. Team Members

Name	Role	Organization

6. Approvals/Signatures

	Signature	Date
Black Belt/Green Belt		
Project Sponsor		
Deployment/Implementation Champion		

➢ Is the foundation document to provide focus throughout the project.

➢ Serves as an effective project-planning tool and communication vehicle for tollgates and stakeholders.

➢ Is a key factor for project success or failure and avoids misunderstanding among stakeholders.

➢ **Provides the authority to apply organizational resources to project activities.**

Improvement opportunity / problem statements should provide the following information:

WHAT	What is the problem or opportunity for improvement?
WHERE	Where is the problem? Is it in your workplace or someone else's?
WHEN	How long has it been happening?
EXTENT	What is the extent of the problem?
IMPACT	What is the impact (pain) of the problem?
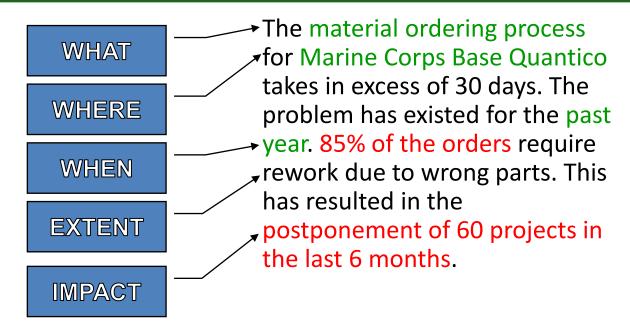
Improvement Opportunity / Problem Statements

Example of a bad opportunity or problem statement.

It takes too long to process a material order form and wrong parts are ordered.

Example of a better opportunity or problem statement.

WHAT

WHERE

WHEN

EXTENT

IMPACT

The material ordering process for Marine Corps Base Quantico takes in excess of 30 days. The problem has existed for the past year. 85% of the orders require rework due to wrong parts. This has resulted in the postponement of 60 projects in the last 6 months.

Goal Statement

The goal statement describes the anticipated improvement.

It should be worded in concise terms. Creating a good goal statement is easy if you follow the SMART acronym:

SPECIFIC	MEASURABLE	ACHIEVABLE	REALISTIC	TIME BOUND

To improve the material ordering process for Marine Corps Base Quantico by reducing the number of orders requiring rework by 75%, as well as reducing the number of project postponements by 50% over the next 6 months.

Goal Statement should directly relate to the Opportunity / Problem Statement.

➢ The project scope is:

- Exactly what is included within the project.
  - Boundaries are 1st step to n^{th} step.

➢ The project scope isn't:

- Everything else.

➢ The scope purpose:

- Provides an awareness of the specific boundaries of your improvement opportunity.

➢ Process maps can help define the scope of an event / project (Reference the SIPOC).

Left Document: Project Charter - Navy Movie Program

Project Charter — Navy Movie Program
Date Initiated: Jan 10, 2019
Revision Date:

1. Project Information

Project Champion:	Cpl Hancock	Project ☑	Just Do It ☐	
		RIE ☐	Other ☐	
Project Sponsor:	Lisset Justason	Value Stream/HICVS:		
Estimated Start Date:	Jan 10, 2019	Project CPIMS ID #:		
Estimated End Date:	Mar 12, 2019	Parent Project CPIMS ID #:		

2. Problem Statement

The Navy Movie Program checkout process for the Reserve Support Unit is not well organized and takes an excess time of 40 minutes instead of regularly 15 minutes. The problem has existed for the past year. Requires weekly inventory due to misplacing movies in the wrong box. We have 741 movies, and about 82 are misplaced which is about 11% weekly. This has required an unnecessary inventory and delay in checking out process to the marines.

2. RIE Goal Statement

To improve the Navy Movie Program for the Reserve Support Unit by reducing inventory rework by 80%, as well as improved organization and time in executing the checkout process of the program.

4. Project Scope

(in Scope) S-Drive maintained up to date with movie listing	(out of scope) Communication amongst the staff.

5. Team Members

Name	Role	Organization/Signature
Lisset Justason	Project Supervisor	RSU
Cpl Hancock, Dustin	Coordinator	RSU

6. Approvals/Signatures

Role/Name	Signature	Date
Black Belt: Frank Fiermonte		
Green Belt:		
Project Sponsor: Lisset Justason	*(signature)*	3/11/19
Project Champion: Cpl Dustin Hancock	*(signature)*	03/11/19

Right Document: Project Charter [Enter Project Name]

Project Charter — [Enter Project Name]
Date Initiated:
Revision Date:

(1). The Project Sponsor's signature is an agreement to: 1) Provide sufficient resources to support completion of the plan, 2) Help provide data and insight as required, 3) Coordinate with required leadership to approve recommendations in a timely manner, 4) Assist with implementation of recommendations, following approval, 5) Sustain improvements and financial gains, and 6) Be available to discuss and rectify any concerns and remove barriers to success.

(2). The Champion's signature is an agreement to: 1) Assure sufficient resources are available to support completion of the plan, 2) Assist, as required to remove obstacles to project success, 3) Monitor progress through (tollgate) reviews, 4) Support implementation and sustainment of gains from individual projects/events, 5) As available, participate in any team activity to show support and provide guidance or input as required.

Communication Plan

1. Determine audience.

2. Conduct Stakeholder Analysis.

3. Identify media to be used.

The best way to identify and communicate with your team, key stakeholders and event champion is to answer questions such as:

➢ Who is your audience?

➢ What is the tool or media you will use to communicate?

➢ What is the purpose of your communication?

➢ What are your key messages?

➢ Who is the owner of the communications task?

➢ What is the timing and frequency of the communications?

Determine Audience and Media

Identify the various audiences you will need to communicate to:

Executive Team	Managers	Administration
Risk Management	Sales	Marketing
HR	Consumer Relations	Engineering
Finance	Legal	Customers
Salaried	Hourly	Marketplace
South America	Distributors	Europe
Asia	North America	

Identify the media by which you will communicate to the groups above:

Voice Mail	Formal Presentations	Posters
Memos	Oral Communication	E-Mail
Elevator Speech	MCBQ SharePoint	

Communication Plan Development

1. Determine audience.

2. Conduct Stakeholder Analysis.

3. Identify media to be used.

Conducting the Stakeholder Analysis

- For each Stakeholder identified, determine:
  - Are they critical for development of project tasks (enabling stakeholders) or critical for the successful implementation of a solution (implementation stakeholders)?
  - What concerns can you anticipate for each stakeholder?
  - What positive outcomes exist for each stakeholder?
  - What will be your message for each stakeholder?

- A Stakeholder Analysis should be completed / revised as **critical aspects of the project change** (i.e. scope changes, solution options become more visible, etc.).

- A Stakeholder Analysis can be a sensitive document and **is intended for internal team use only**.

Example: Stakeholder Analysis

Stakeholder Name/Group	Project Impact On Stakeholder (H, M, L)	Stakeholder Level of Influence on Success of Project (H,M,L)	Stakeholder's Current Attitude Toward Project (+, 0, -)	Explanation of Current Stakeholder Attitude (list)	Stakeholder Score (H=3, M=2, L=1, +=1, 0=2, -=3)	Action Plan For Stakeholder
Team Lead	M	H	+	ON-BOARD	6	MONTHLY UPDATE
Engineering Dept. Head	H	H	-	DEFENSIVE	9	SEPARATE BRIEF & FOLLOW-UP
Program Manager	M	H	+	ON-BOARD	6	WEEKLY UPDATE (E-MAIL)
Comptroller	L	L	0	UNKNOWN	4	TOLLGATES
Contracting Officer	H	M	0	WAIT & SEE	7	WEEKLY FACE-TO-FACE
Prime Contractor	H	L	+	ON-BOARD	5	INITIAL/ MONTHLY

Communication Plan Development

1. Determine audience.

2. Conduct Stakeholder Analysis.

3. Identify media to be used.

Effective Communications

➢ **Must have the following characteristics**:

- A consistent formal process.

- **Simple and understood by all.**

- Contain current information.

- Have a feedback loop built into the process.

➢ **Benefits**:

- Build and maintain trust.

- Prevent rumors.

- Enlist and enroll the participation of employees in the pursuit of achieving objectives.

- **Manage expectations**

Complete Communication Plan

- Comes in many forms, but key elements include:
  - **Target** of communication.
  - **Frequency** of communication.
  - **Media** to be used.

- Be specific**:**
  - *Example 1*: A 30 minute verbal conversation, every Friday at 4 p.m., including topics …
  - *Example 2*: A weekly written update, to be completed by Friday end-of-day, to include, a) Activities completed this past week, b) activities to be completed next week, c) currents risk to on-time, on-budget completion, and d) action plan to resolve risks.

- Revise, as necessary, as project matures.

- Obtain agreements from those who have required tasks.

Communication Plan (Example)

Audience	Media	Purpose	Topics of Discussion/ Key Messages	Owner	Frequency	Notes/Status
Affected Functional Managers	Briefing E-mail	Support/ Remove Barriers	Team Status Expected Outcomes	Team Leader, Green Belt	Weekly	
Project Sponsor	Briefing	Buy-in Solicit Feedback	Support Needed Status	Team Leader, Green Belt	Monthly	
All Hands	E-mail	Awareness Buy-in	"What" Progress	Project Sponsor	Kick-off After M and I	
Exec Sponsors & Deployment Champion	E-mail With Attachments	Report Progress Barrier Removal	Project Schedule Expected Outcomes	GB	Each DMAIC Phase As Needed	

Source: ASQ LSS Training Material

Develop/Execute Plans

Types of 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

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
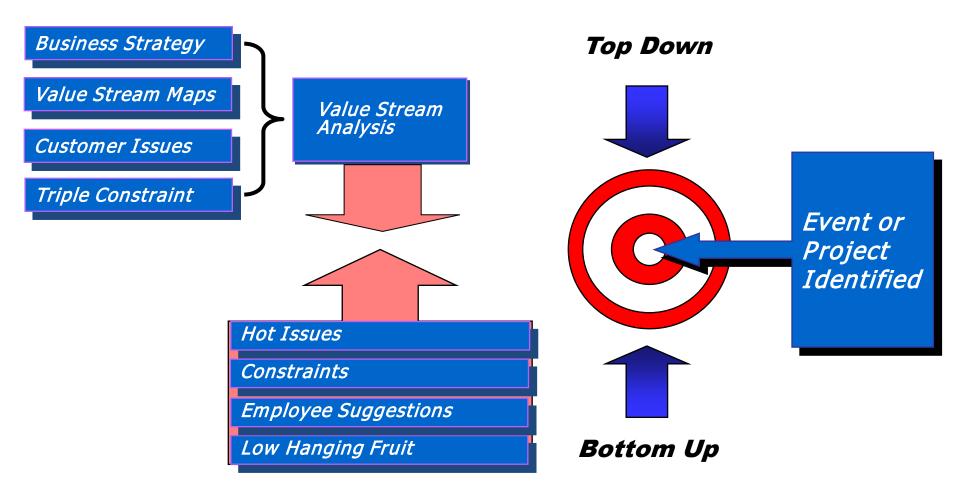
Identify processes that can be done better.

Identify your internal / external customers.

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

Identification of Improvement Opportunities

Business Strategy

Value Stream Maps

Customer Issues

Triple Constraint

Value Stream Analysis

Hot Issues

Constraints

Employee Suggestions

Low Hanging Fruit

Top Down

Event or Project Identified

Bottom Up

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.**

Define (Prep Phase)

- ➤ Clearly define the Kaizen / RIE objective.
- ➤ Pre-Event prep:
  Select team members, perform logistics, notifications, collect data, and prepare training.

Measure (Prep Phase or Monday of Event)

- ➤ Validate the value-stream map of the process.
- ➤ Complete a resource flow layout for all operations or tasks if necessary (people, paper, material, information).
- ➤ Carefully observe then collect needed metrics for tasks or steps in the selected process.

Analyze (Tuesday-Wednesday)

➢ Quickly validate root causes and identify/review sources of waste.

➢ Review waste elimination techniques and brainstorm process improvements for reducing variation.

Improve (Wednesday-Friday)

➢ Create action item list to accomplish improvements.

➢ Implement process improvements, train employees, test, fine-tune, and insure the process is capable.
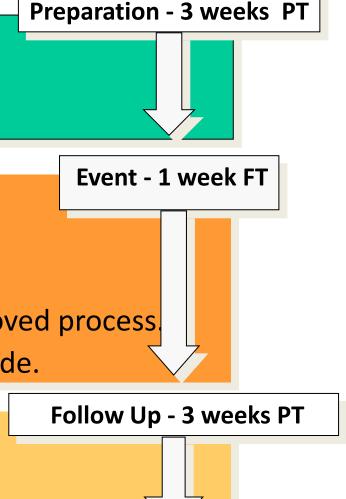
Control (Thursday-Friday)

➢ Create Standard Operating Procedures to document and sustain improvements.

➢ Present results to Management Team, complete follow-up, and monitor results over time.

Kaizen / RIE Schedule

Preparation - 3 weeks PT

1. Identify the process.
2. Define the event.
3. Identify objectives.

Event - 1 week FT

4. Document current condition.

5. Analyze current condition.

6. Make improvements.

7. Create standard work for the improved process.

8. Document improvements to be made.

Follow Up - 3 weeks PT

9. Closeout / Complete deliverables.
10. Measure new reality.
11. Sustain the gain.

Kaizen / RIE Planning Checklist

Rapid Improvement Events	PREPARATION

By: _____ Date: _____ Prep. % COT: _____

Team: _____

3rd Week Before Event: (% COT:)	2nd Week Before Event: (% COT:)	1st Week Before Event: (% COT:)
☐ 1) Select the RIE from the Value Stream Analysis' Rapid Improvement Plan. ☐ 2) Develop Charter with Value Stream Champion ☐ 3) Identify the Team Leader, Co-Leader, and Team Members. ☐ 4) Assure at least 1/3rd of participants are from the affected area. ☐ 5) Establish Voice of Customer. ☐ 6) Develop SIPOC ☐ 7) Determine the focus - which Lean tools will be applied? ☐ 8) Involve Budget authority/Business office to help capture baseline cost/benefit data	☐ 1) Complete SIPOC ☐ 2) Determine process metrics that need to be addressed. ☐ 3) Develop data collection plan 4) Start gathering facts and data to populate starting numbers on Target Progress Report ☐ 5) Populate the Target Progress Report ☐ 6) Identify top three improvement metrics ☐ 7) Establish improvement targets on top three metrics, be aggressive ☐ 8) Meet with affected stakeholders to communicate Improvement Event schedule, metrics, targets, and tools to be applied ☐ 9) Start Improvement Newspaper. ☐ 10) Confirm the availability of any special resources for: - equipment or furniture moves - computer / phone moves - 5S, shadowing, kitting - Production Control Boards ☐ 11) Obtain any special data collection instructions from your BB such as: - Information from previous Improvement Events - Customer critical to quality issues - Safety data ☐ 12) Confirm all participants are still available for entire Event week ☐ 13) Start your Improvement Newspaper ☐ 14) Develop Current State Process Map ☐ 15) Train team participants on improvement process and tools to be applied	☐ 1) Communicate key metrics, targets, and tools to be applied to all team participants ☐ 2) Double check availability of all resources: - equipment or furniture moves - computer or phone moves - 5S, shadowing, kitting - Production Control Boards ☐ 3) Communicate with affected area, review items listed on flip chart and ask for clarification, make sure these are added to Improvement Newspaper ☐ 4) Make sure team break-out area is ready: - flip charts, markers, post-its, VSA blanks - forms, stop watches ☐ 5) Make sure Project Sponsor is set to give opening remarks on Monday morning ☐ 6) Make sure Project Sponsor is available for Team Leader Meetings Monday - Wednesday ☐ 7) Schedule Final Presentation with Project Sponsor and appropriate leadership ☐ 8) Confirm all team participants are going to be available full time for entire event ☐ 9) ID and gather appropriate instructions, documents, and SOPs

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.

Barriers to Success

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

Tollgate Reviews

A meeting after each stage of the DMAIC process to:

> Determine if all the goals in the phase have been met.

> Provide a project update to stakeholders.

> Ensure work on the problem is still needed.

> Receive approval to continue to the next phase.

Preparation for the tollgate should include:

> All stakeholders are informed and available for the review.

>> Includes scheduling an adequate location for the review.

> Create a structure agenda for the review.

> Prepare presentation consisting of check sheets, milestone lists, tools used, etc.

> Provide presentation to all stakeholders prior to review.

Define Phase Tools

➢ Event or Project Charter.

➢ SIPOC analysis.

➢ Voice of the Customer collection and analysis.

➢ Communication Plan development.

➢ Project Framework.