

Process Improvement Tool Kit

Purpose

This guide provides details about how to effectively utilize process improvement methodologies with organizational teams. This document serves as a toolkit to assist change agents, leaders, and teams in analyzing the current state of operations, team dynamics, functionality, and structures within complex organizations to create and implement plans for improvement.

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1.0 Foundations of Process Improvement

Process improvement is rooted in both Lean Six Sigma and DMAIC methodologies, which assists teams in identifying problems or areas of improvement, analyzing root causes, and creating implementation plans that strive for the ideal future state. The following sections will describe and define Lean Six Sigma and DMAIC methodologies, along with the appropriate tools that allow change agents to facilitate improvement processes effectively.

1.1 Lean Six Sigma Methodology

The Lean Six Sigma framework is customer, business, and process focused—and sets out to improve employee performance and foster a culture of continuous improvement.

Lean

Lean methodology reflects the dysfunctional aspects of processes that teams should avoid. By focusing on speed and efficiency and assisting teams in recognizing inefficient and wasteful activities, Lean emphasizes reducing or eliminating waste to maximize values to customers.

Types of waste (TIMWOODS):

- Transportation
- Inventory
- Motion/Movement
- Waiting
- Overproduction
- Overprocessing
- Defects/Rework
- Skills underutilized

Six Sigma

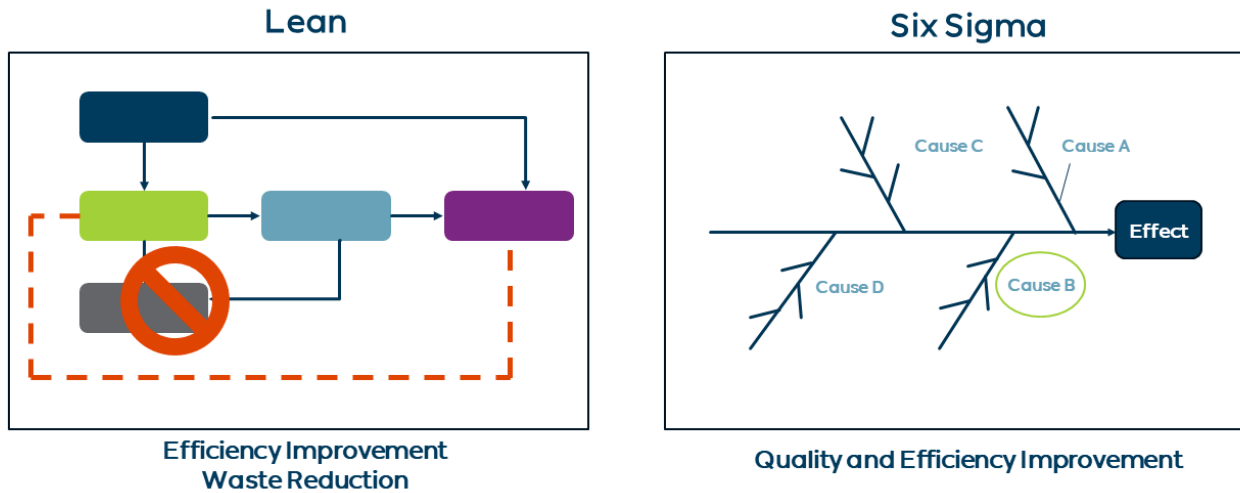
Six Sigma aims to enhance the efficiency and effectiveness of processes by focusing on precision and accuracy to guide data-driven decisions. Six Sigma is motivated to improve customer service, data and fact-driven management, process management, proactive management, and collaboration to strive for perfection.

Six Sigma uses the Define, Measure, Analyze, Improve, Control (DMAIC) method to assess areas for improvement, clarify problems, identify root causes, create improvement plans, implement plans, and monitor the progress of implementation.

Lean Six Sigma

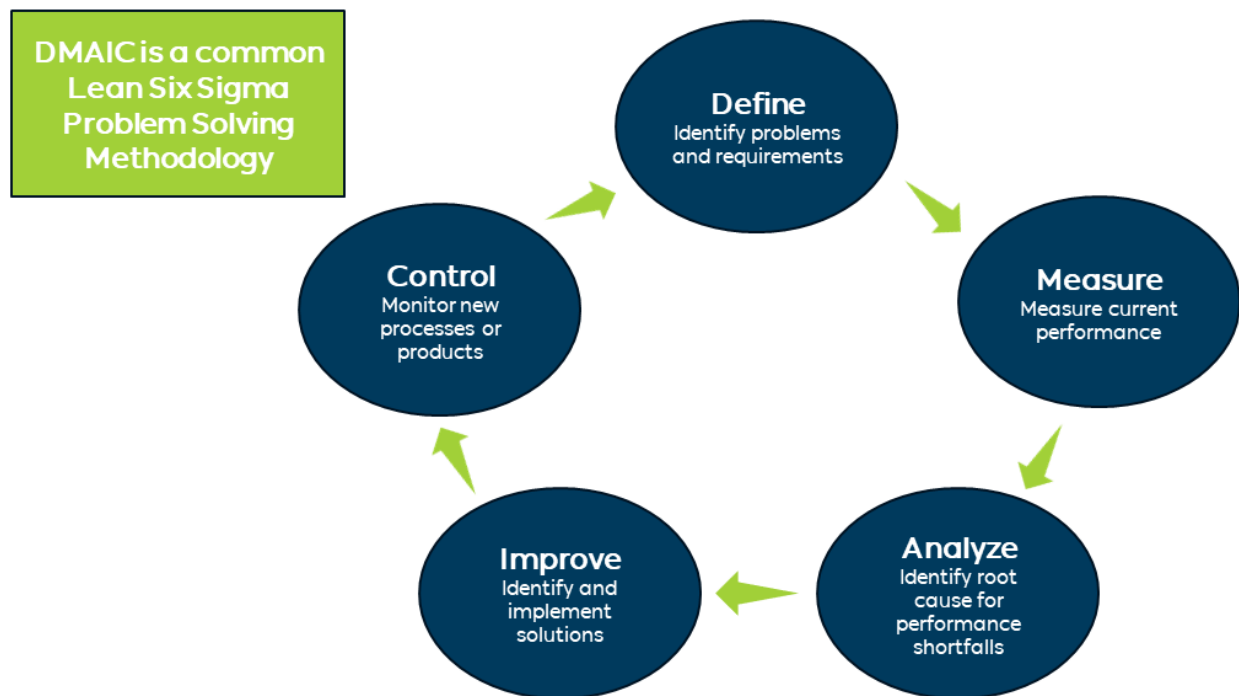
The Lean Six Sigma creates a process improvement framework for effective business transformation that is better, faster, and less costly for teams to address problems, collect and

analyze data, and implement solutions.



1.2 DMAIC

The DMAIC method provides a roadmap of phases for assisting teams in current state assessments and clarifying visions for the future to implement solution strategies.



Define

Phase 1 involves understanding and defining the problems or areas for improvement. This stage requires the creation of a project charter that includes an overarching problem statement that embodies all issues the team is facing, a goal or vision statement that describes the team's ideal future state, stakeholder and external party identification, and the expected benefits and impact that will result from the goal or vision being achieved. Defining the problem, roles, and goals using a project charter helps clarify the need for the project and ensures that teams and leaders understand what should be accomplished and why.

Phase 1 Checklist:

- ☐ Develop project charter
- ☐ Create a project plan
- ☐ Define the current process
- ☐ Identify Quick Win opportunities
- ☐ Identify and manage stakeholders
- ☐ Consider customer/member experience and impacts of the process

Measure

The next step involves measuring a team's current state by identifying the size and scope of the problem and documenting processes or procedures. The measuring phase also involves creating a data collection plan to establish what data should be assessed, how much, and from whom. Collecting data is essential for any analysis or improvement to occur; to develop solutions for the issues at hand, change agents and teams must consider the various factors that contribute to the overarching challenge they face. Once data is collected, it should be described and displayed at a high level. It is helpful to display data through process and/or value stream mapping techniques to identify outputs, inputs, and process variables.

Phase 2 Checklist:

- ☐ Identify measures (the methods for collecting data)
- ☐ Collect and document data
- ☐ Organize and display data
- ☐ Determine baseline performance

Analyze

Once data has been compiled and organized, the analyze phase identifies the root causes for performance shortfalls. By systematically identifying root causes, organizations can implement targeted solutions to prevent recurrence of issues, leading to sustainable improvements in quality and efficiency. Root cause analysis fosters a culture of continuous improvement that drives organizational success through proactive problem-solving and innovation.

Analyzing root causes involves assessing the data, generating a list of potential causes to problems, organizing causes, conducting and validating a hypothesis, and brainstorming a root cause analysis to identify why problems are occurring.

Phase 3 Checklist:

- ☐ Conduct a root cause analysis
- ☐ Conduct a lean process analysis
- ☐ Create graphical data displays for root causes
- ☐ Identify root causes

Improve

After the problem and root causes have been defined, measured, and analyzed, steps can be taken to undergo improvements. The improvement phase focuses on generating and evaluating detailed solution alternatives to address root causes. Quick wins or Process Improvement Events (PIE) can take place during this phase to streamline processes and reduce waste. When solutions are under development, calculating risks of solution implementation and conducting a cost/benefit analysis are necessary steps to prepare for implementation plan creation. Once solutions are decided upon, implementation planning can begin.

Implementation plans should include:

- A communications plan
- Revision to or development of standard operating procedures
- Changes to roles, responsibilities, and authority
- Changes to how personnel are held accountable, evaluated, and rewarded
- Decision making structure
- Training details, including who, when, and how
- An implementation timeline and necessary steps
- Time and effort required
- Financial impact

Phase 4 Checklist:

- ☐ Identify and select solutions
- ☐ Document the financial impact of solution implementation
- ☐ Manage risks
- ☐ Implement solutions

Control

The final phase requires monitoring the new processes or implementation plan and seeking ways to continuously improve. The first step in controlling a pilot or implementation is examining whether the implemented solution successfully addresses the problem statement. Once the implementation is deemed successful, monitoring plans to sustain the gains must be established.

Sustain the gains by:

- Establishing process capability and validating project results
- Controlling the process to ensure it is carried out the way it should
- Creating a response plan for potential setbacks and resistance to change

- Document the project through the establishment of standard process procedures

Phase 5 Checklist:

- ☐ Control and monitor the process
- ☐ Develop a response plan
- ☐ Document the project

2.0 Tools and Templates

2.1 What's a Tollgate Review?

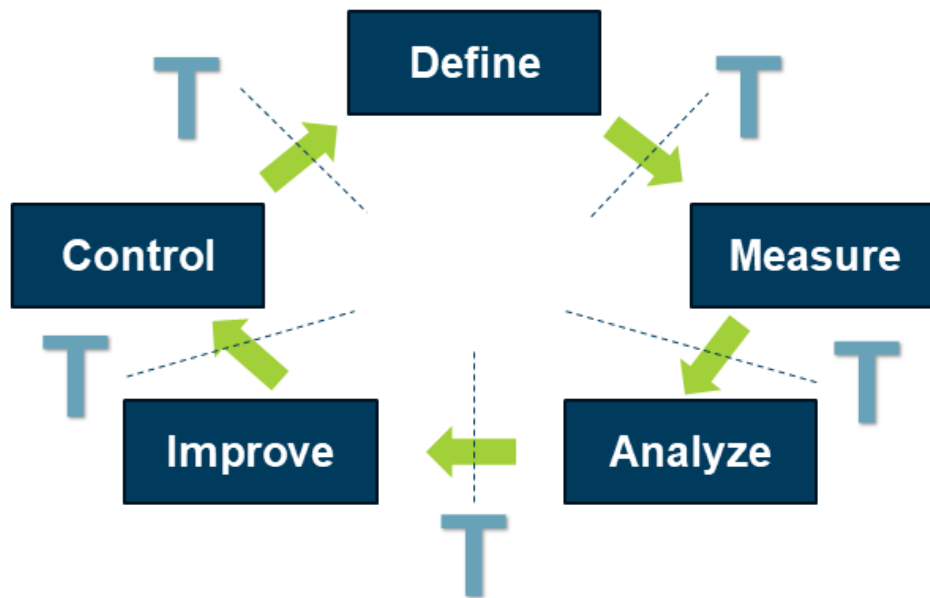
A tollgate review, or checkpoint, should be conducted to ensure the completion of each DMAIC project phase. When conducted, tollgate reviews check for consistent understanding of the project and its objectives, monitors team progress, aligns the ongoing process with the organization's strategy, and ensures data quality and integrity.

Tollgate reviews should aim to ensure the coordination of dependencies among all transition projects, share best practices that have been learned throughout the process, remove barriers to success, and reward and recognize the team's efforts. During the tollgate, the team and change agent should also review the open issues of the project, action items and decisions from the previous tollgate, and layout the next steps for the project.

A Tollgate Review:

- Challenges the purpose and objectives of the project

- Determines if project goals are achievable and realistic
- Ensures alignment between the business case, objectives and problem statement
- Assesses the impact on stakeholders
- Determines if the right customers/members have been considered
- Removes barriers to success
- Documents decisions and action items



2.2 Defining Tools

Project Charter

A project charter sets the foundation of a project. It should present specific and measurable problem and goal statements, establish roles and resources, explain expected benefits and impacts of project outcomes, and include a realistic DMAIC timeline.

Project Overview		
Project Name		
Department		
Change Agent		
Project Sponsor		
Project Timeline	Start Date:	Target Completion Date:

Project Description			
Business Case			
Problem Statement			
Project Goals			
Estimated Benefits (\$\$)			
Project Scope	Area of Focus:		
	Includes:		
	Excludes:		
	Start Point:		
	Stop Point:		
Project Resources			
Team Members	Function in the Business	Project Role	Time Dedicated to Project (Hrs/Week)
Additional Support			
Project Milestones			
Milestone Phase	Start Date	Completion Date	
Define			
Measure			
Analyze			
Improve			
Control			
Closure			

SIPOC Diagram

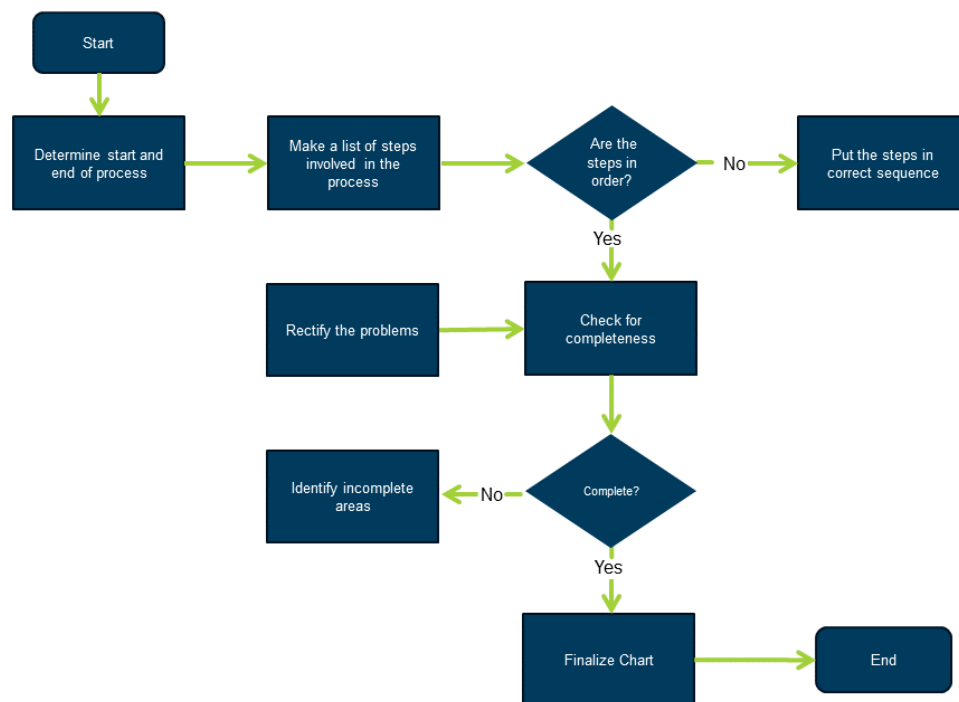
A SIPOC diagram is a high-level visual depiction of the processes relevant to the project and defines the relationships between suppliers, input, processes, output, and customers. It allows the process to be scoped from start to end and helps ensure the identification of relationships.

Suppliers	Inputs	Process	Outputs	Customers
•	•	1.	•	•

•	•	2.	•	•
•	•	3.	•	•

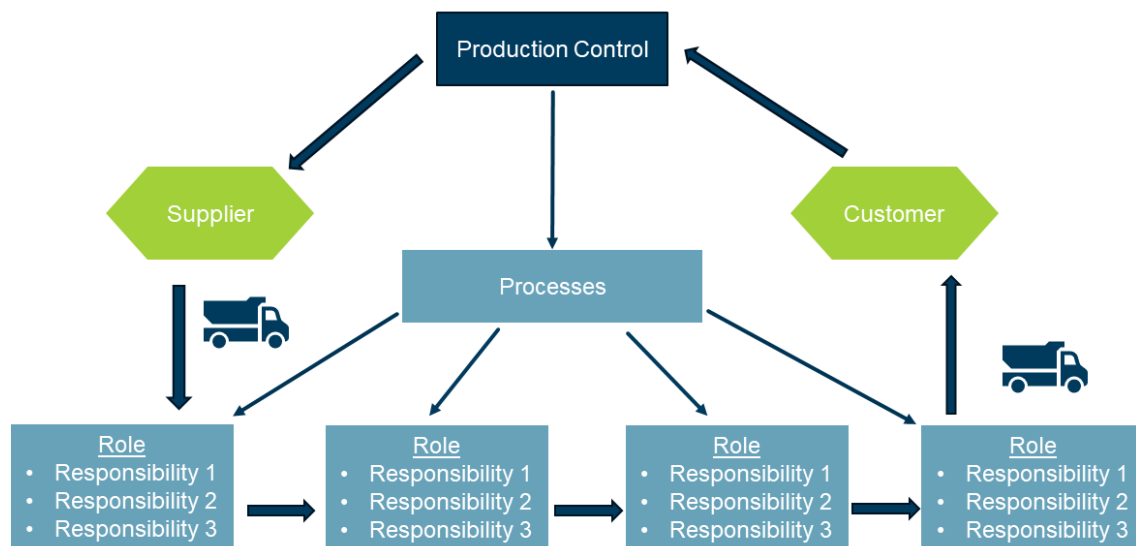
Process Mapping

The process map is a high-level mapping overview of the process from start to finish, including different shapes for various steps. It should be developed and evaluated with SMEs and include an appropriate level of detail to highlight quick-win opportunities. “As-is” process maps are traditionally developed in the defining and analyzing phases, while “To-be” process maps are used during the improvement phase.



Value Stream Mapping

Value stream maps are high-level visual representations of a business process. Unlike a process map, a value stream map helps provide more information and does not track all possible paths and decisions within a process. It focuses only on the high-level flow of value and maps the set of activities from the event materials are received from suppliers to the customer/member. It should include functions related to customer/member communications with the organization and detailed scheduling.



Quick Win Opportunity Analysis

Quick wins are improvements that can be made immediately to address root causes or aspects of the overarching problem. Typically, quick wins are identified at the start of the project, during the define phase and are better recognized after completing process and/or value stream mapping. However, if quick wins are not identified in the define phase, they may also be uncovered later as more root causes are revealed. For an aspect of the problem to be considered a quick win, the following conditions must be met.

Quick Win Opportunity	Easy to implement?	Reversible?	Fast to implement?	Within Team's Control?	Cheap to Implement?

Stakeholder Identification Plan

Stakeholder identification plans help document key players throughout the DMAIC improvement process and maintain organization for future analyses and monitoring practices. This tool is especially helpful when organizing stakeholders involved in larger, complex projects.

Stakeholder Name	Type

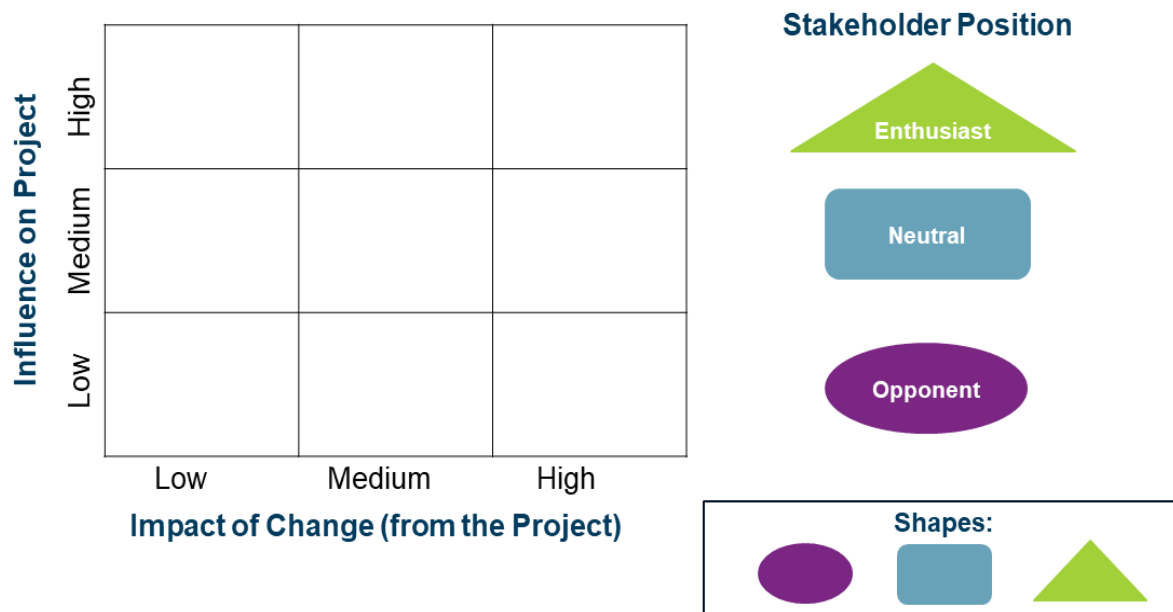
Stakeholder Analysis

A stakeholder analysis is a systematic process that identifies and analyzes individuals or groups likely to be affected by a particular project. The analysis may be conducted

regularly to ensure that stakeholder attitudes and behaviors about the project are monitored. The analysis aims to foster engagement and collaboration between relevant stakeholders and the project team.

Stakeholder	Current				Desired				Communication Action					
	Unaware	Aware	Interested	Supportive	Unaware	Aware	Interested	Supportive	Method	Responsibility of	Frequency	Phone	Email	Feedback log
Stakeholder 1														
Stakeholder 2														
Stakeholder 3														

Stakeholder Mapping



Stakeholder Management Plan

A stakeholder management plan helps identify what, why, who, when and how to enable proactive change management. The key elements of a stakeholder management plan include who the team needs to focus on, the purpose or desired outcome of the action, how the desired outcome will be achieved, when the action will be completed, and who is responsible for following through with the action.

Stakeholder	Objective	Actions	Completion Date	Owner(s)

RACI Matrix

A RACI matrix helps identify who is responsible, accountable, consulted, and informed for tasks. Taking a list of tasks and assigning responsibility and accountability can help ensure that tasks

are delegated effectively. Assigning team members as “consults” clarifies who will review the task once it is completed, and assigning defining those who should be informed about task completion and progress helps ensure that all impacted parties are up to date.

Activity	Staff Member	Staff Member	Supervisor	Principal
Task 1	A	R/A	C	I
Task 2	R/A	C	I	I
Task 3	R	A	C	I
Task 4	I	R	R/A	C

Communications Plan and Matrix

A communications plan is designed to coordinate effective communications through the identification of audiences, development of key messages, and determination of communication frequencies, delivery mechanisms, and senders. Communication plans help ensure project parties receive clear and concise communications, are continuously engaged, and are well-informed about upcoming and implemented changes.

The communications matrix is a functional tool used to plan out specific, executable project communication strategies and their details. At the start of our involvement, we work with the project team and stakeholders to create the communication matrix as part of the project and continuously update the matrix to align it with actual project activities and phases.



CTQ Determination

Critical to Quality aspects are the measurable requirement the customer and/or member has of the process. In other words, customers/members have certain expectations for processes and outputs provided to them, and CTQ's allow change agents to measure and collect data about the effectiveness of these processes. This tool is helpful for assessing the customer or member perspective when discussing the value of current tasks.

Segment (Internal / External)	Customer Issue	Customer Need	CTQ

2.2 Measurement Tools

Measurements

Process Effectiveness

Process effectiveness refers to the extent to which customer/member requirements are met by measuring defect rates, accuracy, service levels, timeliness, and response time.

Process Efficiency

Process efficiency is concerned with the internal allocation of resources, including costs, time per activity, and output per unit (space, time, etc.).

Adaptability

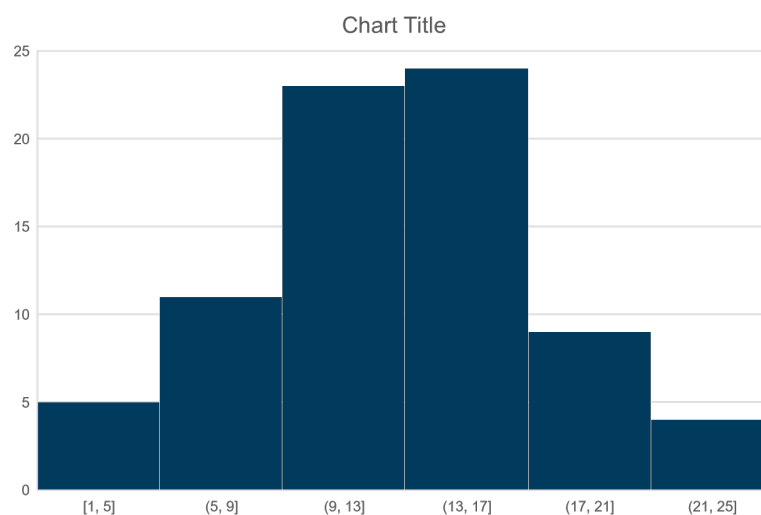
Adaptability refers to the ability to quickly adapt to changing requirements. It measures set-up time for new customer/member needs, cycle time for special customer/member requests, and percentage of special requests not met.

Data Displays

Organizing and displaying data in ways that are easy for teams to grasp is an important step in determining what problems or root causes are of high, moderate, and low priority. Data displays also allow teams to recognize the impact of their inefficiencies and performance shortfalls.

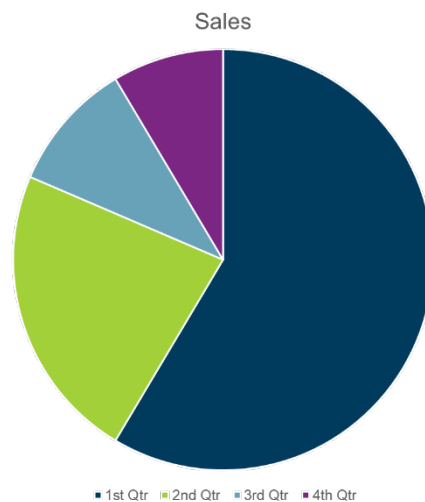
Histograms

Histograms are used to determine shape, center and range of numeric data, and often used to prepare Pareto charts.



Pie Charts

Pie charts are used to depict percentages of total. This can help breakdown the frequencies of data distribution into familiar categories.



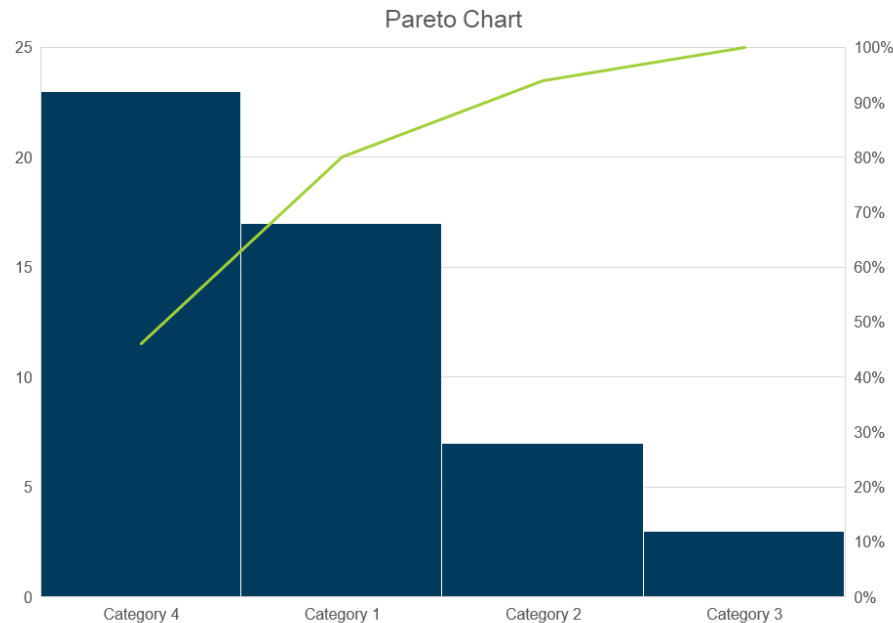
Run Charts

Run Charts are used to display data related to a process variable in a sequence over time to identify changes. Run charts provide baseline of current process performance, do not require calculations, and can include most data collected over time.



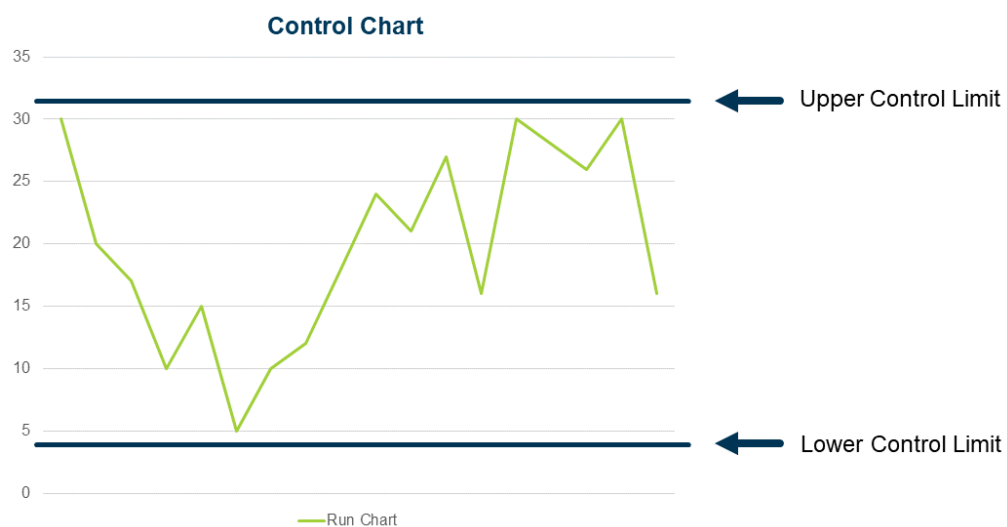
Pareto Charts

A pareto chart is a graphical tool that helps segment a large project into muLSPCle components and identify which components are of the highest importance. Pareto charts are based on the 80/20 rule applied to Lean Six Sigma that explains how 80% of process defects are a result of only 20% of the problems. It should be used to identify and prioritize problems and root causes.



Control Charts

Control charts are similar to run charts, in that they are time-ordered plots of data that can be used to search for special cause. However, control charts have control limits, which allows teams and change agents to define the boundaries of performance and determine if your process is “in control”.



Data Collection Planning

Utilizing a data collection plan prior to conducting measurements and assessments can help clarify and define key performance indicators, how they will be measured, and how collected data will be displayed. This tool is especially useful in planning the measurements for larger improvement projects that require complex data collection and analysis.

Measure	Type of Measure	Type of Data	Operational Definition	Sampling	Display
EXAMPLE #1: Total Loan Processing Cycle Time			The total time in days from when a customer submits the application to when the loan is mailed by location; Time stamp calculation in SI database	SI Database: Sample of 105 Loans (1/1-3/31) from Chicago, London, Singapore	Histogram, Run Chart, Control Chart
EXAMPLE #2: # of Final Determination Packages with Errors			The total # of final determination packages that have an inaccurate field by defect type (name, address, loan #, loan amount, loan duration, city, state) from total packages processed; Check Sheet completed by associates	Real Time: Sample of 240 Determination Packages (April) from Chicago, London, Singapore	Pareto

Operational Definitions

An operational definition is a precise description that tells how to get a value for the characteristic you are trying to measure. It includes what it is and how to measure it. The purpose of operational definitions is to remove ambiguity so that everyone collecting the data has the same understanding. They also identify what to measure, how to measure it, and reduces variation to ensure that no matter who does the measuring, the results are the same.

Performance Measure	Operational Definition

2.3 Analyzing Tools

Brainstorming

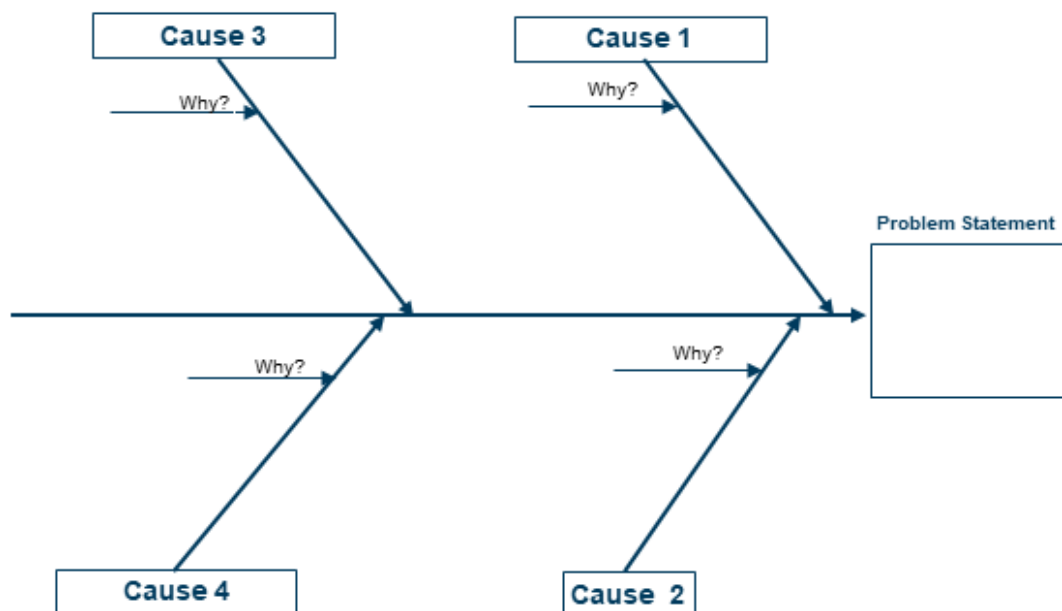
Brainstorming can be an effective way to assist teams in assessing problems and determining root causes. When brainstorming methods are used throughout DMAIC processes, it is important to document ideas, problems, and potential solutions that were presented or recognized throughout the session.

Brainwriting

Brainwriting is a brainstorming method that encourages team members to document their ideas before sharing them out loud. Later, the change agent collects the ideas to distribute to the rest of the team and facilitates further discussion.

Fishbone Diagram

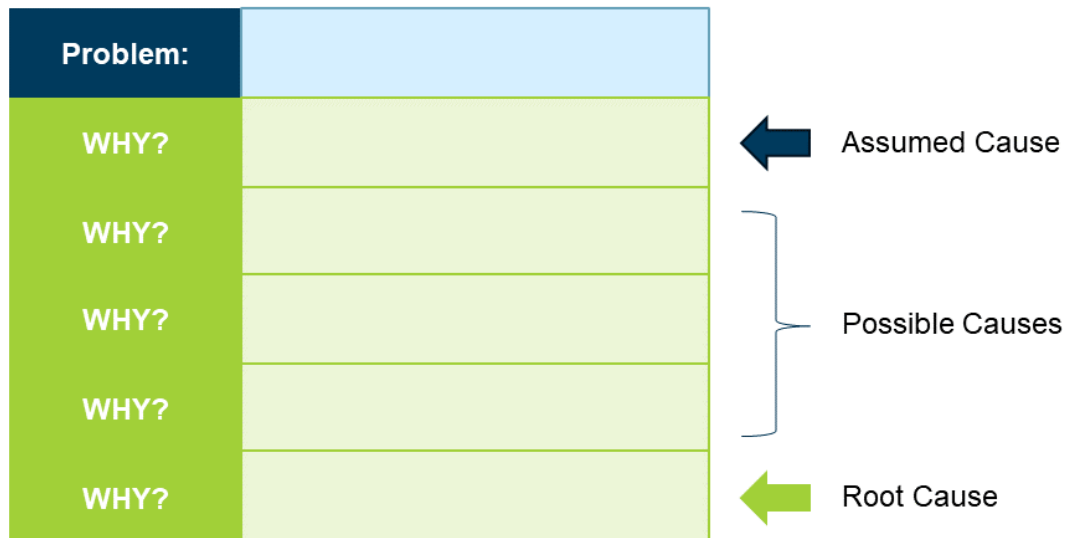
A fishbone diagram is a helpful tool for cause-and-effect analysis. It provides a structured way to identify and organize potential causes contributing to a particular problem. It illustrates casual relationships in a straightforward and understandable format. Combining the fishbone with the 5-Why's technique provides more dimensions for the analysis.



5 Why's Diagram

The 5 Why's technique serves as another cause-and-effect analysis tool. In relation to a problem, waste, or defect, valuable insights can be discovered through this technique. By

asking “Why?” muLSPCLe times, teams and change agents can obtain a deeper understanding of the problem, and ultimately the root cause.



Lean Process Analysis

The Lean Process Analysis helps diagnose the root causes of failure throughout as-is processes by assessing the value and non-value of current tasks. This tool can help ensure the reduction of non-value tasks and assist in maximizing productivity throughout the implementation of new processes.

Process Step:	1	2	3	4	5	Total Steps	Total Time	% of Total Time
Time (Hours)								
Value-Added								
Non Value-Added:								
Delay								
Set-Up								
Inspection								
Transporting								
Rework								

2.4 Improvement Tools

Implementation Plans

Creating an implementation plan is essential for carrying out effective solutions. It outlines the structured processes necessary for successful execution through the documentation of key milestones, roles, solution plans, potential barriers, communications, and necessary training.

High-Level Implementation Plan

Project Name:						
ID	Task	Duration	Start	Finish	Dependency / Predecessor	Resource(s)

Detailed Implementation Plan

Project Name:		
Key Milestones		
	Status: To Be Completed / In Progress / Completed	Targeted Completion Date
Agreement on Leadership		
Solutions Roll-Out		
Execution of Communication Plan		
Training Completed		
Transition to Process Owner(s)		
Project Sign-Off		
Initiate Phase II (If needed)		
Leadership		
Implementation Owner(s)		
Training Owner(s)		
Process Owner(s)		
Phase II Champion(s) /Sponsor(s) (if necessary)		

Solutions Roll-Out Plan					
Solution Description				Date	Owner
Barriers to Success					
Barriers		Actions Necessary to Overcome Barriers			Owner
Communication Plan					
Group	Core Message(s)	Goal / Desired Outcome	Method of Delivery	Date of Delivery	Delivery Owner
Training Plan					
Group To Be Trained	Description of Training	Materials Required	Length of Training	Training Date	Trainer(s)

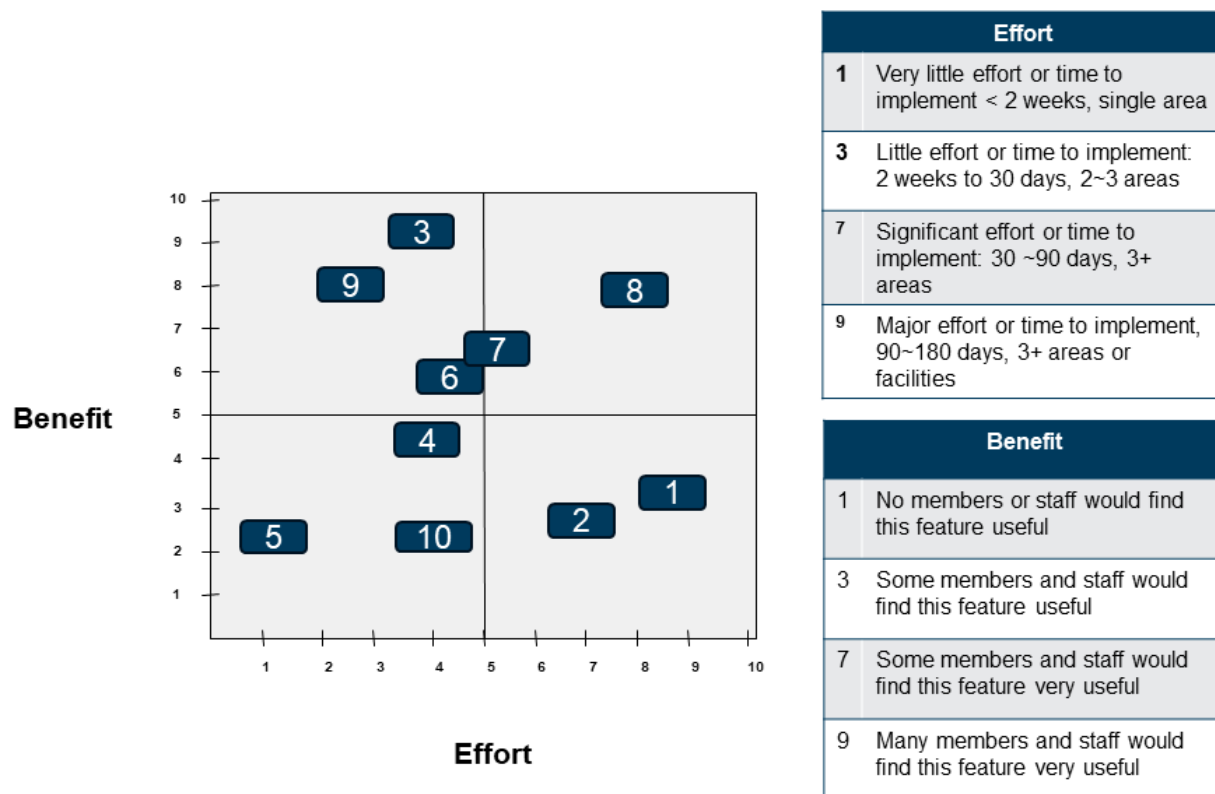
Cost/Benefit Analysis

Conducting a cost benefit analysis can help weigh the need for and cost of implementing a solution plan. It lists the objectives that hoped to be achieved, the beneficial outcomes of attainment, and the costs associated with the steps required to implement the change plan.

Cost/Benefit Analysis				
Project Name:				
Problem Statement:				
Proposed Solution:				
Implementation Costs:	Measurement Variable	Cost Estimate	Total	Notes
Hard Benefits:	Measurement Variable	Cost Estimate	Total	Notes

Benefit Effort Analysis

A benefit effort analysis allows teams to assess the effort required for tasks involved in the solution plan and how beneficial the outcomes of the efforts would be. This helps prioritize tasks and decide if they are necessary for goal attainment. A benefit effort analysis can be conducted through an ease impact matrix.



Pilot Plan

A pilot plan helps observe key outcomes of new processes, allowing leaders and project managers to identify gaps in their implementation plans and follow-up with necessary strategies. Pilot plans also set the stage for defining roles and responsibilities, informing and motivating interested parties, developing comprehensive training plans, setting goals, and establishing feedback loops for the evaluation process.

Project Name:	
Task/Deliverable	Description

	(be as detailed as possible)
Scope of Pilot	
1. What processes will be piloted?	
2. When will the pilot occur (dates from start to stop)?	
3. Where will the pilot take place (business, location)?	
4. Who will be involved in the pilot?	
Data Collection Plan	
1. What will be measured (CTQs)?	
2. Who and how will the data be collected?	
3. How is Pilot success defined?	
4. How is Pilot failure defined?	
Training Plan	
1. When and where will the training take place?	
2. Who will be trained?	
3. Who will deliver the training?	
4. What materials are required to conduct the training?	

2.5 Controlling Tools

Control Plan

A control plan outlines the essential measures required to maintain a process at its optimal level following an improvement initiative. It helps to ensure that executed improvements will not degenerate once handed back to their owners.

[illegible]

Process Monitoring Plan

A process monitoring plan is developed to ensure ongoing monitoring of project implementation and its implications within the organization. The plan should include measurable customer/member requirements for the process, known as Critical to Quality aspects (CTQs), as well as the steps in the process where CTQs are measured, and data is collected. The plan also documents the method or procedure that will be used to collect the data, the frequency of data collection, and those responsible for collecting data.

CTQ (Example) #1: Processing Cycle Time			
Process Steps Where the CTQ is Measured	Data Collection Method	Data Collection Frequency	Owner Responsible for Collection

CTQ (Example) #2: Reviewing Time			
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Process Steps Where the CTQ is Measured	Data Collection Method	Data Collection Frequency	Owner Responsible for Collection
CTQ (Example) #3: Final Determination Package Accuracy			
Process Steps Where the CTQ is Measured	Data Collection Method	Data Collection Frequency	Owner Responsible for Collection

Response Plan

Developing a response plan during the control phase helps ensure ongoing monitoring of the newly implemented process. The plan should include what actions should be taken if the process goes out of control, how frequently action should be taken, and who will take action.

Measure	Action	Timing	Owner
CTQ #1			
CTQ #2			
CTQ #3			

Project Tracking

Project tracking templates provide project managers and team leaders with the essential methods required for efficiently managing and controlling improvement projects. The tool includes sections for project identification, project tracking, and key performance indicators.

Improvement Projects - Identification
Year:

#	Project Title	Unit / Department	Customer	Champion	BS, GS, PM	CI	Estimated	Summary
		Area	Process Owner	Sponsor	Leader	Approach	Gains \$	Goal Statement
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

Improvement Projects - Tracking

Updated:

0

#	Project Title	Start Date	End Date	Duration	Charted?	Progress %	Phase	Closed?	Finish Date	Delayed	Gains \$	Gains VAR
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												

Metrics

Updated:

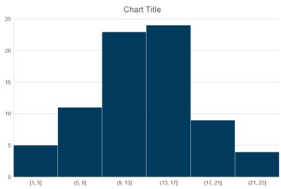
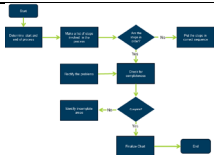
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#	Project Title	The big Y	Unit	Target	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to date
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	

Final Project Storyboard

The Final Project Storyboard is a presentation and visual depiction of the steps taken during each phase of the DMAIC process. It communicates key deliverables and accomplishments that were completed during the project. The project story presentation aims to provide the organization with a full understanding and appreciation for project efforts, communicate the team's progress, build enthusiasm and support for the project, educate the team on the Lean Six Sigma DMAIC process and life cycle, and sell the story and its benefits to the organization to develop a critical mass of support for the initiative. Storyboards are typically presented at a gallery walk meeting, which allows organization members to hear about the project, ask questions, and generate enthusiasm.

Team Information	DEFINE	MEASURE
	Charter CTQ's Process Map	Data Collection Capability

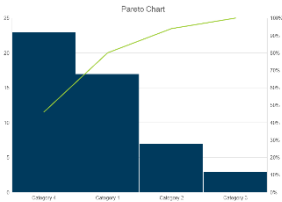


ANALYZE

IMPROVE

CONTROL

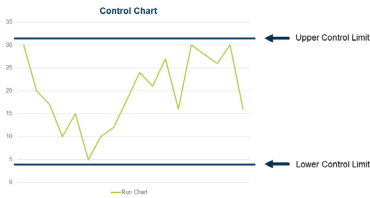
Root Causes



**Solution(s) Selected
FMEA
Pilot**

Item or Process Step	Potential Failure Mode	Potential Effect(s) of Failure	S E V	Potential Cause(s) C C T	O D R C E P T I O N	R E C O M M E N D E D A C T I O N	R E S P O N S I B L E

**Monitoring
Response Plan**



3.0 Rightsizing Improvement Processes

This section serves as a guide to help identify the size, scope, and necessary communications for particular projects. Tables, checklists, and communication strategies for carrying out quick-wins, PIEs, and long-term improvement processes are included.

Considerations for Rightsizing

To categorize an improvement project most accurately, certain considerations have been included and assigned to each process. The considerations are based on the size and scope of improvement impact and reflect the complexity of each project approach.

Considerations for Rightsizing:

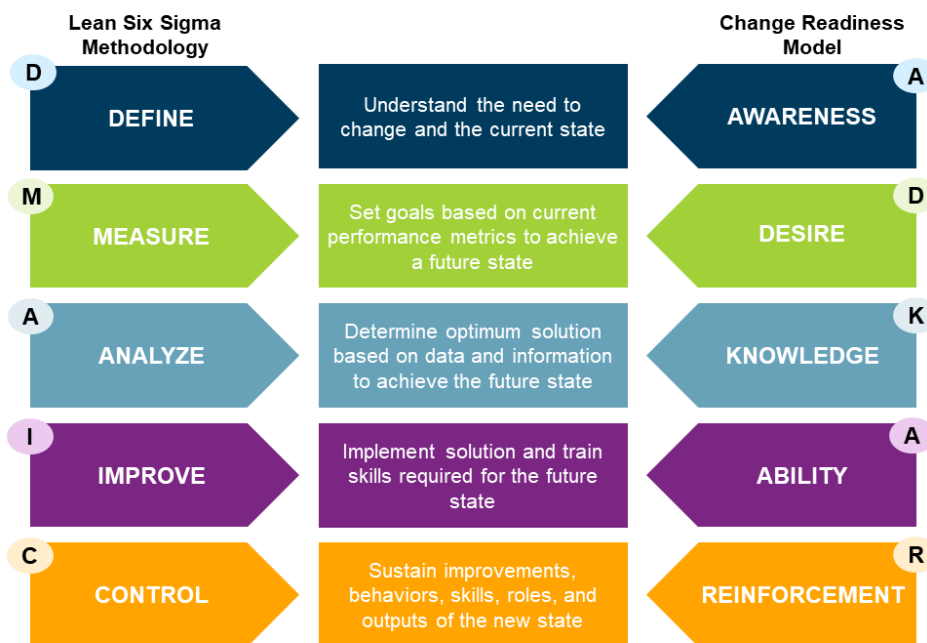
- **Project Timeframe:** The total time it takes to complete the project from start to finish.
- **Complexity:** Anticipated project complexity based on number of teams, level of stakeholder engagement, and impact of matrix structures involved—which embodies the amount of communication, allocation of resources, and strategic project management required.
 - *Low Complexity:*
 - Number of teams: 1 – 2
 - Stakeholder engagement level: Engagement with stakeholders is necessary, but participation requirements are nominal.
 - Matrix Impact: The need for cross-departmental coordination, communication. Strategy is required, but long-term and complex planning is not mandatory.
 - *Moderate Complexity:*
 - Number of teams: 2 – 4
 - Stakeholder engagement level: Engagement with stakeholders is essential and participation requirements are as needed. Stakeholders are involved in the decision-making and planning processes.
 - Matrix Impact: Moderate level of coordination and communication required between impacted teams. Long-term strategy is not required, but high-level strategic planning is necessary.
 - *High Complexity*
 - Number of teams: 4+
 - Stakeholder engagement level: Engagement with stakeholders is essential and participation requirements are high. Meetings to discuss planning, strategy, decisions, and updates are recurrent.

- Coordination and strategy required: Consistent coordination and collaboration across organizational units is necessary. Strategic, long-term planning requires regular attention, updates, and adjustments.
- **Sectors Impacted:** Work sectors impacted; work sectors highlighted include Systems, Operations, Training, and Culture.

Communications Strategy Framework

The Awareness, Desire, Knowledge, Ability, and Reinforcement (ADKAR) communications model is the foundation of improvement processes communication strategy. This framework will help inform the development and execution of tactics for efficient and effective delivery of information to interested parties based on their information needs.

- **Awareness:** Do the interested parties have a general awareness of the improvement process and its related changes? Do they feel prepared and supported to adapt to the changes?
- **Desire:** Do the interested parties understand the intended direct benefits of the improvement? Do they understand how the implementation will impact them and their work processes?
- **Knowledge:** Do the interested parties understand how they will need to change due to the implementation process?
- **Ability:** Do the interested parties have the ability to adopt the changes resulting from the implementation?
- **Reinforcement:** Do the interested parties understand the behaviors necessary to sustain the changes resulting from the implementation of the CAMP System?



3.1 Quick Wins

Identifying Quick Wins

Quick wins are improvements that can be made immediately to address root causes or aspects of the overarching problem. Typically, quick wins are identified at the start of the project, during the define phase; however, they may also be uncovered later, while conducting analyses. For an aspect of the problem to be considered a quick win, particular conditions must be met.

Conditions for Quick Wins:

- ✓ Easy to implement
- ✓ Reversible
- ✓ Can be rolled out or implemented quickly
- ✓ Within the project team's control
- ✓ Cheap to implement
- ✓ Low risk
- ✓ Narrow scope (only impacts one specific workstation)

It is important to note that the urge to get something approved might drive a project team to inaccurately classify a task as a quick win. If this occurs, the improvement may take much longer to implement than anticipated and cause unintended negative downstream consequences. *If there is any uncertainty about whether something is a quick win, it is not.*

Quick Win Opportunity Analysis Table: (Respond to each question with "Yes" or "No")

Quick Win Opportunity	Easy to implement?	Reversible?	Fast to implement?	Within Team's Control?	Cheap to Implement?

Quick Win Qualifications

For a project to be considered as a quick win, it must meet the following criteria:

Quick Win Criteria	Quantity
Project Timeframe	1-4 Weeks
Complexity	Low Complexity
Sectors Impacted (System, Operation, Training, Culture)	System or Operation Only

Quick Win Communications

Timeline (Subject to Change)	ADKAR Milestones	Communication Requirements	Checklist
---------------------------------	---------------------	-------------------------------	-----------

Day 1 Define	Awareness	Ensure project/fix is a quick win by reviewing with stakeholders.	<input type="checkbox"/> Communicate the conditions of a quick win to stakeholders and ensure the item/problem meets requirements [virtual/in-person meeting]
Day 2 Measure	Desire	Keep impacted team up to date with change considerations. Consider measurement requirements and communicating what you need from the impacted party.	<input type="checkbox"/> Communicate with stakeholders and impacted team about outcomes of quick win and actions that can be taken to address quick win opportunity [memo/email] <input type="checkbox"/> Inform stakeholders and team about what information is needed to initiate change process [memo/email]
Day 3 Analyze	Knowledge	Update stakeholders and team with any new relevant findings and communicate next steps.	<input type="checkbox"/> Inform stakeholders and impacted team about any underlying findings [email/report] <input type="checkbox"/> Communicate with stakeholders and team about next steps (including an action plan for tasks and ownership) [virtual/in-person meeting] <input type="checkbox"/> Share action items and decisions with stakeholders and impacted team [email/memo]
Day 5 Improve	Ability	Implement quick win, keep stakeholders and impacted parties up to date.	<input type="checkbox"/> Confirm with stakeholders and impacted team that quick win has been addressed/delivered (memo/email) <input type="checkbox"/> Inform stakeholders and team about next steps (follow-up, reinforcement, control, and feedback) [memo/email]
Day 5 Control	Reinforce	Follow up with change progression.	<input type="checkbox"/> Follow-up with stakeholders and impacted teams (ask for feedback) to assess the impact of quick win [email]

Estimated DMAIC and ADKAR Timeline: Quick Wins

Quick Wins

Phases	Day 1	Day 2	Day 3	Day 4	Day 5
Define					
Measure					
Analyze					
Improve					
Control					
ADKAR	A	D	K	A	R

3.2 Process Improvement Events (PIEs)

Process Improvement Events (PIEs) provide a platform for employee teams and departments to exchange ideas and collaborate on improvement initiatives. By involving employees in the continuous improvement process, PIEs empower them to contribute their ideas, expertise, and creativity, all while increasing engagement, job satisfaction, and a sense of ownership over work outcomes.

PIEs also encourage teams to identify and solve problems collectively through a structured approach that allows for process analysis, inefficiency identification, and solution proposition. Involvement in PIEs can enable employees to gain exposure to different perspectives, acquire new problem-solving techniques, and develop their abilities to adapt to change and embrace continuous improvement.

Similar to a Kaizen event, a PIE is a concentrated team-oriented effort to rapidly improve the performance of a process. PIE engagements should be facilitated onsite to dedicate undivided attention to cross-collaborative teams that will focus on supporting and creating improvement opportunities that directly impact their work.

PIE Qualifications

For a project to be considered a PIE, it must meet the following criteria:

PIE Criteria	Quantity
Project Timeframe	4 – 13 Weeks
Complexity	Moderate Complexity
Sectors Impacted (System, Operation, Training, Culture)	Systems, Operations, and/or Training

PIE Communications

The onsite engagements with organization members are only a few days (usually 5–6-hour sessions). Throughout the facilitation sessions, the change agent and project team will use DMAIC methodology to assess the current state, problems, and root causes and develop strategic improvement plans to implement solutions. The overall PIE cycle typically takes 6-7 weeks to execute all phases, which includes follow-up for success and sustaining the gains. Although the size and scope of the project may fluctuate, the communications should follow the order illustrated in the table below.

Timeline (Subject to Change)	ADKAR Milestones	Communication Requirements	Checklist
Week 1	Awareness	Develop Kick-Off communications: planning and preparation with stakeholders and team(s)	<input type="checkbox"/> Plan and confirm PIE workshop with stakeholders / project sponsor [virtual meeting and emails] <input type="checkbox"/> Send out pre-project invites to participants and communicate

			<p>when the onsite facilitation(s) will take place</p> <ul style="list-style-type: none"> <input type="checkbox"/> Deliver assessments (if necessary) and assign due dates for return/completion [email]
Week 2-4 Define Measure Analyze	Desire Knowledge	Create and share materials for facilitation using the responses from assessments, hold facilitation session(s) with work team onsite, and communicate next steps	<ul style="list-style-type: none"> <input type="checkbox"/> Deliver facilitator guides to participants, provide participants with an agenda for facilitation session, and remind participants of time, date, location [email] <input type="checkbox"/> Hold facilitation session and conduct DMAIC workshop activities [onsite] <input type="checkbox"/> Send out findings/review from PIE facilitation and present next steps [email] <input type="checkbox"/> Follow-up to clarify whether client needs more support/guidance/clarity about any findings covered in the review [email]
Week 4-5 Improve	Ability	Provide deliverables to stakeholder and team leads and initiate improvements	<ul style="list-style-type: none"> <input type="checkbox"/> Document and deliver findings and improvements discussed in previous facilitation session, discuss next steps and action plans [virtual/onsite meeting] <input type="checkbox"/> Maintain up to date documentation of improvement progress, tasks, and task owners [email/repository]
Week 6+ Control	Reinforce	Send final Summary Report (or other deliverable(s) requested by client and follow-up	<ul style="list-style-type: none"> <input type="checkbox"/> Reach out to client if any materials needed for the summary report (ie participant ratings/feedback) are missing [email] <input type="checkbox"/> Send final summary report and other deliverable documents to client (include resources for monitoring continuous improvement) [email] <input type="checkbox"/> Follow up with stakeholders to assess progress and/or need for additional PIE engagements

Estimated DMAIC and ADKAR Timeline: PIEs

Process Improvement Events

Phases	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Define						
Measure						
Analyze						
Improve						
Control						
ADKAR						

3.3 Large Scale Process Changes (LSPCs)

A larger DMAIC framework will be required for more complex business process redesign projects, which involve long-term improvement and ongoing strategic planning. Large Scale Process Changes (LSPCs) may include quick-hits and/or PIEs, but these events will represent mere milestones within the larger improvement process. Some projects may take up to six months, which we have identified as LSPCs; others may take six months or more, and we have identified them as Extra-Large Scale Process Changes (XLSPCs). In both cases, ongoing strategic communications planning will be required to ensure that stakeholders and impacted parties are up to date with ongoing changes and improvement processes.

LSPC Qualifications

For a project to be considered a LSPC, it must meet the following criteria:

LSPC Criteria	Quantity
Project Timeframe	3-6 Months
Complexity	High Complexity
Sectors Impacted (System, Operation, Training, Culture)	System, Operations, Training, and/or Culture

LSPC-XL Qualifications

For a project to be considered a LSPC-XL, it must meet the following criteria:

LSPC-XL Criteria	Quantity
Project Timeframe	6+ Months
Complexity	High Complexity
Sectors Impacted (System, Operation, Training, Culture)	All (System, Operation, Training, Culture) or more

LSPC and LSPC-XL Communications

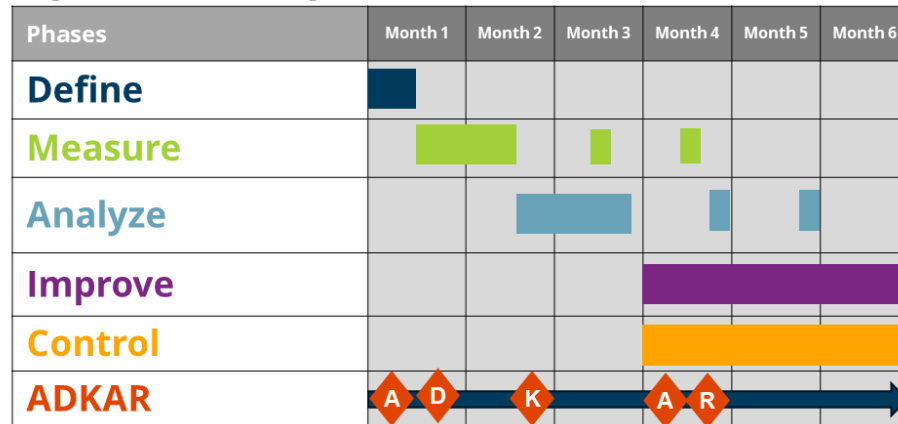
Within the initial three months of the project, it is critical to communicate regularly with stakeholders to report findings and progress. The improvement and control phases will require detailed communication planning to ensure that all stakeholders and impacted teams are up to date with ongoing process plans, changes, and next steps. The communication plan should aim to establish feedback loops between the organization's departments and our external team to monitor implementations and address the ongoing needs of the client.

Timeline (Subject to Change)	ADKAR Milestones	Communications	Checklist
Month 1		Initial outreach and project planning, ongoing communication with stakeholders	<input type="checkbox"/> Plan initial meetings with stakeholders (email) <input type="checkbox"/> Hold meeting with stakeholders to gain a sense of problems and

			<p>direction for work (virtual or in person)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Draft and deliver project plan and timeline for stakeholder review (email) <input type="checkbox"/> Follow-up with next steps (email)
Month 1-3 Define Measure Analyze	Awareness Desire	Ongoing communication with stakeholders and impacted teams (virtual/in-person)	<ul style="list-style-type: none"> <input type="checkbox"/> Weekly emails or meetings to keep stakeholders and management teams informed <input type="checkbox"/> “Mini-PIEs” workshops or training sessions with leadership and teams <input type="checkbox"/> Monthly updates to all impacted teams <input type="checkbox"/> Acknowledge milestones through virtual outreach to impacted parties
Month 4+ Measure Analyze Improve Control	Knowledge Ability Reinforcement	Ongoing communication with stakeholders and impacted teams about change implementation and next steps (virtual/in-person); create feedback loops (virtual/email)	<ul style="list-style-type: none"> <input type="checkbox"/> Weekly emails or meetings to keep stakeholders and management teams informed <input type="checkbox"/> “Mini-PIEs” workshops or training sessions with leadership and teams <input type="checkbox"/> Monthly updates to all impacted teams <input type="checkbox"/> Clarify next steps by delivering data reports, high-level activity reports, and action/decision items <input type="checkbox"/> Quarterly update to entire organization <input type="checkbox"/> Acknowledge milestones through virtual outreach to impacted parties <input type="checkbox"/> Monthly/Bi-monthly outreach or meetings with stakeholders and leadership teams <input type="checkbox"/> Request real-time reviews from leadership and staff adapting to change <input type="checkbox"/> Continue ongoing communications with POCs to ensure effective adjustments are rolled out efficiently

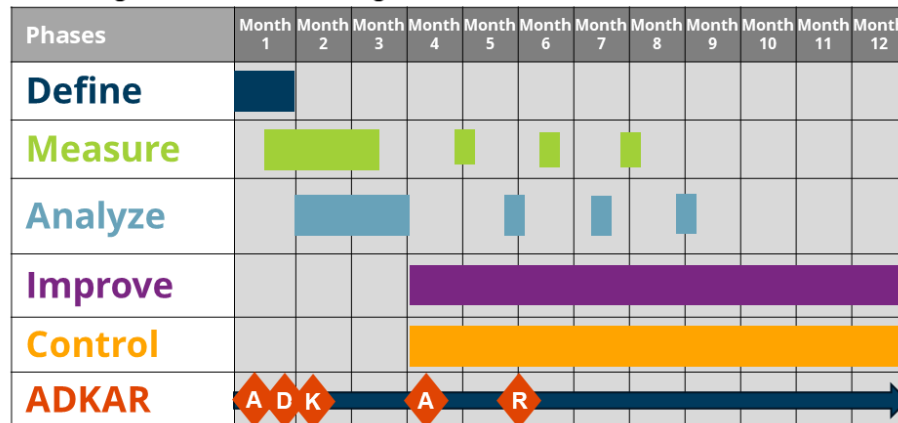
Estimated DMAIC and ADKAR Timeline: LSPCs

Large Scale Process Changes



Estimated DMAIC and ADKAR Timeline: LSPC-XLs

Extra-Large Scale Process Changes



LSPCs and LSPC-XL Activities

Over the course of the project, particular activities can promote the success of improvement and monitoring processes within the organization.

This includes, but is not limited to:

- Leadership training sessions to enhance interpersonal and strategic management skills
- Technology training sessions to assist employees in adopting new technological programs and procedures
- “Mini-PIE” facilitation sessions for department teams to expand skills and move the improvement process forward in an effective manner
- Quarterly quality and control assessments to identify areas for further improvement and assess the organization's progress towards its future-state objectives

Appendix

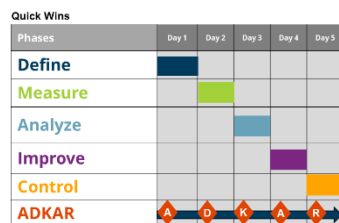
“1-Pager”: Right-Sizing Improvement Processes

Considerations	Quick Wins	Process Improvement Events	Large Scale Process Changes	Extra-Large Scale Process Changes
Project Timeframe	1- 4 weeks	4-13 Weeks	3-6 Months	6+ Months
Complexity	Low Complexity	Moderate Complexity	High Complexity	High Complexity
Sectors Impacted (System, Operation, Training, Culture)	System or Operation	System, Operation, and/or Training	System, Operation, Training, and/or Culture	System, Operation, Training, Culture, and/or other sectors

Outcomes	Quick Wins	PIEs	LSPCs	XLSPC
Cost effective and immediate solution to system or operational problem.	✓	✓	✓	✓
Utilizes change agents to identify and solve problems collectively		✓	✓	✓
Participants acquire new problem-solving techniques and develop their abilities to embrace continuous improvement through a scheduled onsite process improvement		✓	✓	✓
Various departments develop their ability to reassess milestones over multiple onsite engagements and adapt to widespread change to improve organizational processes.			✓	✓
Multiple teams or groups engage in a heavier dependence on organizational change management best practices.			✓	✓
All organizational units experience cross-sectional improvement initiatives that result in redesign of business processes.				✓

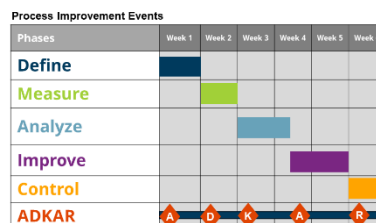
DMAIC and ADKAR Communication Example Timelines

QUICK WINS



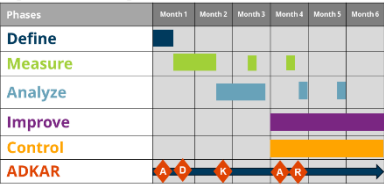
LSPCs

PIEs

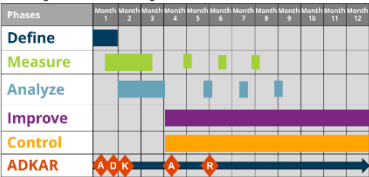


LSPC-XLs

Large Scale Process Changes



Extra-Large Scale Process Changes



Quick Win's DMAIC Checklist

☐ Define

- ☐ Project Charter
 - Develop project charter with project sponsor
 - Identify potential project team members
 - Validate team member list with project sponsor
 - Update dates and resources on project plan
 - Conduct project kick-off meeting
 - Establish roles and responsibilities with team
 - Review charter with team members
 - Finalize project charter
- ☐ Manage Stakeholders
 - Identify stakeholders
 - Develop stakeholder management plan
 - Develop communication plan
 - Review stakeholder management/communications plan with project sponsor

☐ Measure

- ☐ *Optional:* Identify measures
- ☐ Collect data (survey, interview, etc.)
- ☐ *Optional:* Display data
 - Histogram
 - Pie chart
 - Pareto chart
 - Run chart

☐ Analyze

- ☐ Analyze root cause
 - *Optional:* Fishbone
 - *Optional:* 5 Why's
 - Identify if problems are addressed by quick win
- ☐ *Optional:* Develop root cause summary
 - Identify quick win opportunities

☐ Improve

- ☐ Generate solution/quick win
 - Create solution list
 - Narrow solutions
 - Select solution
 - *Optional:* Develop to-be process map (future state)
- ☐ Determine financial impact of quick win
 - *Optional:* Cost/Benefit analysis
- ☐ Implement solution
 - Develop implementation plan
 - Develop implementation communications plan

☐ Control

- ☐ Develop process monitoring/communications plan
- ☐ *Optional:* Develop response plan

- ☐ Document new process and procedures
- ☐ Transition solution to process owner

PIE DMAIC Checklist

☐ Define

- ☐ Develop project charter
 - Draft project charter with project sponsor
 - Identify potential project team members
 - Validate team member list with project sponsor
 - Update dates and resources on project plan
 - Conduct project kick-off meeting
 - Complete team profile with project team
 - Review project charter with team members
 - Finalize project charter
- ☐ Define current process
 - Develop 1-2 of the following:
 - SIPOC map
 - As-Is process map
 - Validate map(s)
 - Finalize map(s)
 - Update project charter (if needed)
- ☐ Manage Stakeholders
 - Identify stakeholders
 - *Optional:* Develop stakeholder map
 - Develop stakeholder management plan
 - Develop project communications plan
 - Review stakeholder and communications plan with project sponsor
- ☐ *Optional:* Define “Voice of Customer/Member”
 - Identify customers/members
 - Gather needs/issues
 - Translate needs/issues into CTQs
 - Finalize and prioritize CTQs

☐ Measure

- ☐ *Optional:* Identify measures
 - What are the input measures?
 - What are the process measures?
 - What are the output measures?
- ☐ Collect Data
 - *Optional:* Develop operational definitions for measures to be collected
 - *Optional:* Develop data sampling plan
 - *Optional:* Finalize data collection plan
 - Collect data
- ☐ Describe and display data
 - Determine types of charts/graphs to be displayed
 - *Options:* Histogram, pie charts, pareto charts, run charts

☐ Analyze

- ☐ Conduct a Root Cause Analysis

- Identify potential root causes
 - *Options:* Fishbone diagram, 5 Why's diagram
- ☐ *Optional:* Perform a Lean Process Analysis
 - *Options:* Value-stream mapping, error proofing
- ☐ Document a list of potential root causes
- ☐ *Optional:* Graphical Data Analysis
 - Analyze graphical data displays for root causes (developed in measure phase)
 - Update list of potential root causes
 - Develop box plots for analyzation process
 - Develop scatter diagrams to assess correlations between root causes
- ☐ Develop list of validated root causes
- ☐ Develop a Root Cause Summary
- ☐ *Optional:* Identify potential quick-win opportunities
- ☐ **Improve**
 - ☐ Identify and select solutions
 - Generate list of potential solutions
 - Narrow and prioritize solution list
 - Select solutions
 - *Optional:* Develop To-Be Process map
 - ☐ Define the financial impact of solution implementation
 - Perform Cost Benefit analysis
 - ☐ Assess and plan for risk
 - *Optional:* Perform risk assessment
 - *Options:* FMEA, error proofing
 - Update solutions and To-Be process maps (based on FMEA results)
 - ☐ Implement Solutions
 - Develop implementation plan
 - Review and update stakeholder management plan
 - Develop implementation communication plan
- ☐ **Control**
 - ☐ Develop process monitoring plan
 - ☐ *Optional:* Develop control charts for new processes
 - ☐ *Optional:* Develop response plan
 - ☐ Document project
 - Document process and procedures
 - *Optional:* Identify opportunities for replication
 - ☐ Transition solution to process owner
 - ☐ *Optional:* Develop Project Story Board
 - Create storyboard
 - Schedule tollgate review
 - Conduct tollgate review

LSPC DMAIC Checklist

☐ Define

- ☐ Develop project charter
 - Draft project charter with project sponsor
 - Identify potential project team members
 - Validate team member list with project sponsor
 - Update dates and resources on project plan
 - Conduct project kick-off meeting
 - Complete team profile with project team
 - Review project charter with team members
 - Finalize project charter
- ☐ Define current process
 - *Options:*
 - Develop SIPOC diagram
 - Create process map
 - Validate process map with process owners/SMEs
 - Finalize process map
 - Create value stream map
 - Validate value stream map with process owners/SMEs
 - Finalize value stream map
- ☐ Update project charter (if needed)
- ☐ Manage stakeholders
 - Identify stakeholders
 - Develop stakeholder analysis
 - Develop stakeholder management plan
 - Review stakeholder analysis and management plan with project sponsor
 - Develop project communications plan and matrix
- ☐ Assess voice of customer/member
 - Identify customers/members
 - Gather input from customer/member experience
 - Document customer/member needs
 - Translate needs/issues into CTQs
 - Finalize and prioritize CTQs
- ☐ Conduct a tollgate review
 - Schedule tollgate review
 - Develop presentation
 - Conduct review

☐ Measure

- ☐ Identify measures
 - What are the input measures?
 - What are the process measures?
 - What are the input measures?
- ☐ Collect data
 - Develop operational definitions for measures to be collected
 - Develop data collection plan
 - Collect data
- ☐ Describe and display data
 - Determine charts and graphs to be displayed
 - *Options:* histogram, pie chart, pareto chart, run chart, control chart
- ☐ Determine baseline performance
 - Calculate baseline performance for the measures identified
 - Identify quick win opportunities
- ☐ Conduct a tollgate review
 - Schedule tollgate review
 - Develop presentation
 - Conduct review
- ☐ **Analyze**
 - ☐ Conduct root cause analysis
 - Identify potential root causes
 - *Options:* Fishbone, 5 Why's diagram
 - Develop list of potential root causes
 - ☐ Lean process analysis
 - Perform value-added/non-value-added analysis on current process map
 - Perform Lean analysis
 - *Options:* Value-stream mapping, error proofing
 - Develop list of potential root causes
 - ☐ Conduct graphical data analysis
 - Analyze graphical displays for root causes (developed in measure phase)
 - *Optional:* Stratify data
 - Update list of potential root causes
 - Develop box plots to analyze root causes
 - *Optional:* Develop multi-vari charts to analyze root causes
 - *Optional:* Develop scatter diagrams to assess correlation between root causes
 - Develop list of validated root causes
 - ☐ *Optional:* Conduct a statistical data analysis
 - Determine types of hypothesis tests to use to validate root causes
 - Perform hypothesis tests
 - Update list of validated root causes
 - ☐ Identify root causes
 - Develop Root Cause Summary
 - Identify potential quick win opportunities
 - ☐ Conduct a tollgate review

- Schedule tollgate review
- Develop presentation
- Conduct review

❑ Improve

- ❑ Identify and select solutions
 - Generate list of potential solutions
 - Narrow and prioritize list of solutions
 - Select solutions
 - Develop To-Be process map
- ❑ Identify financial impact of solutions
 - Perform cost benefit analysis for solutions selected
 - Update solutions and To-Be process maps
- ❑ Assess and plan for risk
 - Perform risk assessment for final solutions
 - FMEA and/or error proofing
 - Update solutions and To-Be process map
 - Develop pilot plan for To-Be process map
 - Conduct pilot
 - Confirm pilot results
 - Update solutions and To-Be process map
- ❑ Implement solutions
 - Develop implementation plan
 - Review/update stakeholder map
 - Review/update stakeholder management plan
 - Develop implementation communication plan
 - Develop project storyboard
- ❑ Conduct a tollgate review
 - Schedule tollgate review
 - Develop presentation
 - Conduct review

❑ Control

- ❑ Develop process monitoring plan
- ❑ Develop control charts for new processes
- ❑ *Optional:* Develop dashboard for new processes
- ❑ Develop a response plan
- ❑ Document project
 - Develop process and procedures documentation
 - Identify opportunities for replication
 - Develop final project storyboard
 - Transition solution to process owner
- ❑ Final Tollgate review
 - Schedule tollgate review
 - Develop tollgate review presentation
 - Review tollgate with
 - Conduct tollgate review
 - Update tollgate review presentation (as needed)

-
- Celebrate success (project completed)

LSPC-XL DMAIC Checklist

☐ Define

- ☐ Develop project charter
 - Draft project charter with project sponsor
 - Identify potential project team members
 - Validate team member list with project sponsor
 - Update dates and resources on project plan
 - Conduct project kick-off meeting
 - Complete team profile with project team
 - Review project charter with team members
 - Finalize project charter
- ☐ Define current process
 - Develop SIPOC diagram
 - Create process map
 - Validate process map with process owners/SMEs
 - Finalize process map
 - Create value stream map
 - Validate value stream map with process owners/SMEs
 - Finalize value stream map
- ☐ Update project charter
- ☐ Manage stakeholders
 - Identify stakeholders
 - Develop stakeholder analysis
 - Develop stakeholder management plan
 - Review stakeholder analysis and management plan with project sponsor
 - Develop project communications plan and matrix
- ☐ Assess voice of customer/member
 - Identify customers/members
 - Gather input from customer/member experience
 - Document customer/member needs
 - Translate needs/issues into CTQs
 - Finalize and prioritize CTQs
- ☐ Conduct a tollgate review
 - Schedule tollgate review
 - Develop presentation
 - Conduct review

☐ Measure

- ☐ Identify measures
 - What are the input measures?
 - What are the process measures?
 - What are the output measures?
- ☐ Collect data
 - Develop operational definitions for measures to be collected
 - Develop data collection plan

- Collect data
- ❑ Describe and display data
 - Determine charts and graphs to be displayed
 - *Options:* histogram, pie chart, pareto chart, run chart, control chart
- ❑ Determine baseline performance
 - Calculate baseline performance for the measures identified
 - Identify quick win opportunities
- ❑ Conduct a tollgate review
 - Schedule tollgate review
 - Develop presentation
 - Conduct review
- ❑ **Analyze**
 - ❑ Conduct root cause analysis
 - Identify potential root causes
 - *Options:* Fishbone, 5 Why's diagram
 - Develop list of potential root causes
 - ❑ Lean process analysis
 - Perform value-added/non-value-added analysis on current process map
 - Perform Lean analysis
 - *Options:* Value-stream mapping, error proofing
 - Develop list of potential root causes
 - ❑ Conduct graphical data analysis
 - Analyze graphical displays for root causes (developed in measure phase)
 - Stratify data
 - Update list of potential root causes
 - Develop box plots to analyze root causes
 - *Optional:* Develop multi-vari charts to analyze root causes
 - Develop scatter diagrams to assess correlation between root causes
 - Develop list of validated root causes
 - ❑ *Optional:* Conduct a statistical data analysis
 - Determine types of hypothesis tests to use to validate root causes
 - Perform hypothesis tests
 - Update list of validated root causes
 - ❑ Identify root causes
 - Develop Root Cause Summary
 - Identify potential quick win opportunities
 - ❑ Conduct a tollgate review
 - Schedule tollgate review
 - Develop presentation
 - Conduct review
- ❑ **Improve**
 - ❑ Identify and select solutions
 - Generate list of potential solutions
 - Narrow and prioritize list of solutions
 - Select solutions

- Develop To-Be process map
- ❑ Identify financial impact of solutions
 - Perform cost benefit analysis for solutions selected
 - Update solutions and To-Be process maps
- ❑ Assess and plan for risk
 - Perform risk assessment for final solutions
 - FMEA and/or error proofing
 - Update solutions and To-Be process map
 - Develop pilot plan for To-Be process map
 - Conduct pilot
 - Confirm pilot results
 - Update solutions and To-Be process map
- ❑ Implement solutions
 - Develop implementation plan
 - Review/update stakeholder map
 - Review/update stakeholder management plan
 - Develop implementation communication plan
 - Develop project storyboard
- ❑ Conduct a tollgate review
 - Schedule tollgate review
 - Develop presentation
 - Conduct review
- ❑ **Control**
 - ❑ Develop process monitoring plan
 - ❑ Develop control charts for new processes
 - ❑ Develop dashboard for new processes
 - ❑ Develop a response plan
 - ❑ Document project
 - Develop process and procedures documentation
 - Identify opportunities for replication
 - Develop final project storyboard
 - Transition solution to process owner
 - ❑ Final Tollgate review
 - Schedule tollgate review
 - Develop tollgate review presentation
 - Review tollgate with
 - Conduct tollgate review
 - Update tollgate review presentation (as needed)
 - Celebrate success (project completed)

Template Resources