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.

Phase One

DEFINE

Identify problems and requirements

Phase 1 involves understanding and defining the problems or areas for improvement. This stage requires the creation of a project chart 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 a 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

DMAIC is a common Lean Six Sigma Problem Solving Methodology

Phase Two

MEASURE

Measure current performance

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

Phase Three

ANALYZE

Identify the root cause for performance shortfalls

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

Phase Four

IMPROVE

Identify and implement solutions

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 Kaizen events 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
- A budget

Phase 4 Checklist:

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

Phase Five

CONTROL

Monitor new processes or products

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

Considerations for Right-sizing

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

Project Timeframe

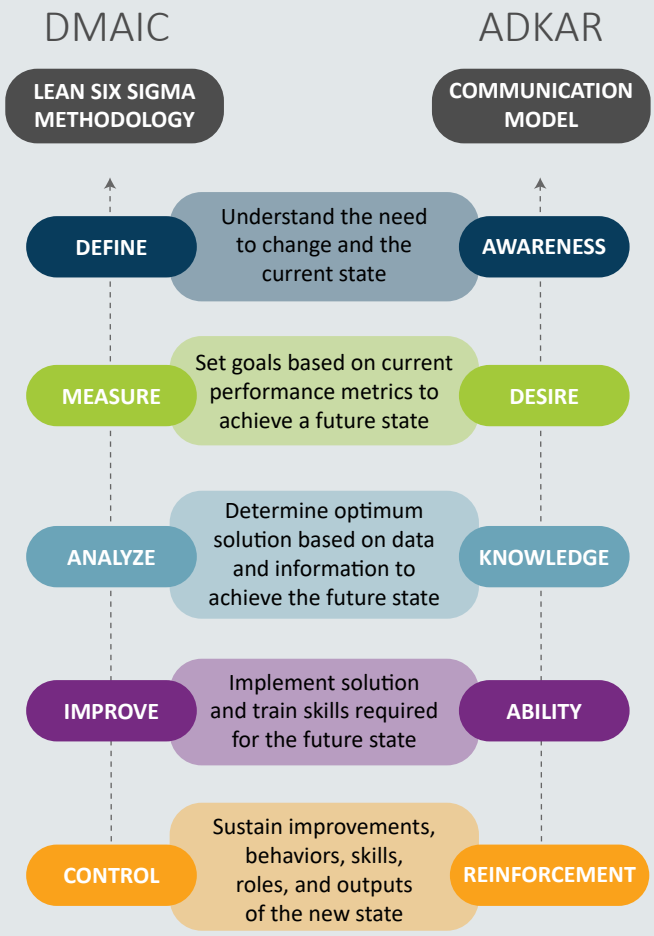
The total time it takes to complete the project from start to finish.

Number of Sectors Impacted

Quantity of work sectors impacted; work sectors highlighted include systems, operations, training, and culture.

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.



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?

Right-sizing Improvement Processes

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

Outcomes	Quick Wins	PIEs	LSPCs	XLSPCs
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