

DMAIC Field Guide®

An Easy To Use, Comprehensive Reference For
Completing Successful Lean Six Sigma Projects



What Is The DMAIC Field Guide?

- ♦ A print-ready overview of the DMAIC Phases and the Steps within each Phase
- ♦ Challenges common in each Phase and tools & templates to help you overcome them
- ♦ Best Practices for each Phase to help ensure your projects go smoothly
- ♦ Tollgate Checklists for each Phase to help ensure you're on the right track

Why Should You Use The DMAIC Field Guide?

- ♦ Quickly review what it takes to complete each Phase of DMAIC at a glance
- ♦ Easily understand which tools & templates to use and when to use them
- ♦ Streamline projects using tips that make improvement easier and faster

How Do I Use The DMAIC Field Guide?

1. **Plan** a high-level approach for each DMAIC Phase
2. **Create** detailed action plans to address the Challenges for each Phase
3. **Employ** Best Practices to take advantage of proven approaches
4. **Create** a timeline with milestones using Tollgate Checklists
5. **Download** Tools & Templates needed for each task



DEFINE

Define the problem.

Steps In Define Phase

1



Create The Project Charter

2



Interpret The Voice Of The Customer

3



Understand The Current State

4



Develop Project Communication

Challenges In Define Phase

Have you mastered these Define Phase Challenges?

- ♦ Getting commitment from sponsors and team members
- ♦ Getting agreement of what problem to solve
- ♦ Not starting with a solution
- ♦ Involving the right people early enough in the process
- ♦ Spending the time needed on the Define Phase elements

Best Practices In Define Phase

Have you considered these proven methods?

- ♦ Getting commitment from sponsors and team members
- ♦ Getting agreement of what problem to solve
- ♦ Not starting with a solution
- ♦ Involving the right people early enough in the process
- ♦ Spending the time needed on the Define Phase elements (Phase Steps, Tollgate Checklist)

Tollgate Checklist For Define Phase

Have you completed these Steps for the Define Phase?

- ☐ Complete the elements of the Project Charter ([Project Selection Tool](#), [RACI](#), [Project Charter](#), [A3](#))
- ☐ Collect the Voice of the Customer and make customer requirements measurable ([VOC Translation Matrix](#))
- ☐ Create a high level map of the current state ([SIPOC](#), [Process Walk Interview Sheet](#), [Swimlane Process Map](#))
- ☐ Update charter and inform stakeholders ([Project Charter](#), [A3](#), [Stakeholder Analysis](#), [Stakeholder Analysis, Communication Plan](#), [Project Storyboard](#))

Check each box above and/or cross off each Step to the left to mark your progress!



MEASURE

Quantify the problem.

Steps In Measure Phase

1



Select Measures

2



Plan For Data Collection

3



Collect Baseline Data

Challenges In Measure Phase

Have you mastered these Measure Phase Challenges?

- ♦ Getting support and coordination from others in order to capture data
- ♦ Planning data collection to minimize work and disruption
- ♦ Capturing data that addresses your information needs
- ♦ Becoming overwhelmed with data when only some will be helpful
- ♦ Translating what you want to know into something observable unambiguous
- ♦ Determining measures that can be continuously captured in order to manage the future process

Best Practices In Measure Phase

Have you considered these proven methods?

- ♦ Choose just the measures you need – don't collect the kitchen sink
- ♦ Make sure everyone knows what and how to measure – never assume
- ♦ Stratify early – unit by time of day, unit by processor, unit by area etc.
- ♦ Let stakeholders know what and why you're measuring – communicate often

Tollgate Checklist For Measure Phase

Have you completed these Steps for the Measure Phase?

- ☐ Select baseline measures ([Project Charter](#), [A3](#), [Data Collection Plan](#), [Effectiveness & Efficiency Matrix](#))
- ☐ Develop a data collection plan with Operational Definitions and create data sheets if needed ([Data Collection Plan](#), [Operational Definitions](#), [COPQ Calculator](#))
- ☐ Collect the baseline data ([Process Walk Interview Sheet](#), [RACI](#))
- ☐ Update charter and inform stakeholders ([Project Charter](#), [A3](#), [Communication Plan](#))



ANALYZE

Identify the cause
of the problem.

Steps In Analyze Phase

1



**Conduct
Process
Analysis**

2



**Conduct
Data
Analysis**

3



**Brainstorm
Root Causes**

4



**Develop Root
Cause
Hypothesis**

5



**Validate Root
Cause
Hypothesis**

Challenges In Analyze Phase

Have you mastered these Analyze Phase Challenges?

- ✦ Spending the time needed to explore root causes
- ✦ Getting caught up in analysis paralysis
- ✦ Jumping to solution without confirming root cause hypothesis
- ✦ Collecting the right data to confirm or validate hypothesis

Best Practices In Analyze Phase

Have you considered these proven methods?

- ✦ Fill out the Fishbone with a group - it's another opportunity for engagement
- ✦ Use all opportunities to get to root cause - data, observations, interviews, maps etc.
- ✦ Document the verification of root cause even if it's just an observation
- ✦ Update Stakeholders on all findings - communicate often

Tollgate Checklist For Analyze Phase

Have you completed these Steps for the Analyze Phase?

- ☐ Identify root causes using Process Maps, 5 Why's, or Fishbone Diagram ([Fishbone Diagram](#), [Value Stream Map](#), [Swimlane Map](#), [Value Cycle Time Analysis](#))
- ☐ Develop root cause hypothesis ([Fishbone Diagram](#), [Root Cause Hypothesis Worksheet](#))
- ☐ Collect data to prove or disprove root cause hypothesis ([Data Collection Plan](#))
- ☐ Update your charter and inform stakeholders ([Project Charter](#), [A3](#), [Stakeholder Analysis](#), [Communication Plan](#))



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IMPROVE

Implement and
verify the solution.

Steps In Improve Phase

1



**Craft
Solutions**

2



**Filter
Solutions**

3



**Determine
Solution
Approaches**

4



**Conduct Risk
Management**

Challenges In Improve Phase

Have you mastered these Improve Phase Challenges?

- ✦ Making sure to involve the RIGHT people
- ✦ Increasing workload if there are multiple root causes
- ✦ Avoiding “pet” solutions that many not address any root cause
- ✦ Resistance may increase when people realize their area will undergo change

Best Practices In Improve Phase

Have you considered these proven methods?

- ✦ Invite stakeholders to brainstorm solutions – another opportunity for engagement
- ✦ Steal shamelessly – review common solutions or find who else has solved the issue
- ✦ Conduct a 5S if you have not already – physical, digital or both for easy wins
- ✦ Make it easy for people to follow the new process – use visuals and Poka Yokes

Tollgate Checklist For Improve Phase

Have you completed these Steps for the Improve Phase?

- ☐ Use team brainstorming to generate solutions that address the root causes ([Weighted Criteria Matrix](#))
- ☐ Run a pilot of the solutions if needed ([FMEA](#), [Stakeholder Analysis](#))
- ☐ Implement solutions to address root causes ([Impact Effort Matrix](#), [Cross Training Matrix](#))
- ☐ Celebrate with the team and recognize them for their efforts ([Project Charter](#), [A3](#), [Communication Plan](#))



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CONTROL

Maintain the solution.

Steps In Control Phase

1



Create Monitoring Plans

2



Develop Response Plans

3



Document The Project

4



Pursue Perfection

Challenges In Control Phase

Have you mastered these Control Phase Challenges?

- ✦ Making sure improvements are permanent before team members move on to “fixing” another process
- ✦ Standardizing the documentation
- ✦ Continuing the monitoring necessary to ensure adherence to the new process
- ✦ Maintaining the discipline required to complete the Control Phase

Best Practices In Control Phase

Have you considered these proven methods?

- ✦ Make monitoring visible and accessible to those who do the work
- ✦ Include process participants in monitoring – hand-drawn charts & tables are fine
- ✦ Don't leave key pieces out of the Storyboard – check that it tells the “story”
- ✦ Include the Process Owner in the Control Plan well in advance of handoff

Tollgate Checklist For Control Phase

Have you completed these Steps for the Control Phase?

- ☐ Create a system and/or process to monitor the results ([Control Plan](#), [Monitoring Plan](#))
- ☐ Complete Documentation of the processes and procedures ([New Procedure Audit](#), [Project Storyboard](#), [A3](#))
- ☐ Create Response Plans in case there is a drop in performance ([Response Plans](#))
- ☐ Hand over formal ownership to the process owner ([A3](#), [Control Plan](#), [Monitoring Plan](#), [Response Plan](#), [New Procedure Audit](#), [Project Storyboard](#))



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