

Lean Six Sigma Project Flow: Adapting Lean to DMAIC

Question Levels 1 to 2		Tool/Resource
Do you fully understand the severity and scope of the problem?		
Define	Can you clearly define the problem and its potential impact to the organization?	CTQ Drilldown, Problem Statement, Project Scope, Project Financial Savings, Pre-Assessment (Min/Max Analysis)
	Do you have a team that agrees with the project focus?	Stakeholder Analysis (ARMI), Buy-In/Sponsorship (CAP model)
	Do you understand the high-level process related to the problem?	High-level Process Map, SIPOC
	Do you have a method for communicating the project information?	Project Charter, Project Storyboard
OUTPUTS: Project Storyboard, Charter, CTQ Drilldown, ARMI, SIPOC, High-Level Process Map, and Benefits Pre-Assessment.		

Do you understand the flow and capability for the current process?		
Measure	Do you know what time/cost metric reflects the output described by the problem statement?	Takt Time, First Time Yield (FTY), Rolled Throughput Yield (RTY)
	Have you identified all potential input>process>output opportunities according to the flow, accuracy and timeliness perspectives?	IPO-FAT Model
	Have you mapped out the flow of the As-Is process including sub-processes leading to (inputs) and coming from (outputs) the target process?	Detailed Process Map, Value Stream Map (VSM)
	Do you know if your process maps and collected data are accurate, repeatable and reproducible?	Measurement System Analysis (MSA)
OUTPUTS: Updated Project Storyboard, As-Is Process Map, As-Is Value Stream Map (VSM).		

Do you know what are the non-value-added or wasteful steps in the process?		
Analyze	Have you reviewed the process map(s) to identify all Non-Value-Added (NVA) & Value-Added (VA) steps?	7 Deadly Wastes, VA & NVA steps, Work-in-Process (WIP), Spaghetti Diagram
	Have you identified any steps in the process where 5S is not used?	5S Program
	Have you identified any push flows or batch processing in the process?	Push vs. Pull, Batch Processing vs. One-Piece Flow
	If enough data is available, have you applied statistical tools to measure the input, flow and output of sub-processes that could reveal additional areas of waste?	Six Sigma Hypothesis Testing
OUTPUTS: Updated Project Storyboard, identification of all VA and NVA process steps.		

Do you have a new streamlined process design that will resolve the process problem?		
Improve	Have you mapped out the flow of a new To-Be process including sub-processes leading to (inputs) and coming from (outputs) the target process?	Detailed Process Map, Value Stream Map (VSM)
	Do you know the level of rewards (value) and risk expected from the new To-Be process?	Impact Matrix (PICK chart), FMEA
	Did you pilot the new To-Be process and get successful results?	Pilot/Implementation Plan, Pilot Duration, Scorecard, MSA
OUTPUTS: Updated Project Storyboard, To-Be Process Map or VSM, data/charts (e.g., scorecard) validating success of the pilot.		

Does the new process resolve the original problem and will it be sustained?		
Control	Did you implement the new To-Be process?	FMEA, Pilot/Implementation Plan, Scorecard, MSA
	Did you optimize the new To-Be process with controls and visual queues?	5S Program, Kanban System, Poke-Yoke
	Are the improvements successfully meeting expected results (sustained and in control)?	Control Charts
	Did you fully transfer control and responsibility of the improvements to the process owner?	SOPs, Control Plan
	Does the team (including the Sponsor & Champion) agree the project is complete?	Project Closure, Sponsorship
OUTPUTS: Updated final project storyboard, control plan, SOP, agreement from entire team that the project is complete.		