PDCA DMAIC 7–STEP PERFORMANCE IMPROVEMENT CROSSWALK

PDCA	DMAIC	Improvement Step	Objectives and Checkpoints	Tools	Techniques
PLAN	Define and Measure	STEP 1 Reason for Improvement	*Objective: Demonstrate the Importance of Improvement needs in measurable terms.* 1. Identify the stakeholder and need. 2. Develop an Indicator measuring our performance in meeting the need. 3. Select a theme statement consistent with the Indicator. 4. Develop a schedule for completing the seven improvement steps.	▪ Bar Graph, Line Graph, Pie Chart ▪ Checksheet ▪ Control Chart ▪ Histogram	▪ Brainstorming ▪ Consensus ▪ Multivoting ▪ Process Flow Chart ▪ Project Planning Worksheet ▪ Survey-Interview ▪ Theme statement
		STEP 2 Current Situation	*Objective: Investigate the features of the theme, select a problem, and establish a target for improvement* 5. Stratify the theme from various viewpoints and choose a significant problem. 6. Establish a target for Improvement based on the stakeholder's need. 7. Determine the Impact of the target on the theme Indicator. 8. Develop a problem statement that addressed the gap between the actual and target values.	▪ Bar Graph, Line Graph, Pie Chart ▪ Checksheet ▪ Histogram ▪ Pareto Chart	▪ Problem Statement ▪ Process Flow Chart
	Analyze	STEP 3 Analysis	*Objective: Analyze the problem to Identify and verify its primary root causes.* 9. Take cause and effect analysis to the root level. 10. Select potential causes most likely to have the greatest impact on the problem 11. Verify the relationship between the root causes and the problem with data. 12. Determined the impact of each root causes on the gap.	▪ Cause & Effect Diagram ▪ Checksheet ▪ Histogram ▪ Pareto Chart ▪ Scatter Diagram	▪ Brainstorming ▪ Multivoting ▪ Nominal Group Technique
DO	Improve	STEP 4 Counter-measures	*Objective: Develop and Implement countermeasures to eliminate the verified root causes of the problem.* 13. Select countermeasures to address verified root causes. 14. Use a method for selecting the appropriate practical methods that is clear and considers effectiveness and feasibility. 15. Determine barriers and aids for practical methods worth implementing. 16. Develop an action plan that includes accountability and schedule.		▪ Action Plan ▪ Barriers and Aids ▪ Brainstorming ▪ Corrective Actions Matrix ▪ Cost–Benefit Analysis ▪ Mutivoting
CHECK	Improve	STEP 5 Results	*Objective: Confirm that the countermeasures taken Impacted the root causes, the problem, and the theme.* 17. Demonstrate the effect of countermeasure on the root causes. 18. Demonstrate the effect of countermeasures on the problem. 19. Present results to show that the improvement target was achieved and causes of significant variation were addressed. 20. Demonstrate the effect of countermeasures on the theme indicator representing the stakeholder's need.	▪ Bar Graph, Line Graph, Pie Chart ▪ Checksheet ▪ Control Chart ▪ Histogram ▪ Pareto Chart	▪ Action Plan ▪ Procedure ▪ Process Flow Chart ▪ Process Management System ▪ Standards ▪ Training
ACT	Control	STEP 6 Standardization	*Objective: Maintain and share the gains.* 21. Establish a method to document, permanently change, and communicate the revised process or standards. 22. Assign responsibility and schedule periodic checks to ensure compliance with the revised process or standards. 23. Identify specific areas for replication.	▪ Bar Graph, Line Graph, Pie Chart ▪ Control Chart	▪ Action Plan ▪ Process Flow Chart
	Recognize, Review and Refocus	STEP 7 Future Plans	*Objective: Evaluate the team's effectiveness and plan future activities.* 24. Address any remaining problems of the theme 25. Identify and disseminate lessons learned.		▪ Action Plan

Adapted From: Quality Improvement Story® Competitive Technologies, Inc.