

## Define / Measure Data Collection Process Steps

Step	Output	Tool	Tips
<b>1. Plan and Measure Performance Against Customer Requirements</b>	Document your teams data collection decisions	Measurement Planning Worksheet	Use this sheet to document the following tools as they are used.
<b>2. Select What to Measure</b>	At least on target measure linked to the project problem and goal (Y)	CTQ Tree Instructions	Links measures to important outcomes (critical to quality)
	One or more target predictors (X's)	Stratification Factor Sheet	Allows you to "slice and dice" the data by factors such as region, state, shift, press, day of week, etc. <b>YOU MUST GATHER THE STRATIFICATION DATA AT THE SAME TIME AS THE MAIN DATA.</b>
	An idea of where you will gather the data and whether the data is available and feasible to be collected	Measurement Assessment Tree	Makes a clear connection between what you are trying to accomplish and what data will help you get there.
<b>3. Develop Operational Definitions</b>	A clear detailed description of what is being measured	Operational Definition Worksheet	Definition: A clear, understandable description of what is to be observed and measured so that different people taking or interpreting data will do so consistently.
<b>4. Identify Data Sources</b>	Decision on whether to collect new data or rely on historical; Validate ability to access data	N/A	Historical data can be handy unless: (1) it was collected for reasons other than improvement; (2) it was collected using different definitions and methods than what your team has developed; (3) the data is structured in a way that is hard to apply to your needs (e.g. no stratification factors).
<b>5. Prepare a Data Collection and Sampling Plan</b>			

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Identify or confirm the stratification factors	List of stratification factors potentially important to your project	N/A	
Develop a sampling scheme	Completed sampling plan	Sample Definition and Sampling Worksheets	You don't have to look at the whole population to see what the process is doing - you can take samples using a carefully thought out plan.
Create data collection forms	Complete data collection forms	Checksheets	
<b>6. Implement and Refine the Measurement Process</b>			
Review and finalize your data collection plans	Data meets your data collection priorities; Data was sampled according to your plan; Data is accurate, repeatable, reproducible and reliable	N/A	Determine how you will assess the accuracy and reliability of the data you and your team collect. Observe and correct any variations encountered. Keep in mind the following factors: Accuracy, Repeatability, Reproducibility and Stability.
Prepare the workplace		N/A	Explain what the team is doing to everyone connected with the data collection.
Test you data collection procedures		N/A	Choose you initial data collectors well. Pick those who will do a good job and give you good feedback. DON'T MAKE DATA COLLECTION A REWARD OR PUNISHMENT. Gather the data manually at first - don't make up an elaborate electronic system. You might be adding hidden factory that will hard to get rid of later.
Collect the data		N/A	Implement your plans. Stop collecting data at an appropriate point in your process (e.g. when you are done with the Control Phase and know what continual data collection is needed to monitor the process).
Monitor accuracy and refine the procedures as needed		N/A	Monitor the procedures and devices and correct as needed.