## Black Belt Level DMAIC Certification Checklist

### Define
- Defines why and how we are doing this project. Describes current situation, CBA & validated customer requirements.

### Measure
- Produces data on system / process performance related to customer requirements. Establishes validity of measurement system.

### Analyze
- Develops statistical and graphical analysis of data and identifies problem root cause(s).

### Improve
- Creates, test and validates improvements to reduce or eliminate validated root causes to achieve target performance.

### Control
- Implements solutions, validates financial benefits and initiates plan for controlling new performance level.

### Required Deliverables
- Project Charter
- MBGPP
- COPQ
- Cost Benefit Analysis
- Project FMEA
- Stakeholder Analysis
- Communication Plan
- Baseline Metrics
- Current Process Maps
- NVA Analysis
- SIPOC
- CTCs Identified
- Define Phase Review
- Score

### Required Deliverables
- Data Collection Plan
- C&E Matrix
- Control/Impact Matrix
- Prioritization Matrix
- MSA or Gage R&R
- Measure Phase Review
- Score

### Required Deliverables
- Normality, Stability
- Capability Analysis
- Graphical Analysis
- Statistical Analysis
- Hypothesis Testing
- Correlation / Regression
- Main Effects
- Identify & Validate Root Causes
- Analyze Phase Review
- Score

### Required Deliverables
- Control/Impact Matrix
- Prioritization Matrix
- Validated Solutions
- FMEA (Process)
- Pilot Solutions
- Hypothesis Test
- Improve Phase Review
- Score

### Required Deliverables
- Implementation Plan
- FMEA (Process)
- New Process CPK
- SPC
- Control Plan
- Benefit Validation
- Executive Summary
- Score

### Delighters
- MSE
- Sampling Plan
- Score

### Delighters
- Central Limit Theorem
- Data Transformation
- Takt Time / Rate
- RTY
- Multi-vari Studies
- Equal Variance Test
- Score

### Delighters
- TRIZ
- DOE
- Simulation Model
- VSM,
- Poka-Yoke,
- 5S’s
- Kanban, VM
- QFD

### Delighters
- RTY
- Score

### Presentation Skills
- P1. Ability to clearly articulate and present project

### Leadership Skills
- L1. Demonstrated ability to identify and overcome barriers to success

### Other Comments
- O1. Any other comments or concerns about the candidate and their presentation?

---

Instructions: Please place an X in the corresponding Required Deliverable & Delighter record columns. See back for scoring instructions
1 = Minimal grasp and application of tool / methodology
3 = Understands and properly applies tool / methodology
5 = Demonstrates proper application and can teach tool / methodology
Black Belt Level DMAIC Certification Checklist

Instructions: Please place an X in the corresponding Required Deliverable & Delighter record columns on the other side.

<table>
<thead>
<tr>
<th>Required Deliverable</th>
<th>1 = Minimal grasp and application of tool / methodology</th>
<th>3 = Understands and properly applies tool / methodology</th>
<th>5 = Demonstrates proper application of tool / methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidate is presenting their Project Charter to the CRB</td>
<td>1 = Charter not complete with basic information and / or poorly written business case, problem statement, goal etc. Solutions are stated in the business case, problem statement or goal.</td>
<td>3 = Charter completed correctly with 4w &amp; 1h, SMART goal, concise business case, CBA and baseline metrics (CPk, DPMO or Sigma level)</td>
<td>5 = All requirements for a 3 plus additional information. DFO CBA buyoff, SPC charts and additional information.</td>
</tr>
<tr>
<td>Candidate presents baseline metrics</td>
<td>1 = No baseline metrics in Charter</td>
<td>3 = CPk, DPMO or Sigma</td>
<td>5 = Requirements for a 3, plus RTY, VAT, Takt, standard deviation and / or target mean and variance reduction (spread &amp; centering).</td>
</tr>
<tr>
<td>Candidate presents Measurement System Analysis</td>
<td>1 = No MSA, Gage R&amp;R or MSE</td>
<td>3 = MSA, Gage R&amp;R or MSE performed on a critical X</td>
<td>5 = MSA, Gage R&amp;R or MSE performed on all critical X’s</td>
</tr>
<tr>
<td>Candidate is presenting correlation or regression</td>
<td>1 = Wrong X or Y and / or mis-interpretation of results</td>
<td>3 = Correct use and interpretation of tool and results. Demonstrates basic use and stops deeper dive into results (segmentation, further analysis etc.)</td>
<td>5 = Meets requirements for a 3, plus additional deeper dive and analysis of results (further test, investigation, segmentation, DOE, Main Effects, Multi-vary etc.)</td>
</tr>
</tbody>
</table>

Scoring Examples:

Candidate must receive a minimum 80% score in each of the DMAIC Required Deliverable phases to pass the Certification Review Board. In addition to the required 80% score, candidates must receive a minimum score of 22 in the Delighters. The Delighters can be a cumulative score across all DMAIC phases.

Minimum scores for each Required Deliverable phase are as follows: D = 52, M = 24, A = 36, I = 28, C = 28 for a minimum total of 168 (210 max possible).

Additional 20% cumulative Delighter score of 22 or higher is required for CRB certification. Maximum score possible is 110.