# DMAIC - Root Cause Investigation Template

| Investigation Ref #: | | Lot No./s: | | Date: | | Place: | |
|---|---|---|---|---|---|---|---|
| Item Code: | | Process/Area Name: | | Participants (SMEs): | | | |

## Step 1: DEFINE (PROBLEM DEFINITION)

Use the following questions to define the problem, its history and to outline any work that has been done.

| | |
|---|---|
| **What** is the problem / incident? [Write what actually happened] | |
| **When** did it happen? [Date and time] | |
| **Where** did it happen? [Where exactly on the process / machine, STEP – be specific] | |
| **Who** was working when the incident discovered? [Enter roles who found the incident] | |
| **What** was done immediately to fix the problem? [Include briefly the actions taken and by whom?] | |
| **How long** did it take to fix the problem? [Include lost time] | |
| **Has** this happened before? [Enter date, time, deviation ref.] | |
| **What actions** were taken before? [If known issue] | |

## Step 1: DEFINE / MEASURE

Use the below space to draw a brief process map to UNDERSTAND activities. Mark possible areas where the deviation / incident discovered.

Example

New Raw materials received

↓

Samples taken for QC

↓

All samples meet tests? — Reject / No

↓

QA review of C of A, documentation

↓

C of A meet specs — Reject / No

↓

New Raw material

## Step 3a: ANALYSIS (PROCESS ANALYSIS)

Think about the process according to the questions below.

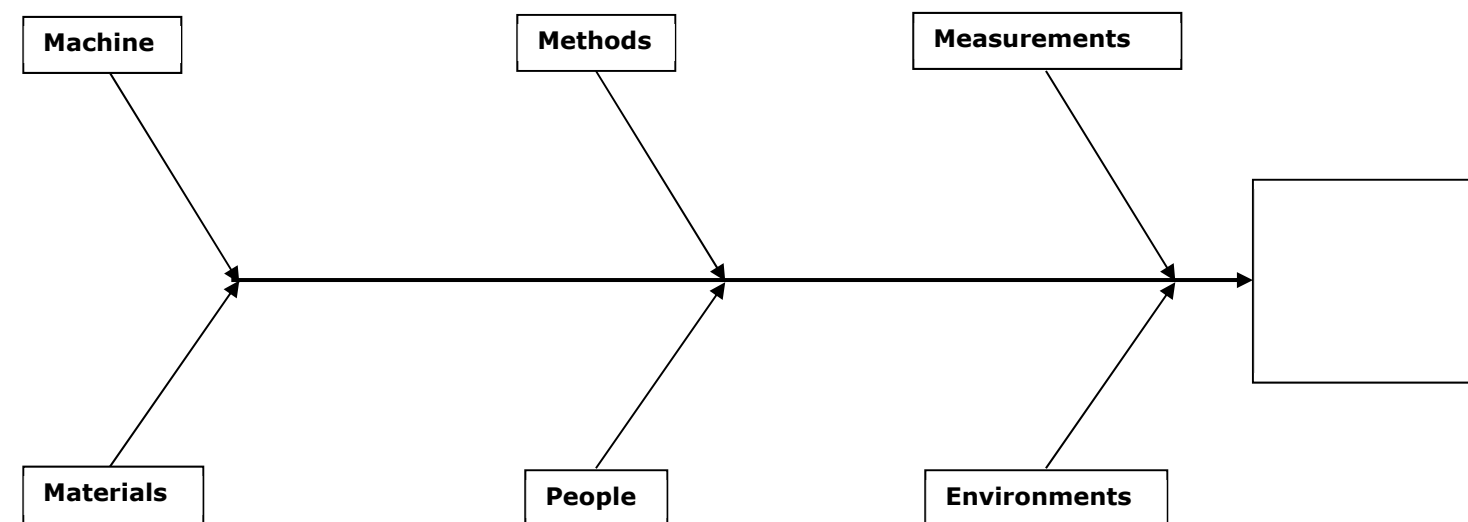| | |
|---|---|
| Significant changes to the process [Have any change been made recently?] | |
| List all process controls [Are those effective in place?] | |

**Prepared By:**

| Prepared by: | |
|---|---|
| Authorised by (Dept Manager) | |

## Step 3b: ANALYSIS (CAUSE & EFFECT)

Put the problem statement in the fish 'Head' and brainstorm possible causes.

Machine    Methods    Measurements

Materials    People    Environments

# Root Cause Investigation Template

List the most likely causes from the fishbone, keep asking 'Why'? and drill down to the real root cause. * If found beneficial include a Pareto analysis separately to show the fewest (20%) most significant causes which have been causing the highest (80%) level of effects.

| Potential Causes | WHY? | WHY? | WHY? | WHY? | WHY? | Solution |
|---|---|---|---|---|---|---|
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## Step 4: IMPROVE (EVALUATE SOLUTIONS)

Put your solutions into the matrix based on benefit and difficulty.

| Stars (high benefit; low difficulty) | Extra Effort needed (high benefit; high difficulty) |
|---|---|
| | |
| Quick Wins (low benefit; low difficulty) | Forget It! (low benefit; high difficulty) |
| | |

## Step 5: IMPROVE / CONTROL (IMPLEMENT SOLUTIONS)

Plan the implementation of the solutions in the matrix on the left.

| Solutions | Party Responsible | Priority | Target dates |
|---|---|---|---|
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| | | | |

# Root Cause Investigation Template

## Revision history

| Date | Replaces | Writer | Role | Change | Reason for change |
|------|----------|--------|------|--------|-------------------|
|      |          |        |      |        |                   |
|      |          |        |      |        |                   |