

Title: Toyota Problem Solving A3 Format

VP	GM	AGM	MGR	AM	Consult	Orig

1. Clarify the Problem

This area should communicate what the gap between the current situation and the ideal situation is.

2. Break down the problem

Break down the problem.
Specify the problem to solve.
See process through Genchi Genbutsu.

3. Target Setting

Set measurable, concrete and ambitious target.
Be specific (how much, who, and by when).

4. Cause Analysis

Consider as many potential cause factors, without prejudice or preconception.
Continually ask why (based on facts).
Specify root cause.

5. Develop Countermeasures

Develop as many C/Ms as possible.
Narrow down to practical and effective.
Build consensus with others.

6. See Countermeasure through (Implementation)

Assess overall results from different viewpoints.
Understand factors behind success or failure.
Implementation plan: what, who, when, where.

7 and 8 Monitor Results, Standardize Successful processes, Yokoten

Consider viewpoints: yours, customer's, corporation's
Standardize and Yokoten
Begin next round of Kaizen

Your Name and Date

PROBLEM SOLVING GUIDE

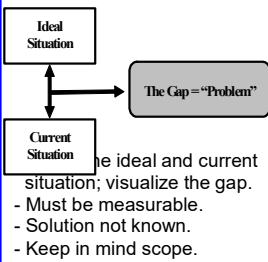
1. Identify The Problem

P D C A

a. Brainstorm a list & prioritize, or



b. Start w/ a pre-determined problem.



Theme Selection Chart						
Proposed Theme	Will it make the work easier?	Vested interest-How many TM's are impacted?	Can we solve it by ourselves?	Can we complete it in 6 months?	What will happen if the problem is not solved?	What will be the benefit to the team?
1. No	1. None	1. Cannot do	1. Cannot do	1. No change	1. Cost	1. Productivity
2. Easier	2. Less than 50%	2. Ask for help	2. Can do	2. Worse gradually	2. Quality	2. Safety
3. Much Easier	3. More than 50%	3. Can do	3. Can do	3. Worse suddenly	3. Cost	3. Productivity
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4. Determine The Root Cause

P D C A

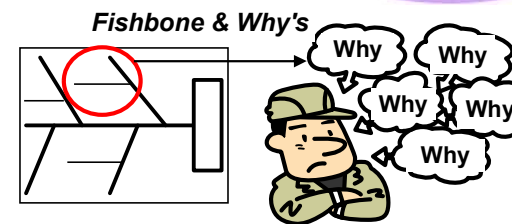
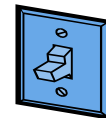
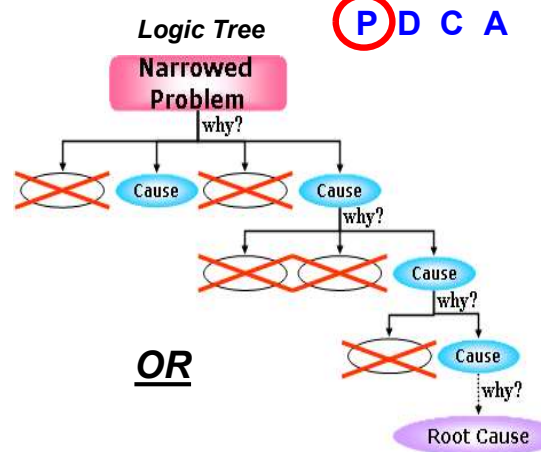
- Brainstorm potential causes for the narrowed down problem (why).

- Come to consensus on one or two high potential causes (direct cause).

- Go and see or collect data to verify if direct cause is true. If not true, go to next direct cause.

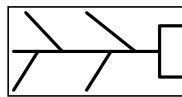
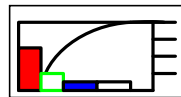
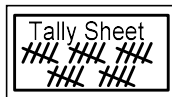
- Apply 5-whys to pursue root cause, investigating each "why" and checking logic of "why chain".

- Can you turn the problem on and off with the root cause?



2. Grasp The Current Situation

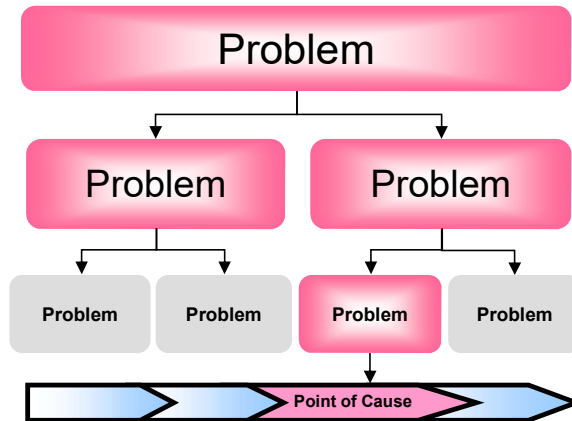
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- Use data to break down the problem into smaller, more concrete problems. Use division points such as Who, What, When or Where?

- Narrow the focus to one aspect of the problem to solve.

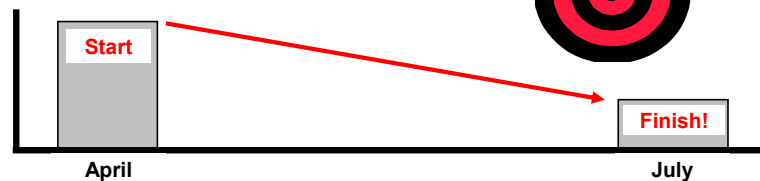
- Genchi Genbutsu: Go & see the problem, confirm the process and specify point of cause.



3. Set A Target

P D C A

- Make the commitment.
- Measurable, concrete and challenging.
 - > Do what by how much by when?
 - > Clarify rationale and impact.
 - > Output oriented (things to be achieved, not things to do).



5. Develop A Countermeasure Plan

P D C A

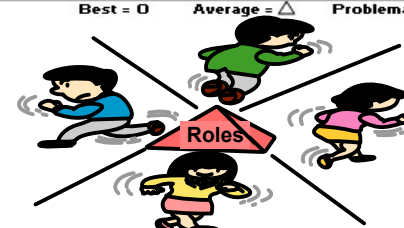
Countermeasure Selection Matrix							
Proposal	Cost (\$)	Effectiveness	Feasibility	Durability	Influence	Total	Judgement
1. High	1. Low	1. Low	1. Low	1. Low	1. High		
3. Medium	3. Medium	3. Medium	3. Medium	3. Medium	3. Medium		
5. Low	5. High	5. High	5. High	5. High	5. Low		
1. High	1. Low	1. Low	1. Low	1. Low	1. High		
3. Medium	3. Medium	3. Medium	3. Medium	3. Medium	3. Medium		
5. Low	5. High	5. High	5. High	5. High	5. Low		
1. High	1. Low	1. Low	1. Low	1. Low	1. High		
3. Medium	3. Medium	3. Medium	3. Medium	3. Medium	3. Medium		
5. Low	5. High	5. High	5. High	5. High	5. Low		
1. High	1. Low	1. Low	1. Low	1. Low	1. High		
3. Medium	3. Medium	3. Medium	3. Medium	3. Medium	3. Medium		
5. Low	5. High	5. High	5. High	5. High	5. Low		

- Address the root cause.

- If multiple proposals, prioritize using matrix.

- Build consensus and create a clear and detailed action plan.

- Clarify roles and involve everyone.



ACTIVITY PLAN				
What	Who	May	Jun	Jul
Fabricate jigs	Bill			
Coordinate & run trial	Jane			
Collect data	John			
Check for adverse effects	Randy			

6. Implement Countermeasure

P D C A

- Collect data; regularly check and communicate progress (ho-ren-so).

- Be consistent in any before and after comparisons.

- Ensure no adverse effects at neighboring processes, etc.



7. Confirm Result

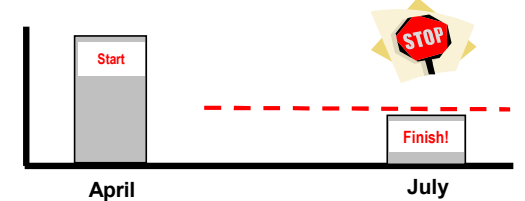
P D C A

- Confirm results with target in step 3.

- > If no good, try next c/m or return to step 4.
- > If okay, cease any short-term measures.

- Evaluate processes for repeatability of results. Learn from successes & failures.

- Self-evaluate development (optional).



8. Standardize / Control

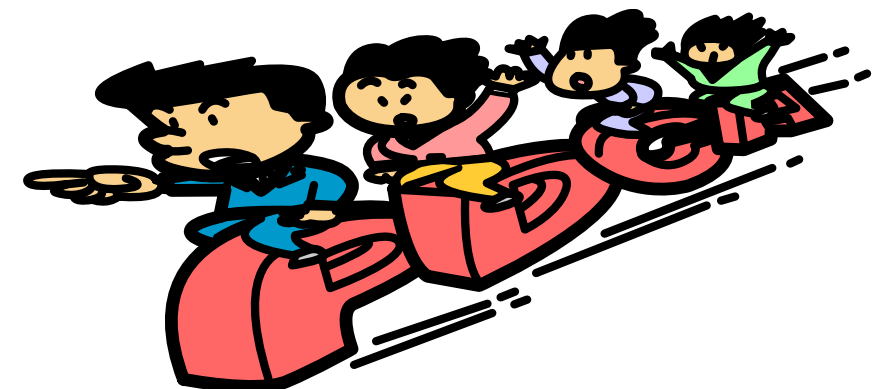
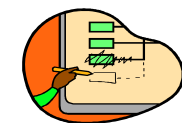
P D C A

- Standardize successes to prevent recurrence.

- > Re-train & document improved standards.
- > Create systems to sustain improved standards.

- Share improved standards through Yokoten.

- Start the next round of Kaizen (P-D-C-A).



PROBLEM SOLVING GUIDE

Theme:

Area:

Start Date:

End Date:

Members:

1. Identify The Problem *(Clarify Ideal & Current Situations, Visualize the Gap)*

2. Grasp The Current Situation *(Break Down, Narrow Focus, Go & See, Contain)*

3. Set A Target *(Do What by How Much by When?)*

4. Determine The Root Cause *(Brainstorm Causes, Verify as Fact by Asking Why)*

5. Develop A Countermeasure Plan *(Address R/C, Consensus & Action Plan)*

6. Implement Countermeasure *(Collect Data, Check & Communicate Progress)*

7. Confirm Result *(Compare Results to Target, Evaluate Process for Repeatability)*

8. Standardize / Control *(Prevent Recurrence, Sustain, Yokoten, Start Again)*