0 % complete

= significant work remains
= good progress…keep going
= ready to submit

PROBLEM ANALYSIS - Application Guide

KT
Kepner-Tregoe

IMPORTANT: Record your PA in a KT Worksheet. Use this Guide to confirm the quality and completeness of your work.

1. State the Problem - Your Problem Statement should…

- ▪ Contain only ONE Object or group of similar/identical Objects (that has the problem) and only ONE Deviation (the problem it has)
- ▪ Be brief – no extraneous facts that better fit in other parts of the problem specification (e.g., Where, When or Extent data)
- ▪ Represent a deviation for which the cause is unknown

2. Specify the Problem - Your Problem Specification data should…

- ▪ Demonstrate an accurate understanding of the intent of each specification question, as described below:
- ▪ Reflect an accurate, factual, specific description of the symptoms of the problem in What, Where, When, Extent – IS/IS NOT format.
- ▪ Show the most closely related IS NOTs.
- ▪ Indicate if a specification question is Not Applicable [N/A] and why it doesn't apply to this problem.
- ▪ Indicate where a specification question is applicable, but requires additional data [NMD] to answer, and how/when it will be obtained.

  NOTE: For the purposes of review of applications for KT badges, NMD's will usually *not* be accepted as they generally compromise the ability to test/confirm cause.

WHAT	Object	IS – Specific model/part #s, colors, sizes, etc., of the thing that is off "Should"
		IS NOT – Most closely-related model/part #s, colors, sizes, etc., that COULD have this problem, but DO NOT
	Defect	IS – Description of the actual deviation from "Should" (ideally, attach a picture)
		IS NOT – Closely-related deviations that COULD occur to the object, but DO NOT
WHERE	**Geographic**	IS – All location(s) where defective object(s) are observed - Where would I go look at it?
		IS NOT – Other closely-related locations where this object COULD have the defect but DO NOT.
	On Object	IS – Described specifically or illustrated with a diagram, picture, etc.
		IS NOT – Other closely-related locations or parts of the object where the defect COULD appear but DO NOT.
WHEN	**First**	IS – First point in time at which this instance of the defect was observed (date and time).
		IS NOT – Other closely-related points in time when this problem COULD have been *first* observed but WAS NOT.
	Since	IS – Data for occurrence of the problem *after* it was first noticed; indicate pattern seen in data (continuous, periodic, sporadic or single instance). For periodic or sporadic, provide dates and times of subsequent occurrences.
		IS NOT – Other patterns with which this problem COULD have occurred but DID NOT.
	Life Cycle	IS – Stage in the lifecycle or function of the object during which the problem is first observed.
		IS NOT – Closely-related stage(s) in the lifecycle or function of the object during which the defect COULD have been first observed but WAS NOT.
EXTENT	**# of Objects**	IS – Actual count or percentage of the defective objects. Attach charts or graphs where applicable.
		IS NOT – Count or percentage of the objects that COULD be defective but ARE NOT.
	Trend	IS – Growth or shrinkage over time of the number of affected objects (stable, increasing or decreasing). Attach charts or graphs where applicable.
		IS NOT – Other trends in the number of affected objects that COULD have been observed but WAS NOT.
	Size	IS – Size or severity of the defective condition. Attach charts or graphs where applicable.
		IS NOT – Other sizes or severities the defect COULD have exhibited but DID NOT.
	Trend	IS – Growth or shrinkage over time of the size of the defective condition (stable, increasing or decreasing). Attach charts or graphs where applicable.
		IS NOT – Other trends in the size of the defective condition that COULD have been observed but WAS NOT.
	# of Defects	IS – Actual count of the number of defects on any one object, if multiple.
		IS NOT – Other count(s) of the defect that COULD have appeared on any one object but DID NOT.
	Trend	IS – Growth or shrinkage over time of the number of defects per object. Attach charts or graphs where applicable.
		IS NOT – Other trends in the number of defects per object that COULD have been observed but WAS NOT.

3. Look for Distinctions – Your Distinctions should…

- ▪ Represent features, characteristics or functionalities that are derived by comparing an 'IS' to its corresponding 'IS NOT(s)'
- ▪ Be true only of the 'IS'
- ▪ Be factual – visible or otherwise detectable, as opposed to inferences, or conclusions
- ▪ Be new information (not documented elsewhere in the Specification)

4. Look for Changes – Your Changes should…

- ☐ ▪ Be clearly related to a Distinction
- ☐ ▪ Be factual – not inferences or conclusions
- ☐ ▪ Be descriptive – the nature of the change
- ☐ ▪ Include documentation of when the change occurred (date/time)

5. Develop Possible Causes (whether from Experience or Distinctions & Changes) – Your Possible Causes should contain…

- ☐ ▪ One Object – the actual thing or circumstance that created the deviation
- ☐ ▪ One Defect – the part or variable of that thing or cirucumstance that created the deviation
- ☐ ▪ The mechanism – a description of how the object and defect created the deviation
- ☐ ▪ There are at least two Possible Causes listed.

6. Evaluate Possible Causes - Your Testing should demonstrate…

- ☐ ▪ Visible assumptions when a possible cause does not fully explain a pair of IS and IS NOT facts – any assumption needs to be clearly related to at least one IS/IS NOT pair
- ☐ ▪ Visible reasoning when a possible cause is eliminated - which IS and IS NOT fact(s) does it not explain and why.
- ☐ ▪ The Most Probable Cause as the remaining possible cause that either:
  - o Best explains the entire problem specification (based on the number and/or reasonableness of the assumptions), OR,
  - o Is the simplest to verify

7. Confirm True Cause - Your confirmation approach should…

- ☐ ▪ Attempt to confirm the assumptions from testing and/or the causal mechanism.
- ☐ ▪ Demonstrate that a range of methods was considered prior to locking onto one alternative
- ☐ ▪ Identify specific methods for confirmation. If confirmation was completed, attach data, analysis and conclusions.

8. Think Beyond the Fix - Your Think Beyond the Fix responses should demonstrate…

- ☐ ▪ Identify at least one other damage and location where this cause could have impact.
- ☐ ▪ Identify at least one other things that might need the fix and what problems the fix might cause.