

Generating Solutions

- To succeed, ultimately you must
 - Define the correct problem
 - Select the best solution for that problem
- You can't select the best solution unless it gets on the list of potential solutions to be evaluated.
- Need an effective process for generating potential solution alternatives

Mental Blocks (1)

1. Defining the problem too narrowly
2. Attacking the symptoms and not the real problem
3. Assuming there is only one right answer
4. Getting "hooked" on an early solution alternative
5. Getting "hooked" on a solution that almost works (but really doesn't)
6. Being distracted by irrelevant information (mental dazzle)
7. Getting frustrated by lack of success
8. Being too anxious to finish
9. Defining the problem ambiguously

Mental Blocks (2)

- There is a direct correlation between the time people spend “playing” with a problem and the diversity of the solutions generated.
- Sometimes problem solvers will not cross a perceived imaginary limit – some constraint formed in the mind of the solver, that does not exist in the problem statement.

Mental Blocks (3)

1. Stereotyping: Functional fixedness
2. Limiting the problem unnecessarily
3. Saturation or information overload
4. Fear of risk taking
5. Lack of appetite for chaos
6. Judging rather than generating ideas
7. Lack of challenge
8. Inability to incubate

Sources of blocks: Culture, environment, inability to express, inflexible/inadequate problem solving skills

Blockbusting Problems/Solutions

1. Negative Attitude: Attitude Adjustment
 - List positives, focus on opportunity instead of risk
2. Fear of Failure: Risk Taking
 - Define the risks and how to deal with them
3. Following Rules: Breaking Rules
 - Try new things, new foods, new places
4. Overreliance on Logic: Internal Creative Climate
 - Let imagination work, play with it
5. Believing Not Creative: Creative Belief
 - Ask “what if,” daydream, make analogies

Improving Creative Abilities

- Keep track of ideas (write them down immediately)
- Pose new questions to yourself every day
- Keep abreast of your field
- Learn about things outside your specialty
- Avoid rigid, set patterns of doing things
- Be open and receptive to new ideas
- Be alert in your observations
- Adopt a risk-taking attitude
- Keep your sense of humor
- Engage in creative hobbies
- Have courage and self confidence
- Learn to know and understand yourself

Methods: Generating Solutions

- Brainstorming
- Checklist of keywords that encourage solutions
 - Modify, substitute, magnify/minimize, rearrange
- Random Stimulation
 - Picking words from dictionary
- Other points of view
 - Force yourself to other views: other people in other roles, animals, etc.

Deciding the Course of Action

Kepner-Tregoe (K.T.) approach:

- K.T. Situation Analysis:
 - Past: What is at fault?
- K.T. Decision Analysis:
 - Present: How to correct the fault?
- K.T. Potential Problem Analysis:
 - Future: How to prevent future faults?

K.T. Situation Analysis

- For prioritizing multiple problems
- Make a list of all problems
- For each, assign scores (H, M, L) for each
 - Timing: How urgent?
 - Trend: What is happening over time?
 - Impact: How serious is problem?
 - What K.T. analysis? (PA, DA, PPA)

SA Example: Store Manager

Major Concern	Sub-concern	Timing	Trend	Impact	Process
Space	Unopened boxes				
	20 new desks				
Personnel	Employee morale				
Finances	Money owed				
	Money due				
Quality	Scratched desk				

K.T. Problem Analysis

		IS	IS NOT	Distinction	Cause
What	Identify:	What is problem?	What is not problem?	What difference between is and is not?	What is possible cause?
Where	Locate:	Where is problem found?	Where is problem not found?	What difference in locations?	What cause?
When	Timing:	When does problem occur?	When does problem not occur?	What difference in timing?	What cause?
		When was it first observed?	When was it last observed?	What difference between 1 st , last?	What cause?
Extent	Magnitude:	How far does problem extend?	How localized is problem?	What is the distinction?	What cause?
		How many units are affected?	How many not affected?	What is the distinction?	What cause?
		How much of any one unit is affected?	How much of any one unit is not affected?	What is the distinction?	What cause?

K.T. Problem Analysis

- Useful for troubleshooting, where cause of problem is not known.
- Basic premise is that there is something that distinguishes what the problem IS from what it IS NOT.
 - The distinction column is the most important

K.T. PA Example

	IS	IS NOT	DISTINCTION
WHAT:	Rash	Other illness	External contact
WHEN:	New planes used	Old planes used	Different materials
WHERE:	Flights over water	Flights over land	Different crew procedures
EXTENT:	Face, hands, arms	Other parts	Something contacting face, hands and arms
	Only some attendants	All attendants	Crew duties