Problem Solving
Agenda

- What is a problem
- Defining Problem Solving
- Skills to use for Problem solving
- Barriers to problem solving
- Steps for Problem solving
- Strategies to solve problems
- Role of Brain in problem solving
- Conclusion
What is a Problem?

The word "PROBLEM" in large global terms means:

- "Everything is going wrong"
- "He/she will never change"
- "There is no hope"
- "I seem to have the world on my shoulders"
A systematic approach to defining the problem (question or situation that presents uncertainty, perplexity or difficulty) and creating a vast number of possible solutions without judging these solutions.
“Problems call forth our courage and our wisdom; indeed, they create our courage & wisdom. It is only because of problems that we grow mentally and spiritually” – M Scott Peck
What is PAID?

- A logical problem solving process can be done through some steps called "PAID"

- Problem Statement
- Analyze the problem in detail
- Identify likely causes
- Define actual cause(s)
• Problems exist when someone or something is not performing as expected.
• Action needs to be taken to solve the problem thus action should follow from a clear understanding of the problem.
• To understand problem solving it is necessary to distinguish between symptoms of a problem and its causes.
Diagram of a Problem

• To help understand what we are looking for when finding the cause of a problem, it is worthwhile looking at a problem diagrammatically.

• Look at the diagram on the right. It shows performance over time. In this case it is constant, but is there a problem?
• The area with the positive variance is called “Opportunity”
• An opportunity is the exact opposite of a problem.
• They can be analyzed in the same way as problems.
• You want to find out what caused an opportunity to happen that you can exploit it to the full or make it happen elsewhere.
• Problems don't occur without a reason.
• In any situation with a problem, there must be an historical point.
  – When actual performance started to deviate.
• Something happened at the time \( x \) which caused the problem to occur.
Problem Solving Action Flow

• Set a Problem Statement
  – Describe the problem
  – Develop a one sentence problem statement

• Analyze the problem in detail
  – Analyze what is wrong
  – Analyze what is right

• Identify likely causes
  – What's different?
  – What has changed?
  – What are the most likely explanations?

• Define actual cause/s
  – What is the most likely explanation?
  – Can I prove it?
What is Problem Solving?

- Problem solving forms part of thinking
- Considered to be the most complex of all intellectual functions
- Requires modulation & control of more routine or fundamental skills
- A problem does not know how to proceed from a given state to a desired goal state
- It is part of the larger problem process that includes problem finding and problem shaping.
Skills to use in Problem Solving

- Making Judgements
- Analytical skills
- Decision Making
- Collecting Information
- Planning
Barriers to Problem Solving

- Failure to recognize the problem
- Conceiving the problem too narrowly
- Making a Hasty choice
- Failure to consider all consequences
- Failure to consider the feasibility of the solution
“It's not that I'm so smart, it's just that I stay with problems longer.”
- Albert Einstein
**Strategies** to find the motivation and commitment to prepare you to enter the problem-solving process:

1. List the Benefits
2. Formalize your acceptance
3. Create a ‘Worst-case’ scenario
4. Accept responsibility for your life
5. Identify what’s holding you back
Steps for Problem Solving

- What is the Problem?
- What are the alternatives?
- Advantages & Disadvantages
- What is the Solution?
- How well is the solution working
Step 1 - What is the Problem?

**Question to ask**

- What do I know about the situation?
- What results am I aiming for in this situation?
- How can I define the problem?
Define the Problem

- Collect all the relevant information
- Clarify background issues
- What are the constraints
- Are there any sub-problems
- How to deal with the sub problems
Questions to ask when Analyzing the Problem

- History of the problem, how long has it existed?
- How serious is the problem?
- What are the causes of the problem?
- What are the effects of the problem?
- What are the symptoms of the problem?
Step 2 – What are the alternatives?
Some more Alternatives

- External Benchmarking
- Ask Probing questions
- Be willing to consider views different from yours
- Revisit abandoned alternatives
Step 3 – Advantages & Disadvantages
Step 4 – What is the Solution?

Which Alternatives will I pursue?

Evaluate and compare alternatives.  
Combine alternatives  
Try out each alternative in your imagination

What steps can I take to act on the alternative(s) chosen?
Step 5 – How well is the solution working?

- What is my Evaluation?
- What adjustments are necessary?
Effective Problem Solving

left

right
Decoding Left & Right Brain

Left Brain:
- Logic
- Analysis
- Organization
- Administration
- Maths & science
- Knowledge/facts
- Detail

Right Brain:
- Emotion
- Intuition
- Spirituality
- Interpersonal skills
- Art & music
- Belief
- ‘Big picture’
<table>
<thead>
<tr>
<th></th>
<th>Agenda</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Define Decision Making</td>
</tr>
<tr>
<td>2</td>
<td>Traps in Decision Making</td>
</tr>
<tr>
<td>3</td>
<td>Factors for effective decisions</td>
</tr>
<tr>
<td>4</td>
<td>How to make better decisions</td>
</tr>
<tr>
<td>5</td>
<td>6 C’s of Decision Making</td>
</tr>
<tr>
<td>6</td>
<td>Creativity &amp; Decision Making</td>
</tr>
<tr>
<td>7</td>
<td>Conclusion</td>
</tr>
</tbody>
</table>
What is Decision Making?

Definition - Decision Making

The process of examining your possibilities options, comparing them, and choosing a course of action.
Some Decisions are Easy to Make

What to eat in breakfast???

What to wear ???
Some Decisions are Difficult to Make Like...

Choosing a Major

Which career to choose?

Changing a Job
In Every Situation you have to Choose

Who?  
What?  
Where?  
When?  
Why?  
How?
- Decision Making Template
  - Who?
    - Who needs the decision?
    - Who makes the decision?
    - Who is affected by the decision?
    - What problem should be addressed?
  - What?
    - What will be the end result?
    - What are the alternatives?
    - What if there is no decision made?
    - When should the decision be made by?
  - When?
    - When should the decision be implemented by?
  - Where?
    - Where should the decision be announced?
  - Why?
    - Why is a decision required?
    - Why at this given time?
  - How?
    - How will the decision be communicated?
    - How will the recipients be reached?
    - How will the decision be deployed?
<table>
<thead>
<tr>
<th>Personal Traps in Decision Making</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trying too hard to play it safe</td>
</tr>
<tr>
<td>Letting fears and biases tilt your thinking</td>
</tr>
<tr>
<td>Getting lost in the minutia can cause trouble</td>
</tr>
<tr>
<td>Craving for unanimous approval</td>
</tr>
<tr>
<td>Trying to make decisions which are outside your realm of authority</td>
</tr>
</tbody>
</table>
Making Effective Decisions

Factors

Perception
Priority
Acceptability
Risk & Resources
Goals & Values
Demands
How to Make Better Decisions

- Increase your Knowledge
- Use your Intuition
- Weigh the Pros and Cons
- Stick to your Decisions
- Make sure the Timing is Right
Common Mistakes Made in Decision Making

- Not Taking Enough Time
- Lacking Peace
- Not Considering Priorities
- Forgetting how to say “no”
- Procrastinating
6 C’s of Decision Making

CONSTRUCT

COMPILE

COLLECT

COMPARE

CONSIDER

COMMIT
Decision-Making SIMPLIFIED

- Relax
- Think Positive
- Identify The Problem
- What Are Your Choices
- Consequences of your Decision
- Make the Decision
How to be More Creative in Decision Making

- Create a Culture of Creativity
- Encourage Brainstorming
- Suspend Judgement
- Provide Physical Support for Creativity
- Encourage Anonymous Input
Conclusion

Yes
No
Maybe