

Critical Thinking & Problem Solving During Pandemic

Tuesday, 20th October 2020

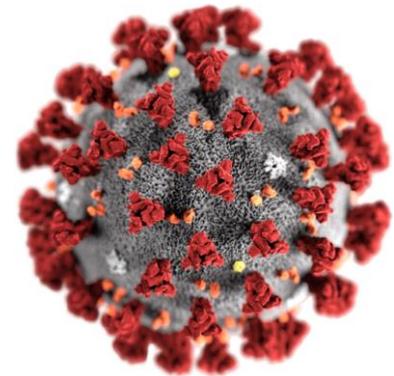
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AU Alumna 2002

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Finance Manager – TTEO&M

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Introduction

Nada Saeed Ali

Graduated in 2002 from Ajman University
Bachelor's Degree in Business Administration

Master's Degree in Business Administration
American University in Sharjah

City & Guilds – Certificate in Training

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Introduction

Finance Manager

TTEO&M-Power Station in Taweela – Abu Dhabi
(2011-Now)

Financial Controller

FIFA Club World Cup 2009/10

Football Tournament – Abu Dhabi (2009-2011)

Finance Manager

Nakheel PJSC

Various Nakheel Projects (2006-2009)

Management Accountant

Dubai Aluminium – now Emirates Global
Aluminium (2002-2005)

Webinar Agenda

Understanding Critical Thinking

Where Do Other Types of Thinking Fit In?

The Critical Thinking Process

A Critical Thinker's Skill Set

Creating Explanations

Dealing with Assumptions

Common Sense

Critical and Creative Thought Systems

Six Ways to Approach a Decision – The six thinking hats

What is Problem Solving?

Problem Solving Styles

The Problem-Solving Model

Pandemic! Applying critical thinking and problem solving to Covid-19



Understanding Critical Thinking

Non-Critical Thinking ...	Critical Thinking...
<ul style="list-style-type: none">• Sees the world as black and white	<ul style="list-style-type: none">• Accounts for shades of gray
<ul style="list-style-type: none">• Is uninformed and indifferent	<ul style="list-style-type: none">• Is informed and curious
<ul style="list-style-type: none">• Is passive or aggressive	<ul style="list-style-type: none">• Is assertive
<ul style="list-style-type: none">• Is lazy	<ul style="list-style-type: none">• Is active
<ul style="list-style-type: none">• Looks at only the superficial aspects of a problem	<ul style="list-style-type: none">• Looks deeply at a problem and its surrounding issues
<ul style="list-style-type: none">• Is reactive	<ul style="list-style-type: none">• Is proactive
<ul style="list-style-type: none">• Is stubborn and rigid	<ul style="list-style-type: none">• Is flexible
<ul style="list-style-type: none">• Is closed-minded	<ul style="list-style-type: none">• Is open-minded

Understanding Critical Thinking

Term	Definition
Argument	The framework that a critical thinker uses to convince someone of a particular <i>conclusion</i> with <i>evidence</i> .
Conclusion	The position that a thinker takes on an <i>issue</i> .
Evidence	Facts or reasons that support a particular <i>conclusion</i> .
Issue	The statement or situation under evaluation.

Understanding Critical Thinking

- ✓ I pay attention to the world around me and try to be observant.
- ✓ I am open-minded and listen to other points of view.
- ✓ I am able to admit when I am wrong.
- ✓ I am able to admit that I am not perfect.
- ✓ I know that I see the world through a particular set of glasses, and that these glasses may distort my perception.
- ✓ I welcome criticism from others.
- ✓ I listen actively.
- ✓ I speak with impact.
- ✓ I have independent opinions.
- ✓ I communicate and think assertively.

Where Do Other Types of Thinking Fit In?

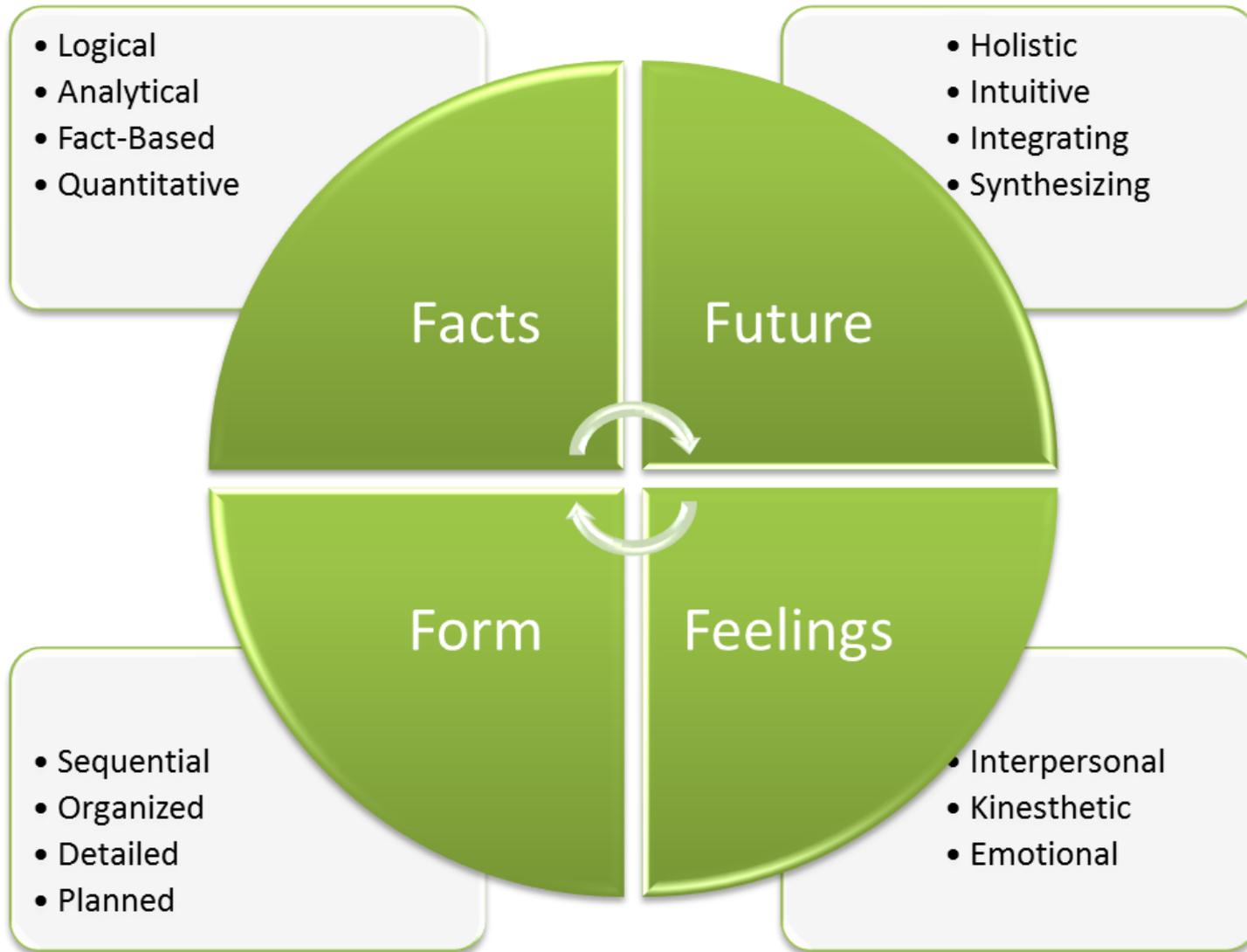
Left-Brain Thinkers...

- Work with words
- Prefer to talk and write
- Think logically
- Control feelings
- Look for differences
- Are planned structured
- Are objective
- Look at the parts

Right-Brain Thinkers...

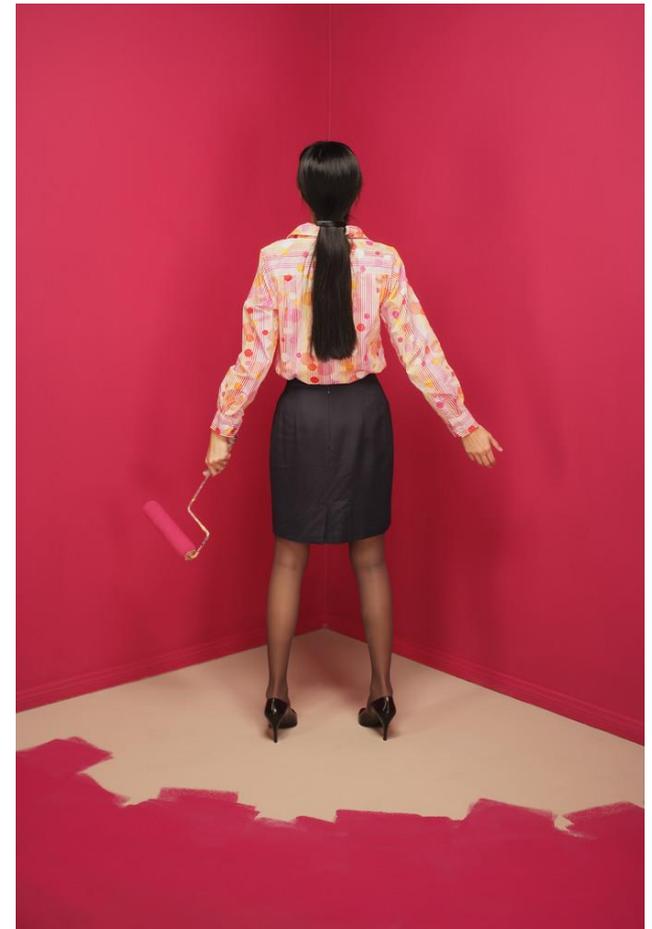
- Work with images
- Prefer creative methods of expression (drawing, music)
- Think intuitively
- Allow feelings to affect their lives
- Look for commonalities and patterns
- Are spontaneous and random
- Are subjective
- Look at wholes and think holistically

Where Do Other Types of Thinking Fit In?

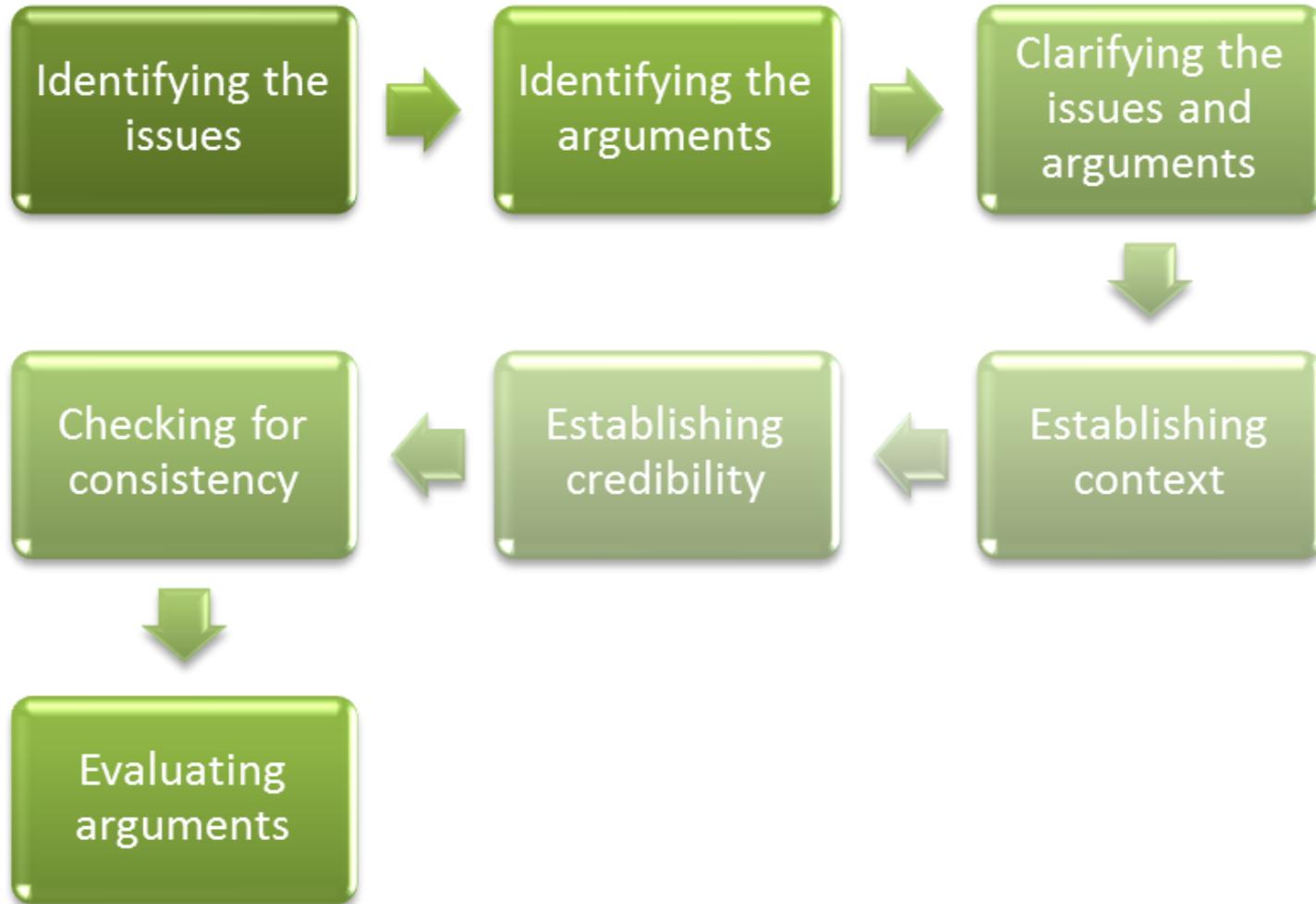


Pitfalls to Reasoned Decision Making

- Building a house on sand
- Circular reasoning
- Red herring
- Emotional manipulation
- Negative arguments
- Omitting facts
- Overgeneralizing
- Oversimplifying
- The slippery slope
- Using the straw man



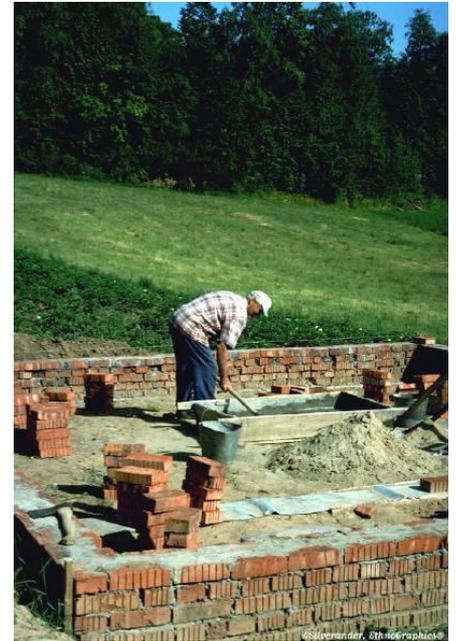
The Critical Thinking Process



The Critical Thinking Process

The Standards of Critical Thinking

- Clarity
- Relevance and Significance
- Logic
- Accuracy
- Depth
- Precision
- Breadth



The Critical Thinking Process

Identifying the Issues

- Try writing it as a question that can be answered yes or no.
- Be neutral and objective.
- Review the issue statement with others involved to make sure that you have gotten to the core of the problem.
- If there are one or more issues, separate them out so that you can focus on one thing at a time.

The Critical Thinking Process

Clarifying the Issues and Arguments

- Check for:
 - General words like lots, always, usually
 - Words that have multiple meanings
 - Words in an incorrect order



The Critical Thinking Process

Establishing Context

- What is the presenter's purpose?
- Does the presenter have a personal agenda?
- Does the presenter have a relationship with you that they are trying to change?
- Are they trying to get rid of a problem?
- How was the message conveyed?
- Were others meant to hear it?
- Were they trying to distance themselves from the message?
- Whose turf was the message delivered on?
- What other factors are present?

The Critical Thinking Process

Credibility

- How did the person find out the information – first hand, second hand, or beyond?
- What kind of background does the person have about the subject?
- How likely is their evidence?
- Is there other evidence, such as documents or witnesses?
- Does your background and observations support their statement?



The Critical Thinking Process

Consistency

- Particularly important for formal reports, long e-mails, or complex documents
- Look for statements that contradict each other or that are true but not relevant



The Critical Thinking Process

Evaluating Arguments

- Is the evidence straightforward and precise?
- How does the context affect the argument?
- Are all pieces of evidence consistent with each other?
- Is the evidence credible?
- Do all the pieces of the evidence support the conclusion?





A Critical Thinker's Skill Set

Asking Questions

- Closed questions are those that can be answered by either yes or no.
- Open questions start with who, what, when, where, why, or can ask how.



A Critical Thinker's Skill Set

Probing

- Open question
- Pause
- Reflective or mirroring question
- Paraphrasing
- Summary question



A Critical Thinker's Skill Set

Critical Thinking Questions

- How did I get this information?
- What does common sense tell me?
- Have I encountered this type of issue before? How did I deal with it?
- How believable is the argument?
- Who can provide first-hand information?
- Where can I find more evidence?
- Which explanation is the simplest one?
- What other alternatives are available?

A Critical Thinker's Skill Set

Active Listening

Non-Verbal Messages

These are the messages our body sends to others that tell them we are listening, like leaning forward, making eye contact, nodding our head, and attending to what they say.

Cues

These short phrases keep us connected and tell the other person we are still listening.

- OK
- Go on
- All right
- You're kidding!

Using **paraphrasing, clarifying, and summarizing questions**. Make sure you understand what is said.

Creating Explanations

- Explanations allow you to understand why something happened.
- Or, you may use the explanation framework to evaluate an argument.
- Explanations focus on causes, where arguments focus on evidence.

Creating Explanations



Dealing with Assumptions

- What is an assumption?
- What are some examples of useful assumptions that you make every day?
- Carefully evaluate assumptions and evaluate whether the person can reasonably make that assumption.

Common Sense

- If it takes ten men four days to dig two holes, and five men three days to dig one hole, how many men and how long would it take to dig half a hole?
- All cats have purple fur.
- Shadow is a cat.
- Therefore Shadow has purple fur.



Critical and Creative Thought Systems

Creative Thinking Methods

- Brainstorming
 - Imagine the opposite
 - Breaking down assumptions
 - Random word method
 - What would X do?
 - Don't re-invent the wheel



Critical and Creative Thought Systems

De Bono's Thinking Hats

- White Hat
- Red Hat
- Black Hat
- Yellow Hat
- Green Hat
- Blue Hat



PROCESS



Blue Hat - Process

Thinking about thinking.
What thinking is needed?
Organizing the thinking.
Planning for action.

CREATIVITY



Green Hat - Creativity

Ideas, alternatives, possibilities.
Solutions to black hat problems.

FACTS



White Hat - Facts

Information and data.
Neutral and objective.
What do I know?
What do I need to find out?
How will I get the information I need?

BENEFITS



Yellow Hat - Benefits

Positives, plus points.
Why an idea is useful.
Logical reasons are given.

FEELINGS



Red Hat - Feelings

Intuition, hunches, gut instinct.
My feelings right now.
Feelings can change.
No reasons are given.

CAUTIONS



Black Hat - Cautions

Difficulties, weaknesses, dangers.
Spotting the risks.
Logical reasons are given.

Putting It into Practice

Define

- Outline your key argument
- Define key terms for your audience

Outline

- List what assumptions you are making
- Categorize evidence
- List points against your argument and gather evidence to counter those points

Organize

- Begin with an introduction summarizing your argument
- Provide various conclusions supported by evidence
- Add examples
- Conclude with a summary

Practice

- Present your argument to people familiar and unfamiliar with the topic
- Edit as necessary

What is Problem Solving?

- What, specifically, is a problem?

Problems can be classified in three ways:

- Problems that have already happened
- Problems that lie ahead
- Problems you want to prevent from happening

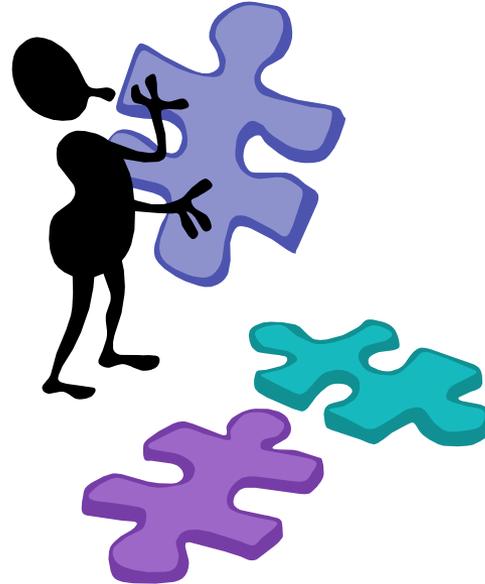
What is Problem Solving?

There are three ways to approach problems.

- You can stall or delay until a decision is no longer necessary, or until it has become an even greater problem.
- You can make a snap decision, off the top of your head, with little or no thinking or logic.
- You can use a professional approach and solve problems based on sound decision-making practices.

What is Problem Solving?

- Think of an individual that you think is good at solving problems.
- Describe the traits, characteristics, and behaviors that made the individual a good problem solver.



What is Problem Solving?

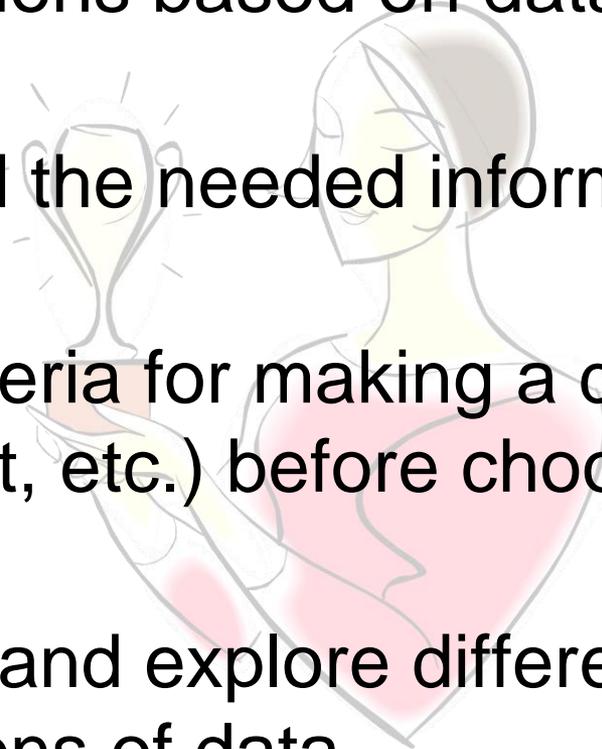
In order to find sustainable solutions to our problems, we will:

- Encourage everyone to participate.
- Encourage new ideas without criticism, since new concepts come from outside our normal perception.
- Build on each other's ideas.
- Whenever possible, use data to facilitate problem solving.
- Remember that solving problems is a creative process—new ideas and new understanding often result.

What is Problem Solving?

In order to reach win-win decisions, we will:

- Make decisions based on data whenever possible.
- Seek to find the needed information or data.
- Discuss criteria for making a decision (cost, time, impact, etc.) before choosing an option.
- Encourage and explore different interpretations of data.





What is Problem Solving?



We tend to make three kinds of decisions.

- Autocratic: Made by yourself
- Consultative: Made by yourself, but talk it over with others.
- Group: Many people participate in the decision.

What is Problem Solving?

Basic Ingredients:

- Facts
- Knowledge
- Experience
- Analysis
- Judgment

The Substitutes:

- Information
- Advice
- Experimentation
- Intuition



What is Problem Solving?

The Ingredients for Good Decision Making

1. Focus on the most important things.
2. Don't decide until you are ready.
3. Look for all the good things that can happen.
4. Consider the decisions sitting on the back burner.
5. Base your decision on self-acceptance.
6. Look ahead.
7. Turn big decisions into a series of little decisions.
8. Don't feel you are locked into only one or two alternatives.

What is Problem Solving?

Decision-Making Traps

- Misdirection
- Sampling
- Bias
- Averages
- Selectivity
- Interpretation
- Jumping to Conclusions
- The Meaningless Difference
- Connotation
- Status



The Problem-Solving Model

Phase One: Problem Identification and Definition

- Identify apparent problem
- Seek and analyze the causes
- Define the real problem

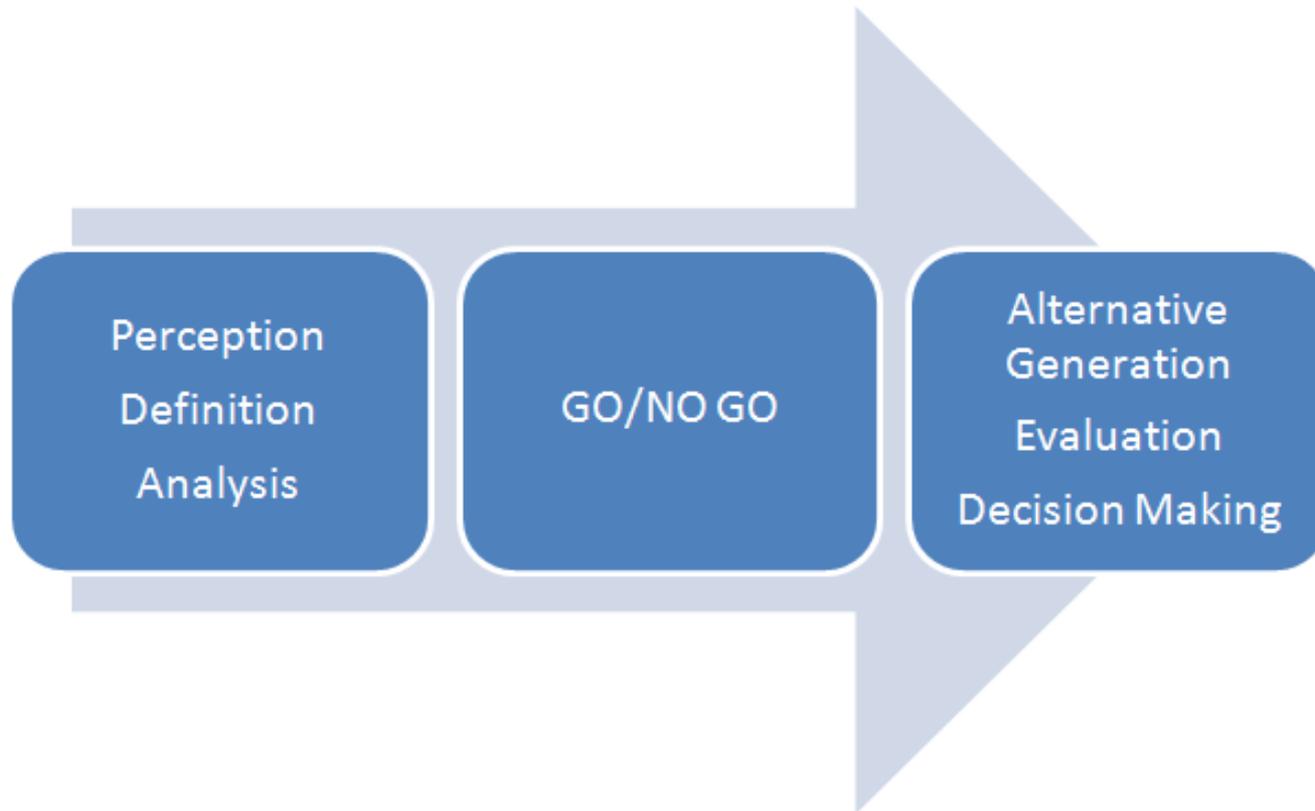
Phase Two: Decision Making

- Identify alternative solutions
- Choose the best solution

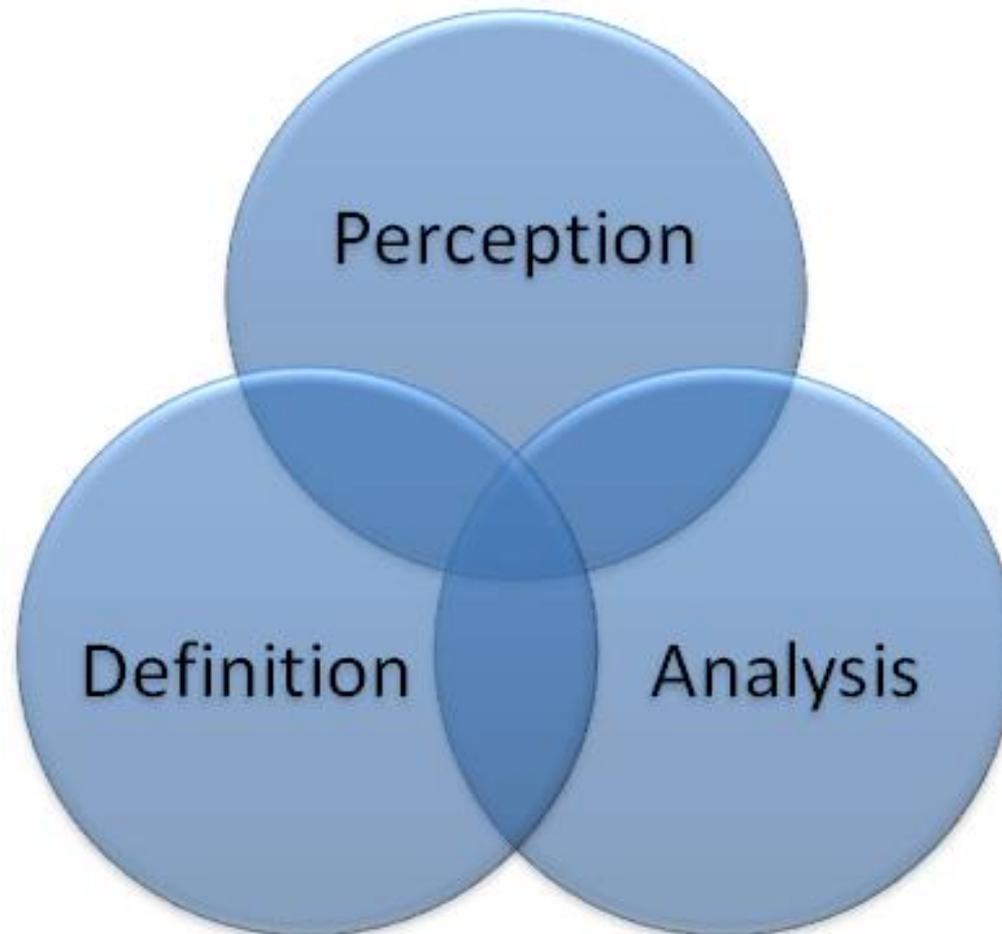
Phase Three: Planning and Organizing

- Plan a course of action
- Implement

The Problem-Solving Model



The Problem-Solving Model



The Problem-Solving Model

Phase One

- Perception
- Definition
- Analysis

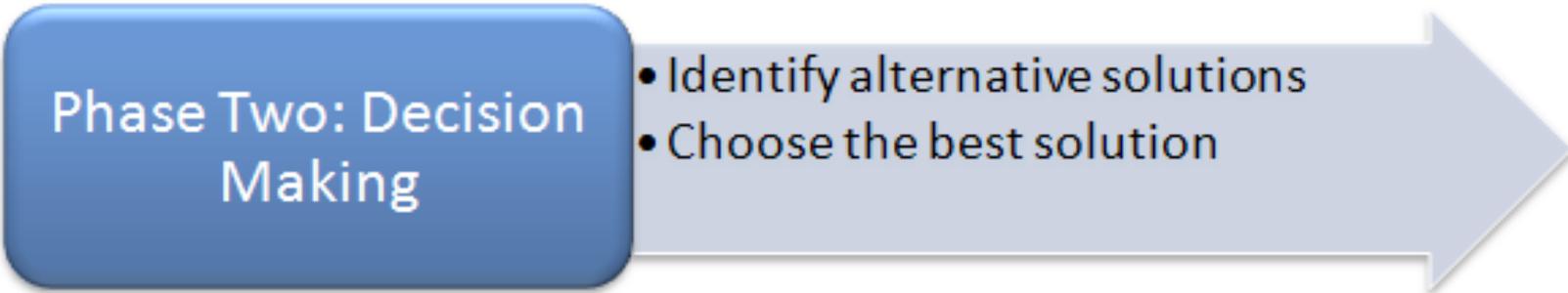
Phase One: Problem
Identification and
Definition

- Identify apparent problem
- Seek and analyze the causes
- Define the real problem

The Problem-Solving Model

Phase Two:

- Alternative Generation (Brainstorming, random word method)
- Decision Making



Phase Two: Decision Making

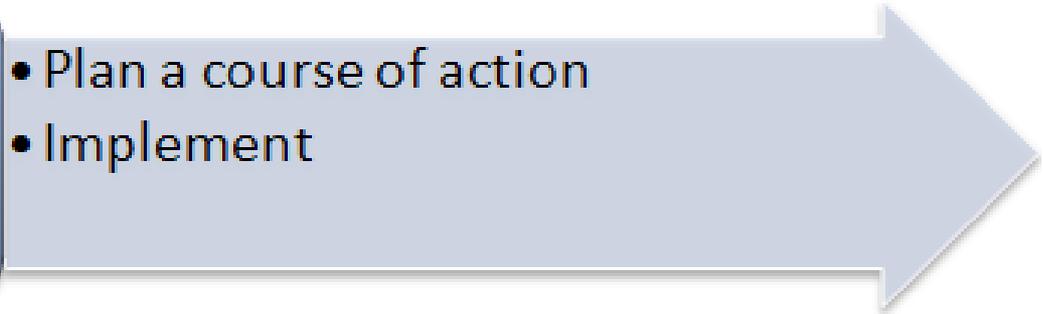
- Identify alternative solutions
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The Problem-Solving Model

Phase Three:

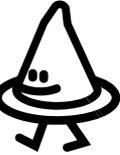
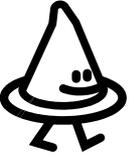
- Planning
- Implementation

Phase Three:
Planning and
Organizing

- Plan a course of action
 - Implement
- 

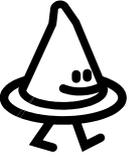
The Problem-Solving Model

- What is the problem?
- What is its root cause or the real problem?
- What is the Problem As Given (PAG)?
- What is the Problem As Understood (PAU)?
- How does it feel to Mike? How does it feel to Bob?
- What are the best/worst/most probable consequences of solving/not solving the issue?

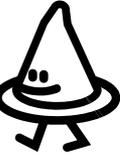


Six Ways to Approach a Decision

- White Hat: Pure facts, figures, and information.
- Red Hat: Seeing red, emotions and feelings, also hunch and intuition.
- Black Hat: Devil's advocate, negative judgment, asks why it will not work.
- Yellow Hat: Sunshine, brightness, and optimism; positive, constructive, opportunity.



Six Ways to Approach a Decision



- Green Hat: Fertile, creative, plants springing from seeds, movement, provocation.
- Blue Hat: Cool and in control, orchestra conductor, thinking about thinking.

Value of the Six Thinking Hats

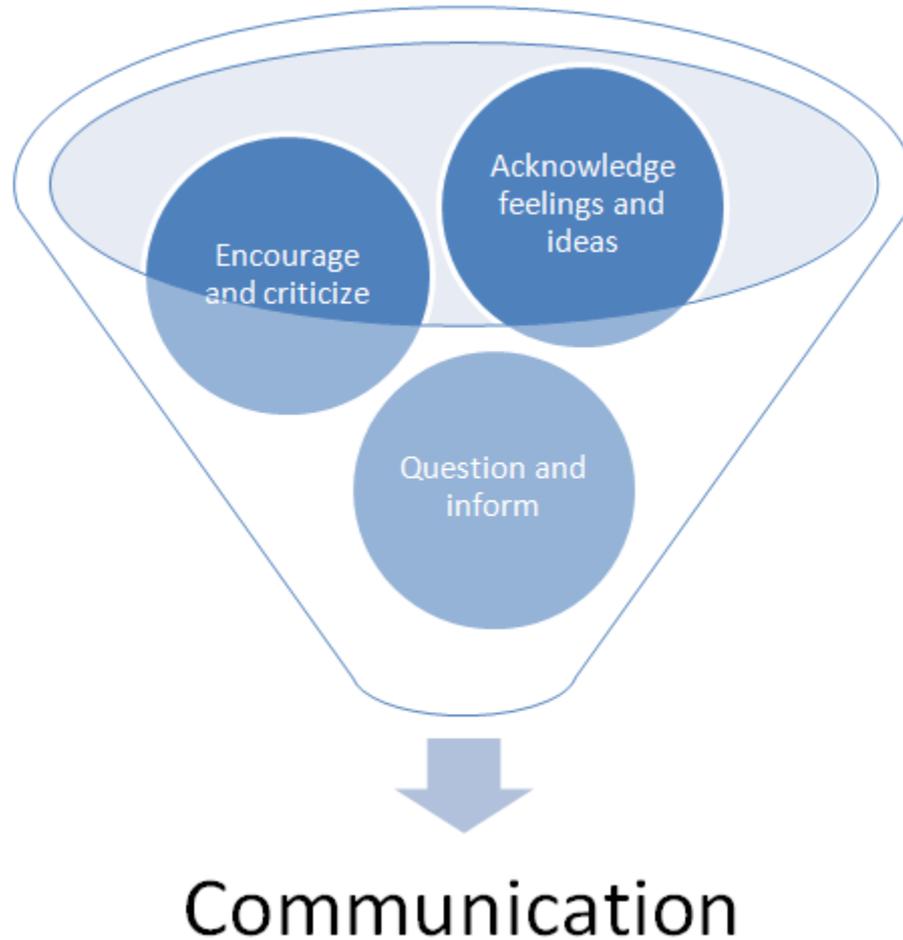
Without the formality of the hats, some thinkers would remain permanently stuck in one mode.

The Problem-Solving Toolkit

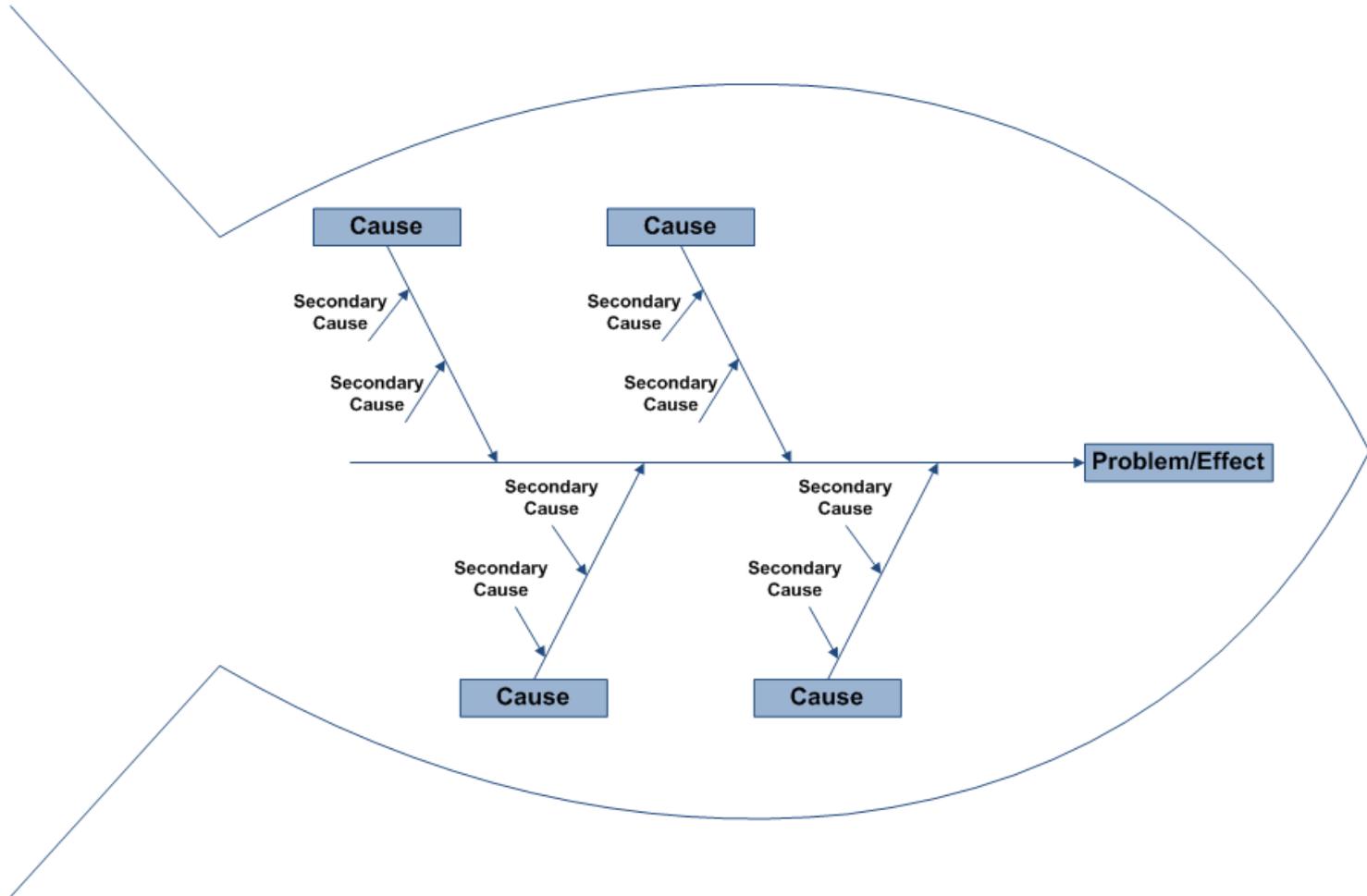
- The Lasso
- Is/Is Not
- Graphics
- Basic Questions
- Criteria
- Analysis
- Break it Up
- Force Field Analysis
- Generalize/Exemplify
- Expert
- Legitimizing Problems



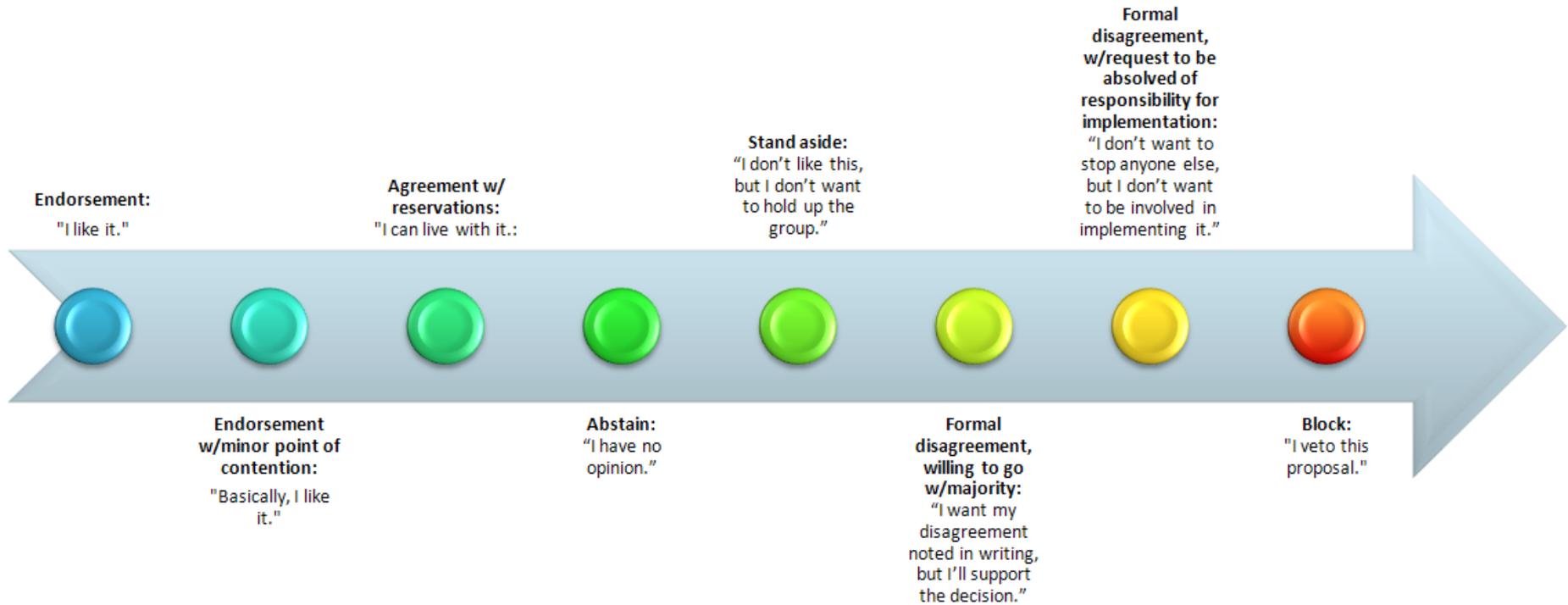
The Problem-Solving Toolkit



The Problem-Solving Toolkit



The Problem-Solving Toolkit



Pandemic!

- Let us apply what we learnt so far on the current pandemic situation...

In December 2019, news updates were reporting the emergence of a new virus that struck the Chinese city of Wuhan.

It was not clear at the time how the virus originated or the speed and method of spread, however many serious symptoms and deaths were reported.

- The news of wild spread of the virus across the globe
- The World Health Organization (WHO) declared the COVID-19 outbreak a pandemic on 11 March 2020.
- Many countries decided to shut down schools, transportation, and non-essential services.
- Partial and full curfew was also imposed

Covid-19 statistics

20-10-2020

Cases overview



United Arab Emirates

Total cases

117K

Recovered

109K

Deaths

466



Worldwide

Total cases

40.3M

Recovered

27.6M

Deaths

1.12M



[More locations and statistics](#)

Questions to ponder

- What are the problems brought on by the pandemic?
- How did governments participate in dealing with these problems?
- How did organisations participate?
- How did businesses react and participate in dealing with the pandemic?

Decision Making Case Study

Phase One: Problem Identification and Definition

- Identify apparent problem
- Seek and analyze the causes
- Define the real problem

Phase Two: Decision Making

- Identify alternative solutions
- Choose the best solution

Phase Three: Planning and Organizing

- Plan a course of action
- Implement

Discussion

Q&A

Thank You