Where Do We Start? — Situation Analysis

Preview

Introduction

This document describes procedures for selecting the best action to manage any situation:

- prioritizing situations,
- solving a problem,
- deciding among options, *or*
- creating an effective plan.

When to use

When you are concerned about the consequences of —

- solving a problem,
- deciding among options, *or*
- creating an effective plan,

then you should use these procedures to select the action that best fits your situation.

Finder

You can find the following contents on the pages shown.

Section 1

Prioritizing Situations

Action Follow these steps to prioritize your situations.

Step	Action
1	Isolate and list situations you are concerned about. *Note*: • If you are in a group, then use brainstorming. • *Else*, use clustering methods.
2	Sort situations into simple issues • based on specific facts • manageable with a single action — – solving a problem, – deciding among options, or – implementing a plan.
3	Tag these situations.
4	Prioritize these situations according to — • urgency. • criticality of consequences. • trend. *Note*: *Trend* is growth over time.
5	List these prioritized situations in a status report to those who share your concerns.

Back to Situation Finder

Section 2:
Solving a Problem

Preview

Definition

A *problem* is a situation where

- something deviates from a standard, *and*
- you do *not* know the cause.

Note: A standard is a measure of whatever a client, customer, or user expects in a product or service.

Reference

If you know the cause for your situation, then you need to decide what to do about it. See Section 3: Deciding among Options, page D-12.

Finder

This table describes the tasks and knowledge topic that appear in this section.

Back to Situation Finder

Task 1: State the Problem

Action Follow these steps to state the problem.

Step	Action
1	Determine what standard applies to the problem.
2	Determine what deviation from the standard exists.
3	Isolate and describe • the object or subject, *and* • its defect.
4	State the problem as a response to these questions. • What subject or object has the problem? *and* • What is wrong with it? *Examples*: • The videotape recorder's clock keeps flashing "12:00 AM." • The laser printer is putting a diagonal black streak on each copy.

Back to Problem Solving Finder

Task 2: Gather Data and Information about the Problem

Introduction

You and others may have already observed some of the critical facts about the problem. Organize the results of your observations for efficient analysis.

Purpose

Use this list of questions to describe the facts you have observed about the problem.

List of questions

Write your responses to these questions.

What

- On what object did you observe the defect?
- What exactly is wrong or defective?

Where

- Spatially, where did you observe the object with the defect?
- Where on the object does the defect appear?

When

- When on the clock or calendar did you first observe the defect?
- When in the life cycle of the object did you first observe the defect?
- Is the pattern of defect you observed random, continuous, or cyclical?

How Much, How Many

- How much of the object is defective?
- How many units or objects are defective?
- Is the trend stable, increasing, or decreasing?

Back to Problem Solving Finder

Task 3: Compare and Contrast Problem Data & Information

Introduction

You may increase the efficiency of your problem analysis by comparing and contrasting the critical facts you have already observed about the problem.

Action

Write your responses to these questions.
Put your responses in a table, beside the responses you collected earlier.

Purpose

Use this list of questions to get at the critical facts about your problem.

List of questions

This list of questions gets at the critical facts.

What

- On what similar object is the defect not observed, but could be?
- What similar type of defect do you expect to see on the problem object, but do not?

Where

- Where else spatially do you expect to observe the defective object, but do not?
- Where else on the problem object do you expect to observe the defect, but do not?

When

- At what other clock/calendar time could you have observed the defect, but did not?
- At what other time in the object's life cycle could the defect have occurred, but did not?
- In what other pattern could the defect have occurred, but did not –
  - random, continuous, *or* cyclical?

How Much, How Many

- How much of the problem object could be defective, but is not?
- How many units or objects do you expect to be defective, but are not?
- What other trend could you have observed, but did not –
  - stable, increasing, *or* decreasing?

Back to Problem Solving Finder

Task 4: Discriminate Differences in the Problem Data & Information

Action

Discriminate and list the differences that set the observed facts apart from the comparative facts. Answer this question for each set of facts:

What is different or unique about this observed fact compared to its corresponding fact?

Examples

Two examples of discriminating differences:

- What is different or unique about the kitchen sink's drainpipe compared to other drainpipes?
- What is different or unique about the VCR's clock compared to other digital clocks?

Back to Problem Solving Finder

Task 5: List Problem-related Changes

Action Follow these steps to list problem-related changes.

Step	Action
1	List changes which relate specifically to • the observed object, • its location, *and* • its timing.
2	List what has happened since the day and time you first observed the defect.
3	Is the defect you observed a recent event? • If *yes*, then list the exact date and time of the change. • *Else*, go to next step.
4	Did these changes or events occur before the problem? • If *no*, then ignore them as irrelevant. • *Else*, go to next step.
5	List what has changed in, about, or around the object.

Back to Problem Solving Finder

Task 6: Hypothesize Causes for Problem Changes or Differences

Introduction

You are ready now to explore possible causes for changes or differences related to the problem.

Action

List responses to this question:

How could the problem have been caused by

- a change?
- a difference?
- any combination of change and difference?

Back to Problem Solving Finder

Task 7: Test Causes against the Facts

Purpose Use this procedural action to try to disprove your hypothesis.

Action Follow these two steps to try to disprove your hypothesis.

1. Test each likely cause — one at a time — against each set of observed and comparative facts.
2. Answer this question: *How does this likely cause explain these facts?*

Back to Problem Solving Finder

Proofs for the Most Likely Cause of the Problem

List of proofs

Three types of proofs are available for proving the most likely cause of your problem. In alphabetical order, the proofs are —

- factual/ logical proof.
- reality proof.
- results proof.

Descriptions

Here is a description of the most likely cause of each type of proof.

Proof type	The most likely cause… .
factual / logical	• explains the existence of observed/comparative facts • may validate all assumptions
reality	passes a limited-resources test with a clear conclusion
results	is acted upon as though it really is the true cause, while you monitor the problem to see if the deviation disappears *Note*: Use this proof when you must take immediate action to prove what's happening.

Back to Situation Finder

Section 3:
Deciding among Options

Preview

Where you are now

You covered *prioritizing situations* and *solving a problem* in Sections 1 & 2.

- In this Section, you will cover *deciding among options*.
- In Section 4, you will cover *implementing an effective plan*.

Finder

This table describes the tasks appearing in this section.

Back to Situation Finder

Task 1: Answer Basic Questions

List of questions

These basic questions face you as you decide among options.

- What option are you deciding on?
- Why do you need to decide on this option?
- What prior decision led you to this decision?

Action

Answer these basic questions in the order given.

Question	Response
What option are you deciding on?	
Why do you need to decide on this option?	
What prior decision led you to this decision?	

Example

Here is one example to assist you.

Question	Response
What option are you deciding on?	I'm deciding which employment position is best for my career.
Why do you need to decide on this option?	I need to decide on this option because — • I have moved to a new city. • I need income.
What prior decision led you to this decision?	I decided to leave my previous job, because it was too stressful for my health.

Back to Deciding Finder

Task 2 Describe Reasons for Decisions

Action Complete this table, then write a statement that describes your reason(s) for your decision(s).

Goal-related feature	My reason
The end result that I desire	
The effects my decision will create	
The effects my decision will resolve (if apt)	

Example Here is one example to assist you.

Goal-related feature	My reason
The end result that I desire	I am deciding to work as a private contractor because I can do most of my contractual work at home.
The effects my decision will create	My decision to work as a private contractor will give me • more freedom. • better income.
The effects my decision will resolve, if apt	Working at home resolves two effects: • it reduces the stress of commuting. • it cuts travel costs and pollution.

Back to Deciding Finder

Task 3: Identify Interested Stakeholders

Action Complete this table to identify the stakeholders with interests in the outcomes.

Goal-related feature	Reason
Who are the interested stakeholders?	
What are their standards for acceptable performance?	

Example Here is one example to assist you.

Goal-related feature	Reason
Who are the interested stakeholders?	My career decision to work at home affects both me and my family.
What are their standards for acceptable performance?	Our standards for this decision are • low levels of stress • little or no commuting, with more quality time at home • minimum annual income of $50,000 plus insurance benefits.

Back to Deciding Finder

Task 4: List Stakeholders' Standards/Expectations

Rules

Apply these rules when you list the standards/expectations.

Each standard or expectation

- must have a clear purpose and function.
- should increase the likelihood of creating certain results.
- must respect all related resources, including –
  - time,
  - space,
  - money,
  - people,
  - energy,
  - equipment, *and*
  - data/information, and other materials.

Action

List all standards or expectations of interested stakeholders.

	Rule		
Standard	**Purpose & function**	**Results more likely**	**Resources affected**

More…

More… Task 4: List Stakeholders' Standards/Expectations

Example This example lists some standards/expectations of jobholders, and relates them to purpose & function, more likely results, resources affected.

	Rule		
Standard	**Purpose & function**	**Results more likely**	**Resources affected**
low levels of stress	• brings peace of mind • re-directs energy	Low stress allows higher productivity than high stress.	• money • people • energy
little or no commuting	• more quality time at home • re-prioritizes calendar of tasks	Less commute time allows scheduling of more activities at home.	• time • money • people • energy • equipment
$50,000 min. annual income, plus benefits	• prevents poverty • re-evaluates worth of productivity	Prevention is less costly than remediation.	• money • people • energy

Back to Deciding Finder

Task 5: Sort Stakeholder Standards

Definitions

A *constraint* is a stakeholder standard which is

- required for minimal success,
- mandatory, *and*
- expressed in min/max levels.

A *desirable standard* is any standard that is not a constraint.

Action

Sort your list of stakeholder standards into two groups, tagged "Constraints" and "Desirables."

Constraints	Desirables

Example

This example lists some constraints and desirables of jobholders.

Constraints	Desirables
• unrealistic expectations • distant worksite • part-time job without benefits	• low levels of stress • little or no commuting • $50,000 min. annual income, plus benefits

Back to Deciding Finder

Task 6: Assign Comparative Value to Each Standard

Purpose

Assigning comparative values to standards required by interested stakeholders allows you to achieve compromises.

Action

Assign a value to each stakeholder standard as compared to the other standards.

Guidelines

Apply these guidelines when assigning value to each stakeholder standard.

- Use a high-to-low range of values from **10** to **01.**
- Assign similar values to different standards.
- You do not need to assign all values in the range.
- Negotiate any consensus — do not rely on averaging for commitment.

Example

This example lists some values of constraints and standards of job holders.

Constraint	Value	Desirable Standard	Value
A Very demanding business	10	A low levels of stress	10
B Nationwide venues	10	B little or no commuting	5
C New management	5	C $50,000 min. annual income, plus benefits	1
D Non-union company	1	—	

Notes:

A value of

- **10** for Constraint A means it is highly constraining.
- **1** for Constraint D means it is only slightly constraining.
- **10** for Desirable Standard A means it is very desirable.
- **5** for Desirable Standard B means it is less desirable than A, but more desirable than C.

Back to Deciding Finder

Task 7: Isolate and Tag Available Options

Action

Apply guidelines for isolating available options, then tag each consistently.

Guidelines

Here is a list of suggested guidelines for isolating options available to you.

- Use the clustering process to display possible options.
- In a group, brainstorm what stakeholders consider available options.
- Use the fishbone for managing process resources to suggest options.
- Survey or interview subject-matter experts for their recommendations.
- Review related research literature for options.

Example

An example of isolated and labeled options for an employment scenario might include:

- West Coast high tech firm
- Texas petrochemical post
- New England telecommunications conglomerate

Back to Deciding Finder

Task 8: Prioritize Available Options

Purpose

Use this task is to prioritize your options. You will add up the weighted scores for each option's performance against stakeholders' standards.

Action

Follow these steps to prioritize available options.

Step	Action
1	List options in rows, and standards in columns of a decision matrix.
2	Estimate a matrix score for each option against one standard. • Score 10 for option that performs highest against the standard. • Score 0 for option that fails against the standard. • Score 5 for option that performs moderately against standard.
3	Multiply the matrix score by the standard value, then put product in the space below, in the row labeled "Weighted score."
4	Are there more standards left to score? • *If yes*, then repeat Steps 2 and 3. • *Else*, then go to next step.
5	Total the weighted scores for each option, and put sum in cell at right end of each row.

Example: decision matrix

Here is a sample decision matrix. For each option, the weighted score for each related standard appears below the matrix score, with sums at right.

	Standard								
Option Score	**Constraint**				**Desirable**				**Sum of Scores**
	A	**B**	**C**	**D**	**A**	**B**	**C**		
	10	10	5	1	10	5	1		
A matrix score	10	0	10	10	5	10	10		
weighted score	100	0	50	10	50	50	10		260
B matrix score	0	5	5	0	0	5	5		
weighted score	0	50	25	0	0	25	5		105
C matrix score	5	10	0	5	10	0	0		
weighted score	50	100	0	5	100	0	0		210

Back to Deciding Finder

Task 9: Balance Performances against Risks

Before you begin

Ask all interested stakeholders to examine the list of constraints and desirables standards.

Purpose

This task identifies sources of risks, and then assesses these risks, yielding the best option for all interested stakeholders.

Action

Follow these steps to balance performances against the risks involved.

Step	Action
1	If you answer *yes* to either of these questions, then revise Task 8 data. • Have we forgotten any standards? • Do we have any new information since we created the standards?
2	Identify and list the risks by asking this question repeatedly: "If we choose this option, then what goes wrong?
3	Assess the probability of each risk as high, medium or low, then list numerical assessment in **If ...** column of matrix. **3** = high **2** = medium **1** = low
4	Assess the consequences as high, medium or low, then list numerical assessment in **Then ...** column of matrix. **3** = high **2** = medium **1** = low
5	Multiply weighted score sum by probability assessment and by consequence assessment, then place product in cell at right end of each row.

More…

More… Task 9: Balance Performances against Risks

Risk table This risk table organizes option performances with risks involved.

Option	Weighted Score Sum	Risk	If…	Then…	Product
A					
B					
C					

Example Here is an example to assist you, continuing with an employment scenario.

Note: Option A shows the greatest product, 1560.
Option A is best when compared to Options B and C.

Option	Weighted Score Sum	Risk	If…	Then…	Product
A	260	unstable economy	2	3	1560
B	105	oil market collapse	1	3	315
C	210	over-regulation	2	2	840

Back to Deciding Finder Back to Situation Finder

Section 4:
Creating an Effective Plan

Preview

Introduction

When you recognize that a gap exists between present reality and your desired dream, you need to create a plan to achieve that desired dream, then carry out the plan.

Definition

An *effective plan* is a plan that you can implement successfully. It will —

- identify the most significant potential obstacles or opportunities.
- include actions to prevent obstacles and facilitate opportunities.
- include contingent actions.
- create alarms to trigger those contingent actions.

Finder

This table describes the tasks that appear in this section.

Back to Situation Finder

Task 1: Write a Goal Statement

Introduction

Once you have a goal, you want to keep sight of it and stay on track.
You write a goal statement.

Description

A goal statement describes your desired dream in terms of its outcome.
It includes —

- what action
- where
- when.

Note: You don't usually include *how much* or *how many*.

Example

Here is an example of a goal statement for an employment scenario.

I want to —

- begin my job as private contractor [*what action*]
- working at home [*where*]
- by May 1 [*when*].

Action

Follow this format to write your goal statement.

I/we want to —

- [action verb]
- [where]
- [when].

Guidelines

Apply these guidelines when you write a goal statement.

- Imagine your desired end state in general terms.
- State the specific details elsewhere, in your supportive objectives.

Back to Planning Finder

Task 2: Create a Schedule of Goal-related Activities

Introduction

With your planning statement in front of you, you can create a schedule of goal-related activities, sometimes known as an action plan.

A powerful method involves you in building a scenario.

Scenario building

Scenario building follows one of two opposing sequences.

- Now - forward scenario, or
- Then - backward scenario.

Note: It is usually easier to create a *then - backward* scenario.

Descriptions

A *Now - forward* scenario begins in the present. You imagine a progressive sequence of activities in which you manage the resources you need to reach forward to your desired goal.

A *Then - backward* scenario begins in the future. You have achieved your desired goal. Then you imagine a regressive sequence of activities in which you manage the resources you needed to get there.

Definition

A *schedule of goal-related activities*

- is a chronological table of events and activities that will close the gap between your desired dream and present reality.
- displays in parallel columns *who does what when* for each event and activity of your scenario.
- usually relates to a calendar of work days and non-work days.

More…

More… Task 2: Create a Schedule of Goal-related Activities

Action Follow these steps to create a schedule of goal-related activities.

Step	Action
1	Imagine a *then - backward* scenario for reaching your goal.
2	List *who does what when* for each event and activity of your scenario.
3	Enter data in chronological order for your schedule of goal-related activities.
4	Assign responsibility to one person for each activity or event.
5	Assign two realistic dates to each activity: • start date • completion date. *Note*: Assign one date to an event, not two. An event happens within one calendar unit and has less duration than the calendar unit.

Back to Planning Finder

Task 3: Identify Critical Obstacles or Opportunities

Introduction

The effectiveness of your plan rests upon critical events and activities.

These critical events and activities are *either* —

- potential obstacles, *or*
- potential opportunities.

You need to identify and prioritize these obstacles and opportunities to maximize your outcomes.

Methods

Two methods for identifying critical obstacles or opportunities:

- answering questions based on project management principles.
  Note: A list of questions appears on this page.
- using the fishbone to diagram the resources you need to manage.
  Reference: Fishbone diagrams appear in the learner guide for *The Competent Instructor*, Session 1b, pages 1-48 to 1-57.

Questions

Here is a list of questions based on project management principles.

Which event or activity —

- depends on people outside your control?
- involves real or potential –
  - overlaps in responsibility ?
  - gaps in responsibility ?
- involves "first-time" performance?
- is complex rather than simple?
- has the least "float" or "slack" time?
- costs the most?

More…

More… Task 3: Identify Critical Obstacles or Opportunities

Critical codes

This table lists in alphabetical order the critical codes to use when answering the questions based on project management principles.

Note: Each code is prompted by first letter of key word in the question.

Which event or activity…	Critical Code
is complex?	C
depends on people outside your control?	D
costs the most?	M
involves "first-time" performance?	P
involves real or potential overlaps or gaps in responsibility ?	R
has the least "float" or "slack" time?	T

Action

Follow these steps to identify critical events or activities.

1. Fit each event or activity into this table of questions and critical codes.
2. List code for any critical event or activity in space provided at right.

Activity or event	Responsible person	Scheduled dates	Critical Code
Event A	Customer A		
Activity A	Supplier A		
Event B	Customer B		
Activity B	Supplier B		
Event C	Customer B		

Example

This example displays a table of critical codes for scheduled events / activities.

Activity or event	Responsible person	Scheduled dates	Critical Code
Meeting	Sam A.	April 10	D
Designing product	Mary M.	Apr 15>May 14	C, M, P
Meeting	Sally B.	May 14	R
Writing report	Tony T.	May 14>Jun 15	T
Report	Sally B.	June 16	—

Back to Planning Finder

Task 4: Prevent Obstacles and Facilitate Opportunities

Introduction

You need to prioritize potential obstacles and opportunities, then determine which one to address first.

How to prioritize

Follow these steps to prioritize potential obstacles and opportunities.

Step	Action
1	Ask this question for each event or activity: "What obstacle or opportunity may arise here? *Hint*: If you get stuck, ask these questions: "What has happened in the past to us …to others?" "What could go wrong …go right?"
2	List each obstacle or opportunity in the space provided at right.
3	Ask this question for each event or activity: "How probable is this obstacle or opportunity?"
4	Code probability in the space tagged **If…** . *Note*: Use a simple scale: **high-mid-low**.
5	Ask this question for each event or activity: "If we face this obstacle or opportunity, then what happens?
6	Tag and list consequences in the space provided.
7	Code consequences in the space tagged **Then…** . *Note*: Use a simple scale: **high-mid-low**.
8	Is any probability or consequences code **high** or **mid**? • If *yes*, then highlight it. • *Else*, stop.

More…

More… Task 4: Prevent Obstacles and Facilitate Opportunities

Diagram Here is a table for displaying priorities of obstacles /opportunities and their consequences.

Activity /Event	Obstacles/Opportunities	If…	Consequences	Then…

Example This example displays a completed priorities table.

Activity /Event	Obstacles/Opportunities	If…	Consequences	Then…
Meeting	• Stakeholders missing • Total commitment	• **high** • **mid**	• Meeting moved • Follow through	• **mid** • **high**
Designing product	• New market niche • Experts inaccessible	• **mid** • low	• Market control • Data gaps	• **high** • **mid**
Meeting	• Bad weather • CEO attends	• low • low	• Meeting moved • Inspiration	• low • **high**
Writing report	• Structured method • Teamwork	• **high** • **high**	• Clarity • Integrity, speed	• **high** • **mid**
Report	• Reporter ill • Power failure	• low • low	• Replacement • Vamping	• **mid** • **mid**

Back to Planning Finder

Task 5: Isolate Causes and Preventive Actions

Isolating causes

Follow these steps to isolate and tag the likely causes of obstacles.

1. List what you know about the likely causes from —
   - your own experience.
   - the experience of others.
2. Apply knowledge you gained earlier from the problem solving tasks.

Isolating preventive actions

Follow these steps to isolate and label one or more preventive actions.

1. Answer this question for each likely cause of obstacles:
   "What can we do to prevent this likely cause?"
2. Tag and list preventive action(s) in space provided.

Diagram

This table organizes preventive actions related to likely causes of potential obstacles.

Potential Obstacle	Likely Cause	Preventive Action

Example

This example displays a completed table of preventive actions.

Potential Obstacle	Likely Cause	Preventive Action
No meeting agenda	• Lack of training	Train facilitators to prepare agendas.
Flight delay	• Mechanical problem • Foul weather	• Maintain plane and parts often. • None.

Back to Planning Finder

Task 6: Design Contingent Actions

Purpose Designing contingent actions minimizes the consequences of that obstacle, once it exists.

Diagram This table organizes contingent actions related to preventive actions.

Potential Obstacle	Likely Cause	Preventive Action	Contingent Action

Example Here is a table showing examples of contingent actions.

Potential Obstacle	Likely Cause	Preventive Action	Contingent Action
No meeting agenda	• Lack of training	Train facilitators to prepare agendas.	Take time at meeting to agree on agenda.
Flight delay	• Mechanical problem • Foul weather	• Maintain plane and parts often. • None.	• Book a different carrier. • Take bus or train.

Action Follow these steps to design contingent actions for each potential obstacle you isolated earlier.

Step	Action
1	Visualize the obstacle as it appears.
2	Visualize what you do to minimize the effects.
3	List contingent actions in space provided.

Back to Planning Finder

Task 7: Create Alarms To Trigger Contingent Actions

Introduction

Now you are almost ready to implement your plan of scheduled events and activities. What remains is to isolate and tag contingency alarms.

Purpose

Use contingency alarms to trigger contingent actions when "normal" preventive actions might be missing or ineffective.

Diagram

This table organizes contingency alarms related to contingent actions.

Potential Obstacle	Preventive Action	Contingent Action	Contingency Alarm

Example

This example displays a completed table of contingency alarms.

Potential Obstacle	Preventive Action	Contingent Action	Contingency Alarm
No meeting agenda	Train facilitators to prepare agendas.	Take time at meeting to agree on agenda.	No agenda in hand at start of meeting
Flight delay	• Maintain plane and parts often. • None.	• Book a different carrier. • Take bus or train.	• Gate clerk says delay is only 10 minutes! • Delay threatens connections.

Isolating contingency alarms

Follow this procedure to isolate and label your contingency alarms.

1. Answer these questions for each contingent action:
   - *Who* tells us that a contingent action is required?
   - *What* tells us that a contingent action is required?
   - *When* do we need to know that a contingent action is required?
   - *Why* do we need to know that a contingent action is required?
2. List alarms in the space provided.

Back to Planning Finder Back to Situation Finder

