

UNDERGRADUATE FINANCIAL CASE COMPETITION

APPROACHING CASE ANALYSIS

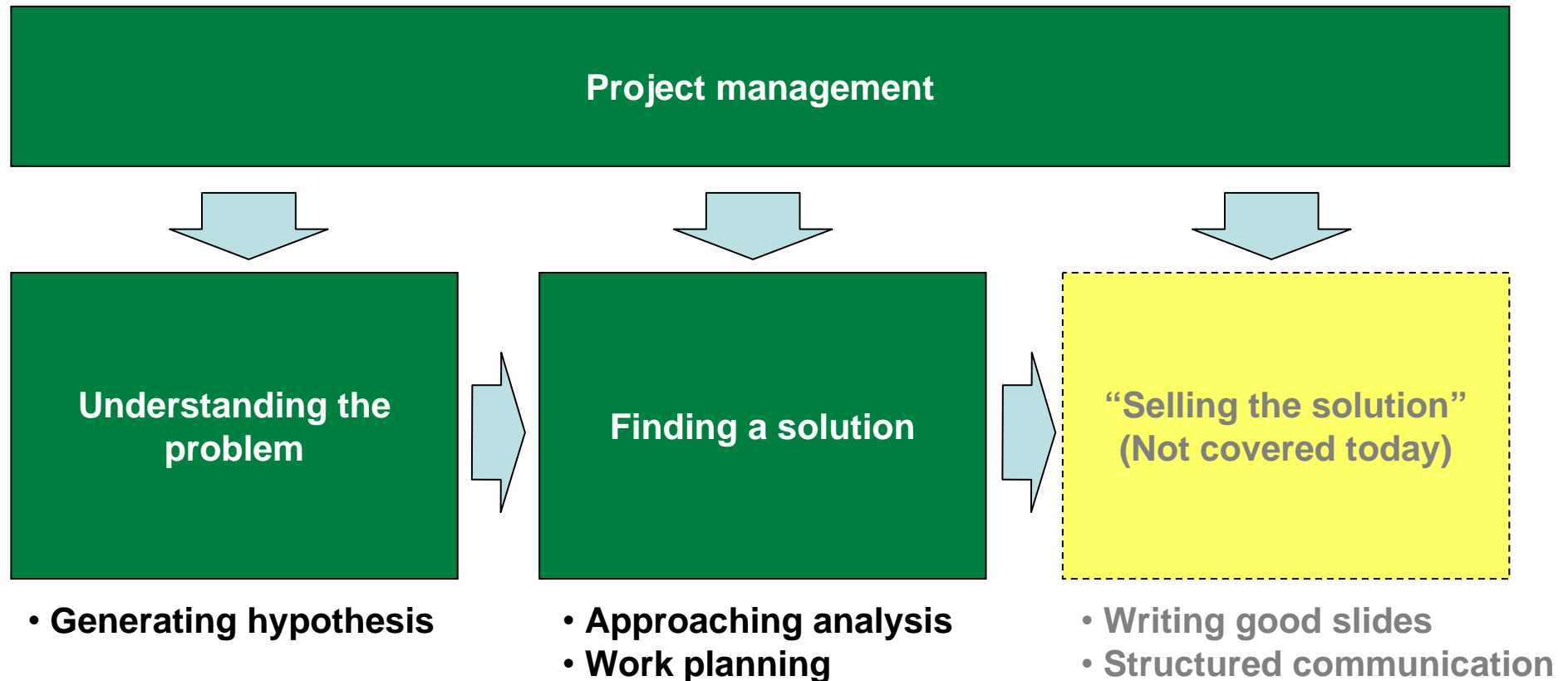
October 18, 2008

QuickTime™ and a
decompressor
are needed to see this picture.

FOUR SIMPLE RULES OF THE GAME

- 1** This is not a “technical” training session and there is no exam - so relax
- 2** Feel free to ask questions anytime - Goal is to ensure everyone take away as much as possible
- 3** There are no bad ideas or dumb questions - everyone should/ expected to participate and ask questions
- 4** Use this as a forum to exchange ideas

CORE ELEMENTS OF A PROJECT SIMPLIFIED



HYPOTHESIS GENERATION

An Approach To Problem Solving

HYPOTHESIS APPROACH HAS THREE ADVANTAGES

1

Forces you to structure the problem

- Proper structuring of the problem is a pre-requisite to developing a hypothesis
- Helps you understand the scope and key drivers of the problem

2

Saves you time

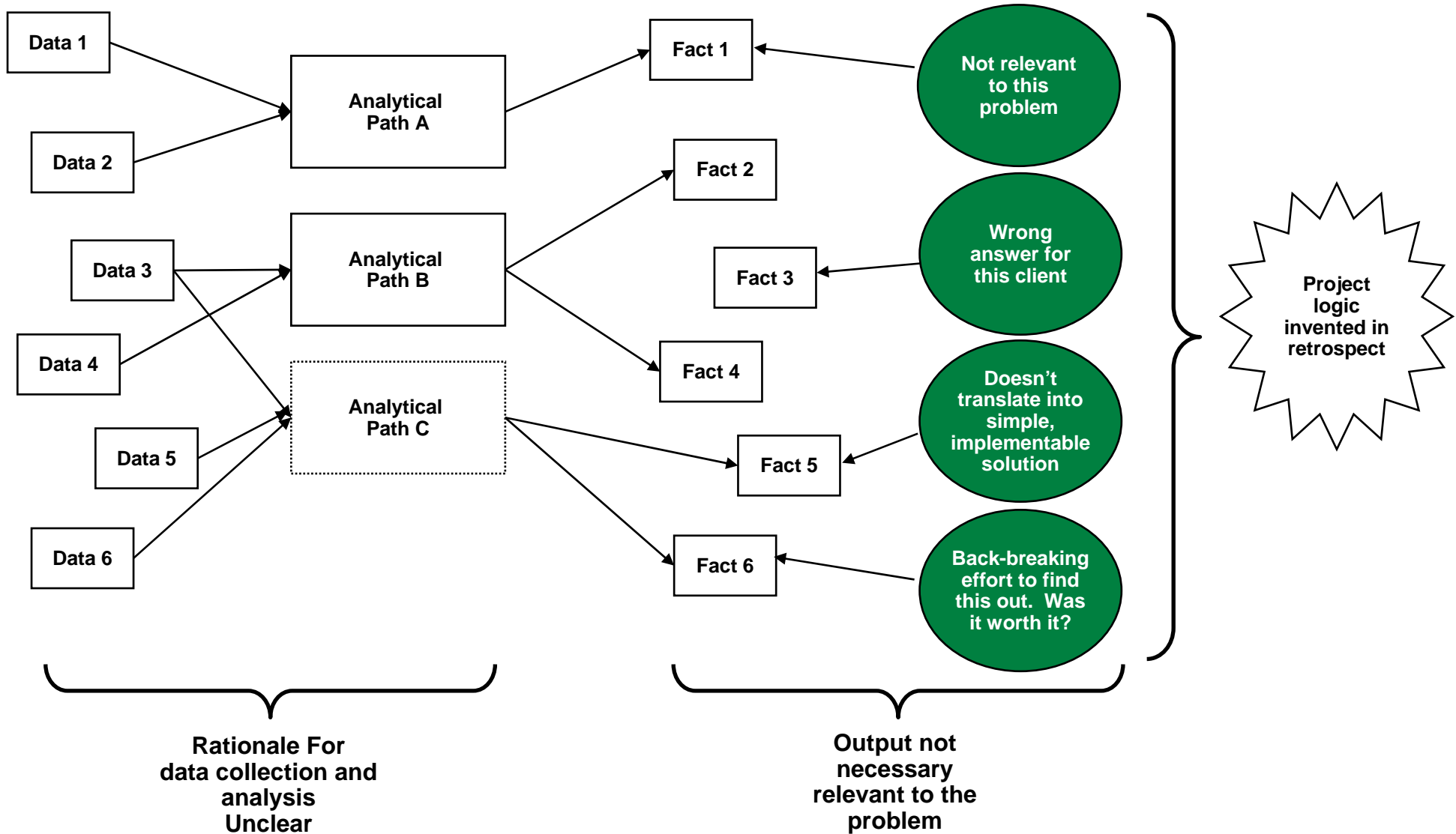
- Already knowing where you want to go helps eliminate a lot of paths that leads to dead ends
- Allows you to start drawing conclusions with limited information
- Forces you to focus only on the issues that can be prove or disprove

3

Makes your decision more effective

- Clearly states what your available options are clearly up front
- Allows you to make quick comparison of available options

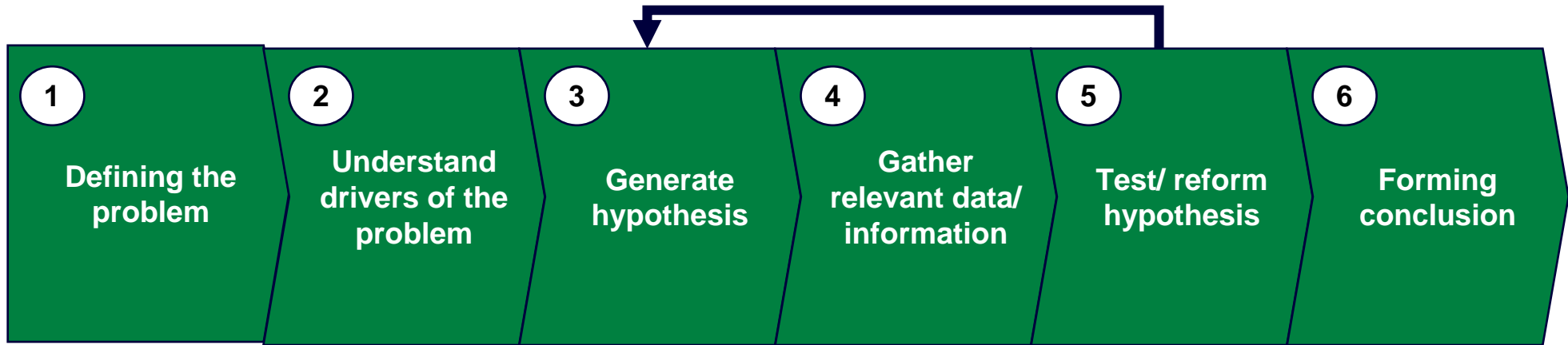
WITHOUT IT, YOU CAN HAVE A CHAOS OF MISDIRECTED ACTIVITIES



HYPOTHESIS APPROACH BEGINS WITH QUESTIONING AND ENDS IN THE ACHIEVEMENT OF INSIGHT

Hypothesis approach to problem solving

If wrong



What problem are we trying to solve?

What are the possible root causes of the problem?

What do we believe is the key root causes of the problem?

What do we need to know to test our assumption?

Is our assumption on the root cause validated?

What do we need to do to address the root cause?



Question



Analysis



Insight

DEFINING THE PROBLEM

The Problem Is NOT Always The Problem

Problem asked to solve

Real problem to answer

Should I invest in setting up the new plan?



Will investment in the new plant generate a positive return? (Investment Vs Profitability)

What is causing my profitability number to fall?



What is happening to my drivers of profitability? (Revenues and Costs)

What is the best organization structure that fit our strategic intent?



Where are the misalignment of the current structure to our strategic intent?

Key to get re-confirmation on the
REAL question asked

UNDERSTAND THE DRIVERS OF THE PROBLEM

Problems

Will investment in the new plant generate a positive return?

“Profitability Problem”

Key drivers

Investment required

Estimated revenue potential

Market/ environmental risks (sensitivities)

How can I shorten my product delivery time?

“Process problem”

Product development time

Product manufacturing time

Product packaging time

Product shipment time

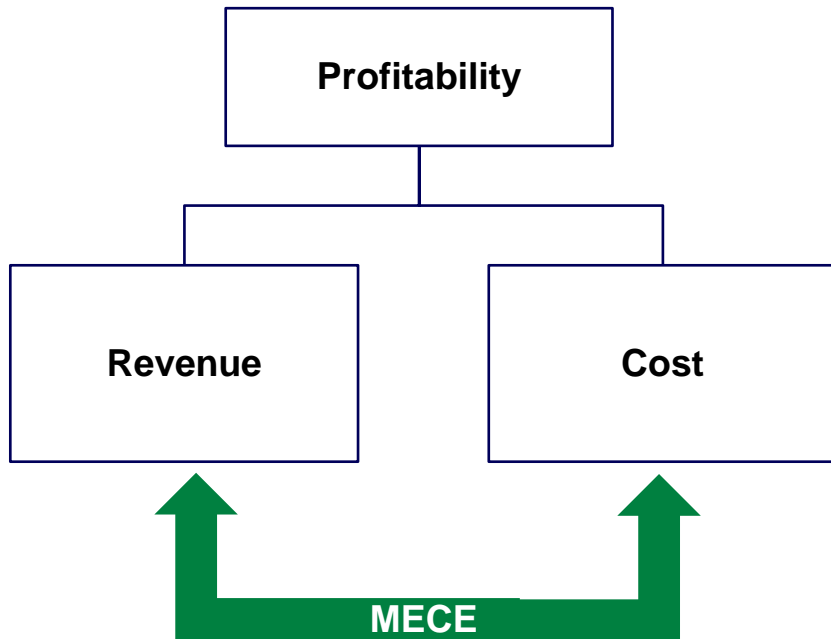
Once drivers are defined you have the starting structure of the approach to you problem

KEY DRIVERS SHOULD BE “MECE”

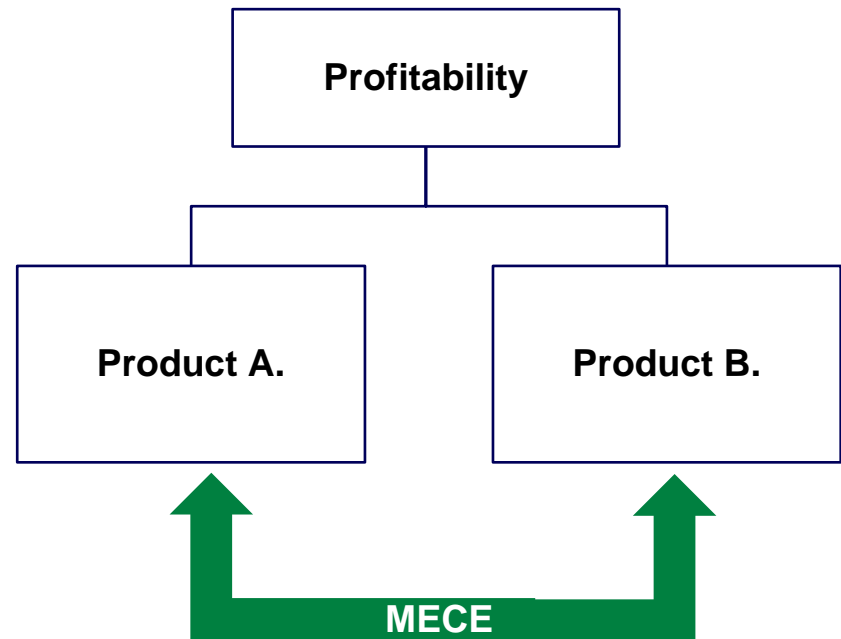
There can be several sets of drivers for the same problem, which set we decide to use will affect the way we approach the problem

Example

Option 1.

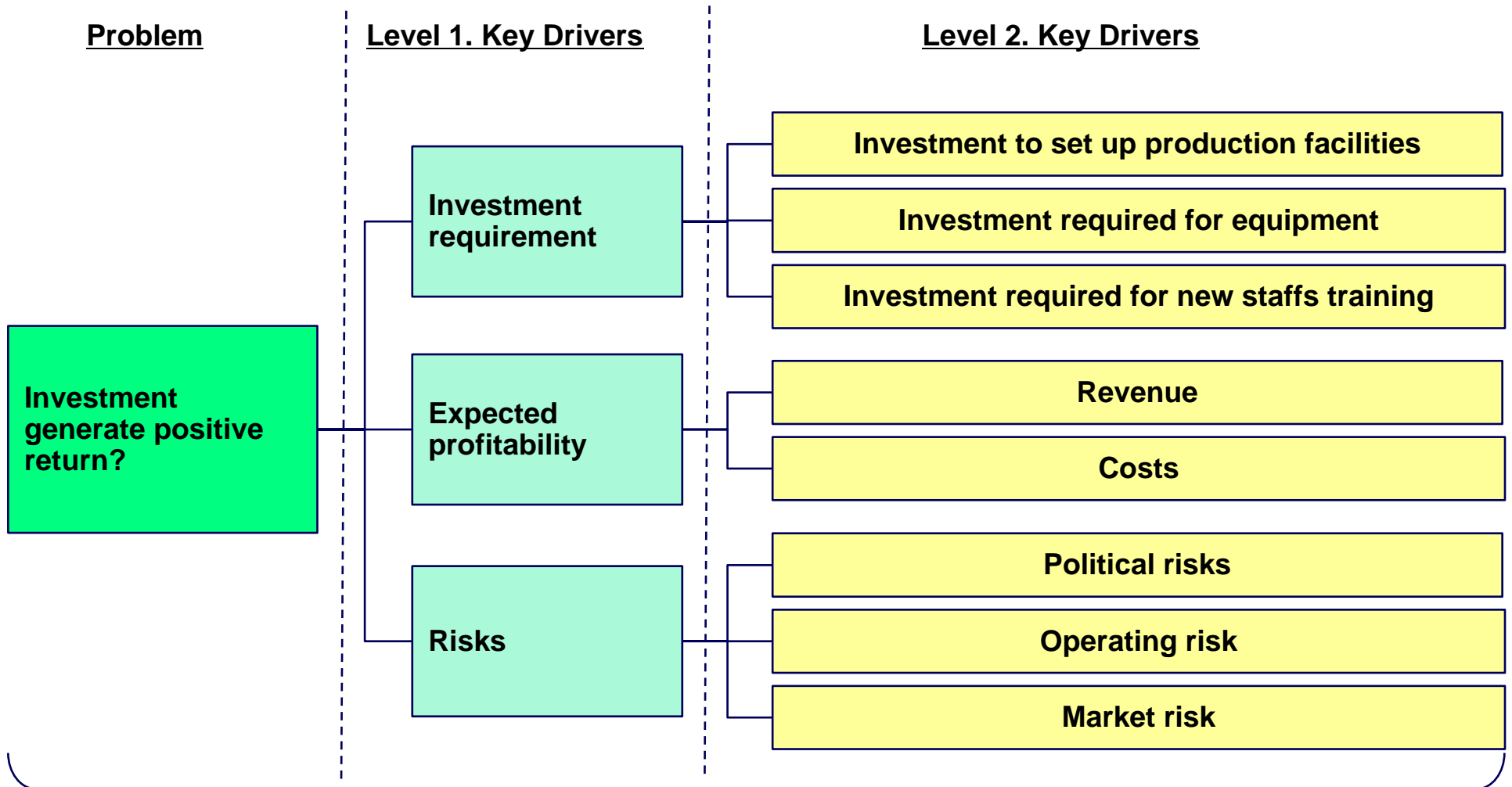


Option 2.



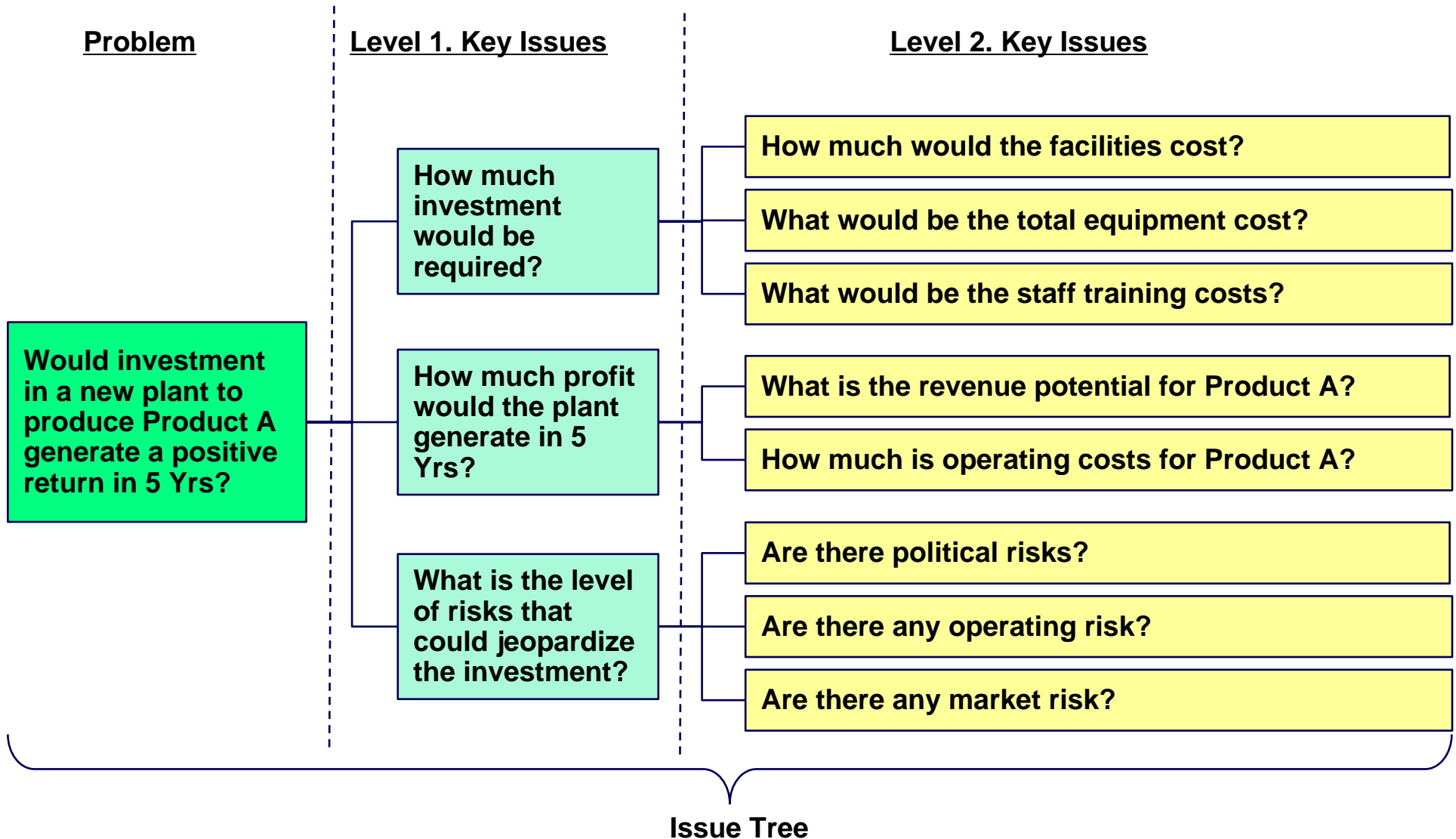
Key is to make sure which ever view you take, your drivers are
1. Mutually Exclusive
2. Collectively Exhaustive

LOGIC TREE DEVELOPED THROUGH BREAKING DOWN KEY DRIVERS OF THE PROBLEM

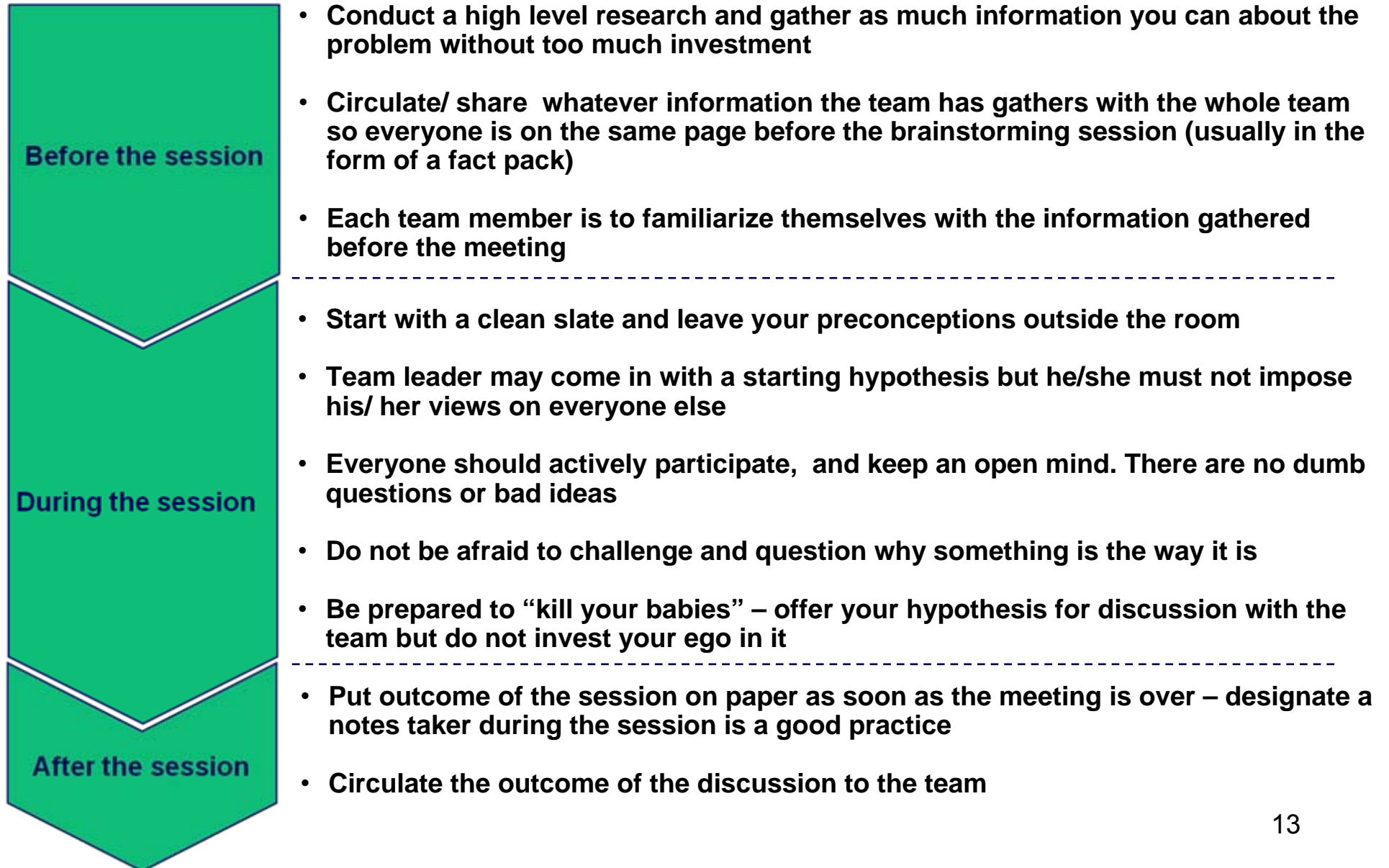


Logic Tree

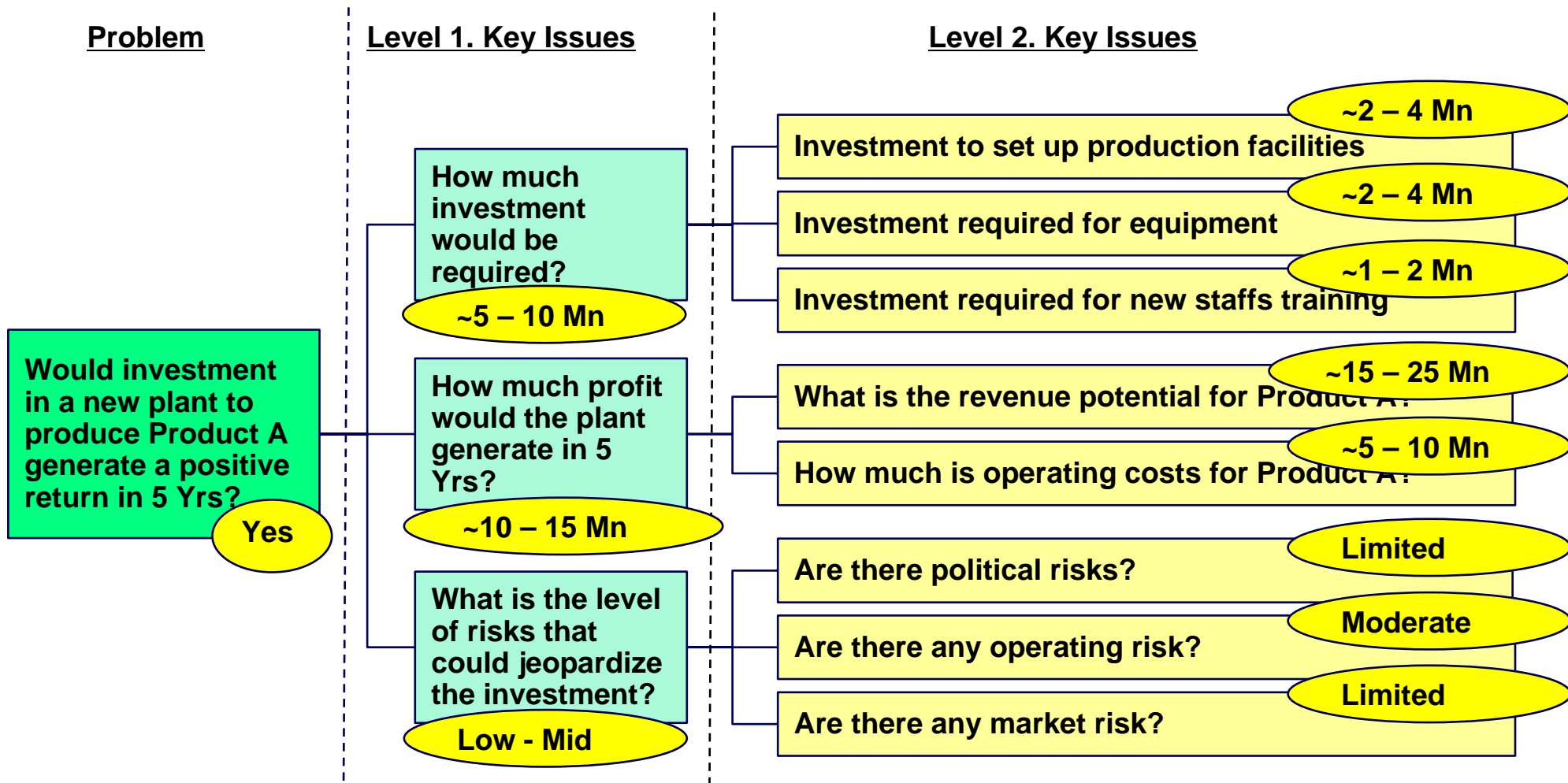
REPHRASING THE DRIVERS INTO QUESTIONS WE CAN ADDRESS TRANSLATES LOGIC TO ISSUE TREE



APPROACH TO A HYPOTHESIS BRAINSTORMING SESSION



HYPOTHESIS GENERATED THROUGH GETTING INITIAL ANSWERS TO KEY ISSUES



ESTABLISH HYPOTHESIS/RUNNING ANSWER

Hypothesising is simply a problem solver's initial diagnosis that has yet to be proved or disproved

If your initial hypothesis is wrong, then by proving it wrong, you will have enough information to prove forward to the right answer

When generating initial hypothesis, you just need enough facts to have an overview of the industry and the problem – don't spend too much time is getting into the details

Once you have developed you initial hypothesis, test it by asking yourself the following questions

- 1. Have you left out any issues?**
- 2. Have you considered all the drivers of the problem?**
- 3. Can your recommendation be proven or acted on?**

FORMING YOUR RUNNING ANSWER OR 'DESCENDING ELEVATOR SPEECH'

'Investment in setting up the plant to produce Product A is likely to generate a positive return in 5 Yrs'

'We believe profit will outpace the investment cost with manageable risks level'

'Total investment is expected to range between 5-10 Mn with expected profitability in the range of 10 – 15 Mn'

'We will validate the profitability numbers as a first priority to reaffirm our hypothesis'

- *Belief as to answer to the problem*
- *Preliminary diagnosis*
- *Fully supported and Quantified*
- *Key action item determined*

TESTING YOUR HYPOTHESIS

Iterate! Revisit Answer During Data Collection

Conduct analysis in layers (high level to detailed)—take sample from large databases

- Write output after *first* wave / layer — do not wait until all in
 - after *first* interviews (not just interview notes!)
 - after *high-level* data cut, sampling
- *Stop* data collection / analysis if answer sufficiently clear

If your hypothesis is proven otherwise, iterate!

- Go back to the drivers of the problem and explore other alternatives
- If resources permits, multiple alternatives can be pursued at the same time

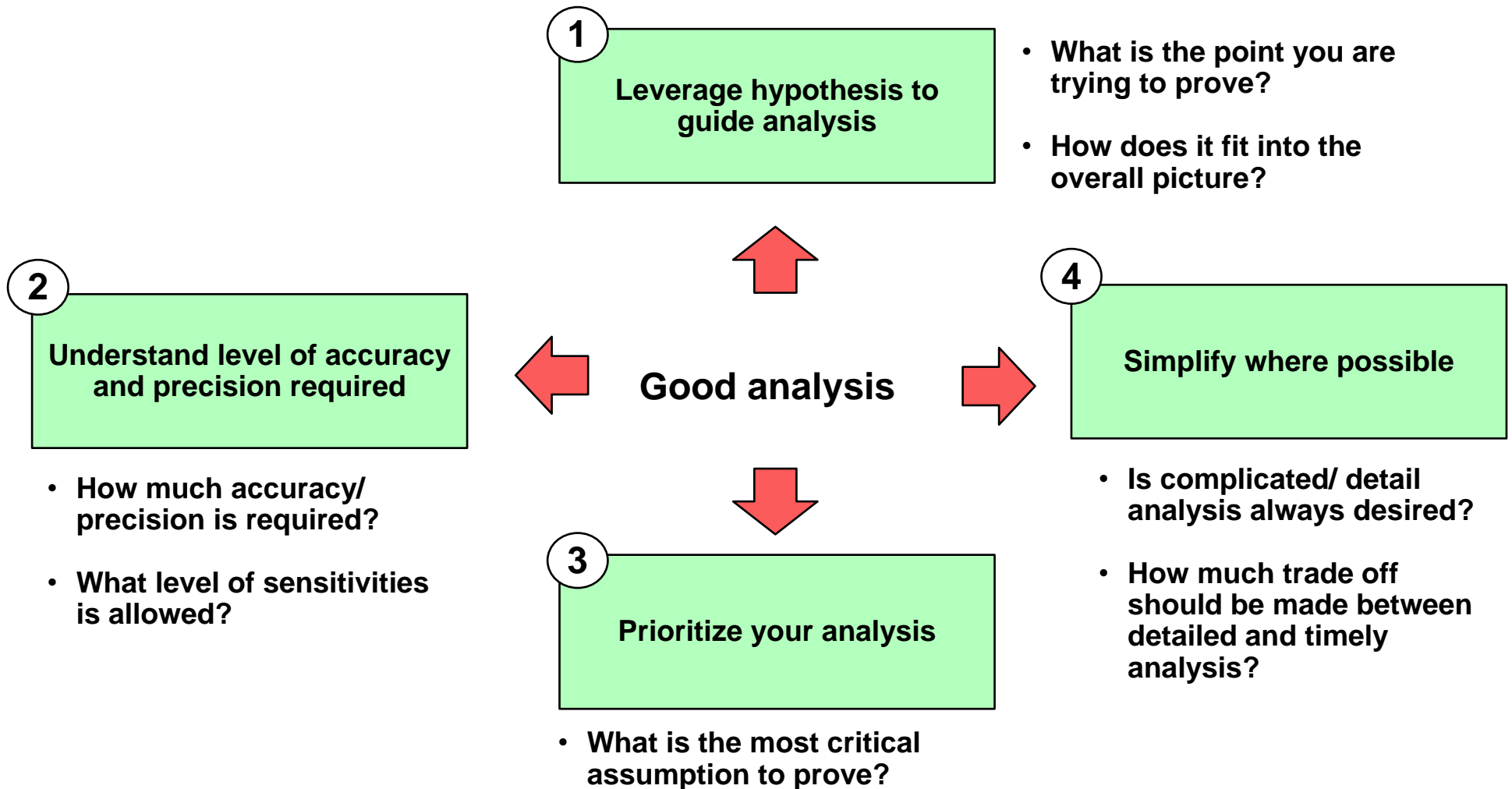
APPROACHING ANALYSIS

“Analysis is the separation of an intellectual whole into its components for individual study”

A FEW RULES TO GUIDE ANALYSIS

- **Break the problem into component pieces**
 - **Allows for a complex problem to be broken down into smaller and more manageable pieces**
 - **Makes data collection clearer and helps improve accuracy**
- **Collect any piece of data you can**
 - **One data point/one interview is infinitely better than none**
- **Sanity check/sensitivity check your results**
 - **How wrong would you have to be to change the recommendation?**
- **Bring the practitioner into the discussion**
 - **They understand the business better, but they probably have never done a methodical approach on the key drivers**

APPROACHING ANALYSIS: THE FOUR COMPONENTS



LEVERAGE HYPOTHESIS TO GUIDE ANALYSIS

What is the point you are trying to prove?

If you had correctly designed your issue tree and formed the initial hypothesis, the required analysis to prove or disprove it would have been laid out

Always understand and keep in mind how the analysis you are building connects to your hypothesis and to the whole story

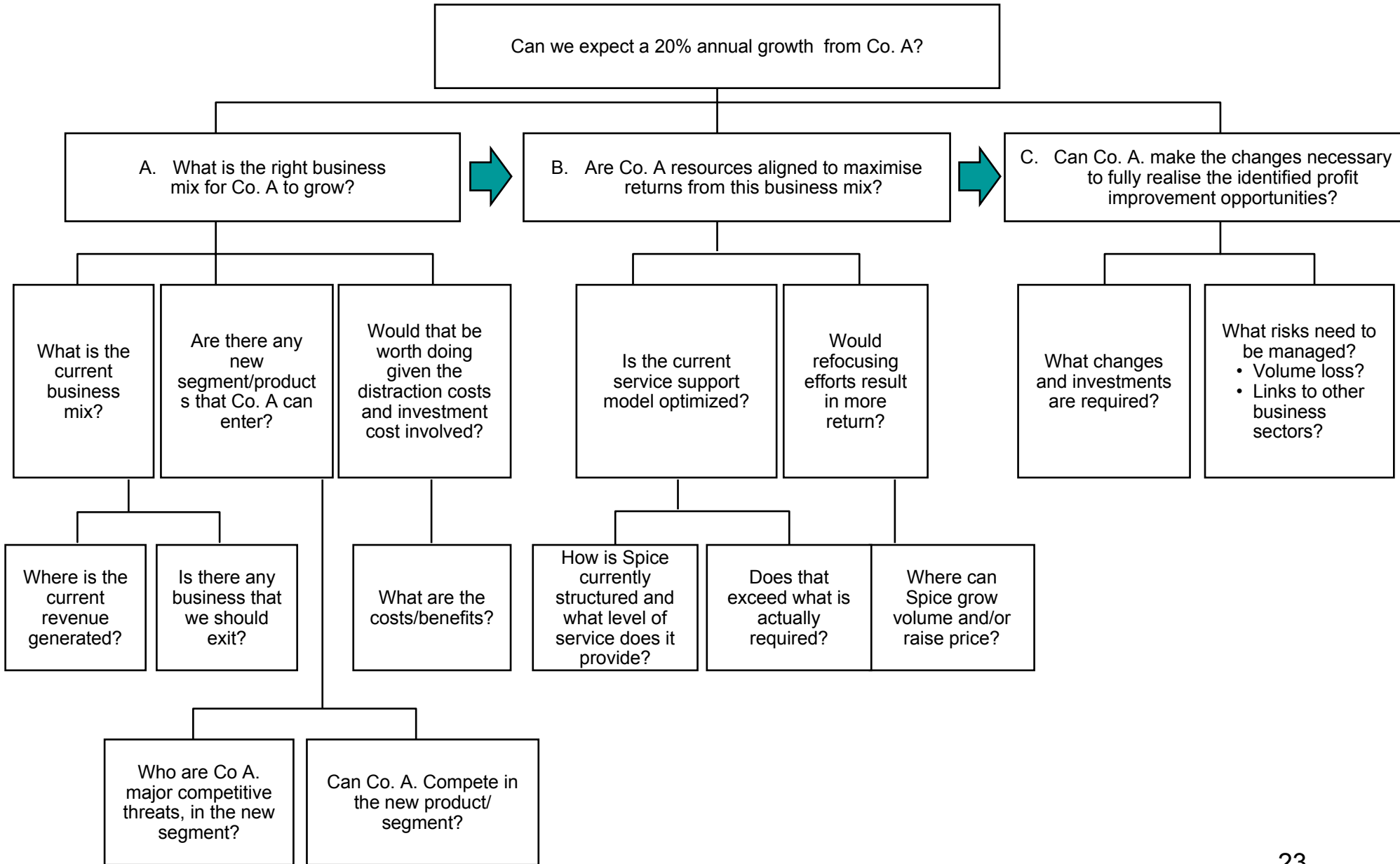
- Where does your analysis fit into the overall logic flow?
- What are the key assertions the specific piece of analysis has to support or prove?
- How much evidence is required to convince your audience on the assertion made?

Value is created when the analysis produce a result that move people to action

- Possible only when the analysis addresses the relevant issues at hand

***Relevance* : A small focused analysis is better than a large set of unstructured study**

KEEP IN MIND WHERE YOUR ANALYSIS FIT



UNDERSTAND THE LEVEL OF ACCURACY/PRECISION REQUIRED

Analysis has to be accurate

- **Business decision should not be sensitive to the analysis's level of accuracy**
 - **How wrong would you have to be to change the recommendation?**
 - **if you can't be off by 20%, then how good is the recommendation?**
- **Assumptions made has to be based on sound logic**
- **Sensitivity test your analysis (Structure your approach so that estimates are applied only at later stages of the analysis - multiplier effect of error)**

Level of detail/ accuracy required is dependant on what the business implications are, e.g.,

- **Decide if an opportunity is big enough**
- **Set next year's budget**

PRIORITIZE YOUR ANALYSIS

Understand What Is Most Critical To Proving Your Hypothesis

With limited time and resources to address the problem, separating critical analyses from “nice-to-have” is important

Hypothesis driven approach would help in thinking through your prioritization

Analytical minded people are often tempted to do analyses that are interesting rather than relevant. It is important to pre-empt this through analysis planning

Pluck the low hang fruits where possible – attack analysis that are easy to complete and likely to make major contribution to proving/disproving the hypothesis first

Through prioritisation and focus first “quick-wins”, it is more likely that the team would get a lot more done in a shorter period of time

SIMPLIFY YOUR ANALYSIS WHERE POSSIBLE

Analysis may or may not require high level of sophistication or detail, when it does, they are only means to an end

Approach should be simplified (e.g., avoid constructing analysis that requires unreasonably detailed information)

Complicated analysis:

- **Has a high probability of being incorrect**
- **Unlikely to be completely understood by the client, even if it is correct**
- **Cannot be remembered, even if it is understood**
- **In most cases can be substituted with simpler approaches**

"Quick and dirty" approaches are almost always the right way to identify areas for more precise analysis

- **Gives you a look at where levers are**
- **Minimizes number of blind alleys**

CLEARLY DEFINE DATA REQUIRED TO CONDUCT YOUR ANALYSIS

Helps Determine Its Feasibility

Draw a skeleton output (slide or communication document) to determine what type and amount of data you would need for your analysis, be as specific as you can

- **Level of detail required (e.g. Revenue streams break down by product)**
- **Over what time frame**

Conduct a check list of what data you already have and what is missing

For data that is missing, identify possible sources where you might get it and rate the difficulty level of getting it

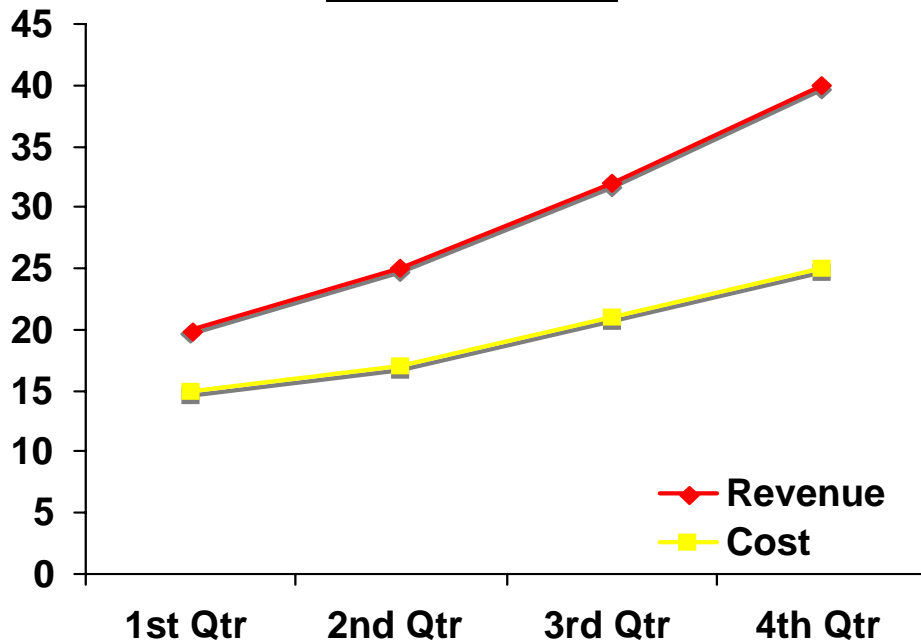
Re-evaluate your analysis requirement to ensure effort to locate hard to find data is worth the effort

If data cannot be found in a reasonable time frame, consider alternative analysis that would help you prove/ disprove the same point

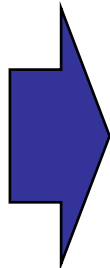
SKELETON SLIDE HELPS DETERMINE IN DETAIL WHAT DATA WOULD BE REQUIRED

Profitability Forecast Example

Skeleton Slide



Data required

- 
- Revenue forecast for 4 qtr
 - Price forecast
 - Volume forecast
 - Product mix
 - Cost forecast for 4 qtr
 - Variable cost forecast
 - Fixed cost forecast

APPROACHING ANALYSIS IS PRACTICE

Judgment

- Analysing business data involves judgment
 - Data is often ambiguous or fuzzy
 - Data is often unavailable
 - Controlled experiments are difficult
- Successful analysis often relies on:
 - Sound estimation
 - Informed guessing
 - Experimenting

Data Gathering

- *Philosophy*: somewhere, someone knows the answer
 - Cast a wide net
 - Follow the paper trail
 - Don't be shy or easily discouraged
- There is almost always an angle that will prove productive
 - Remain flexible in your thought process
 - Design approaches that rely on more easily available data

Output

- Early answers make for effective analysis
- Logic flow and story line should be explicit at all times
 - Be open as to where assumptions are weak or where you guessed
 - Suggest other analyses that would raise your comfort level
- Propose new areas to investigate
 - What issues to follow up on, for what purpose
 - Scope out efforts, and discuss with case leader how worthwhile they are

WORKPLANNING

A Structured Approach

WORKPLAN HAS MULTIPLE BENEFITS

- 1. Helps in managing team effectiveness and efficiency through clearly identifying the issues and what/ how much resources will be used to address it**
- 2. Its an effective communication tool to illustrate our approach to the problem and where we are in the process**
- 3. Captures the overall picture of the problem and help team members understand where their work fit in - it also shows linkages between pieces of work**

PRINCIPLE OF A WORKPLAN IS THAT THINKING ALWAYS DRIVES DOING

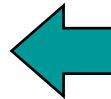
Thinking

Doing

Not this...

‘What are we going to ask them?’

‘What data is already available?’

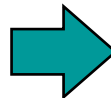


‘Better do some customer interviews’

‘Let’s wallow in and play with the data’

But this...

Import share has continued to rise. An issue is whether XYZ adapted to loss of monopoly and learned to compete with the Japanese



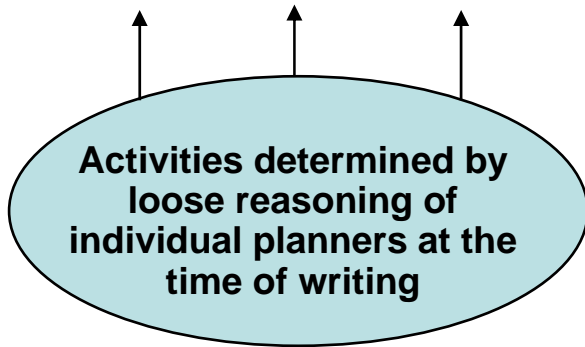
‘Better interview customers and generate data to probe relative

- Delivery Performance**
- Responsiveness**
- Flexibility’**

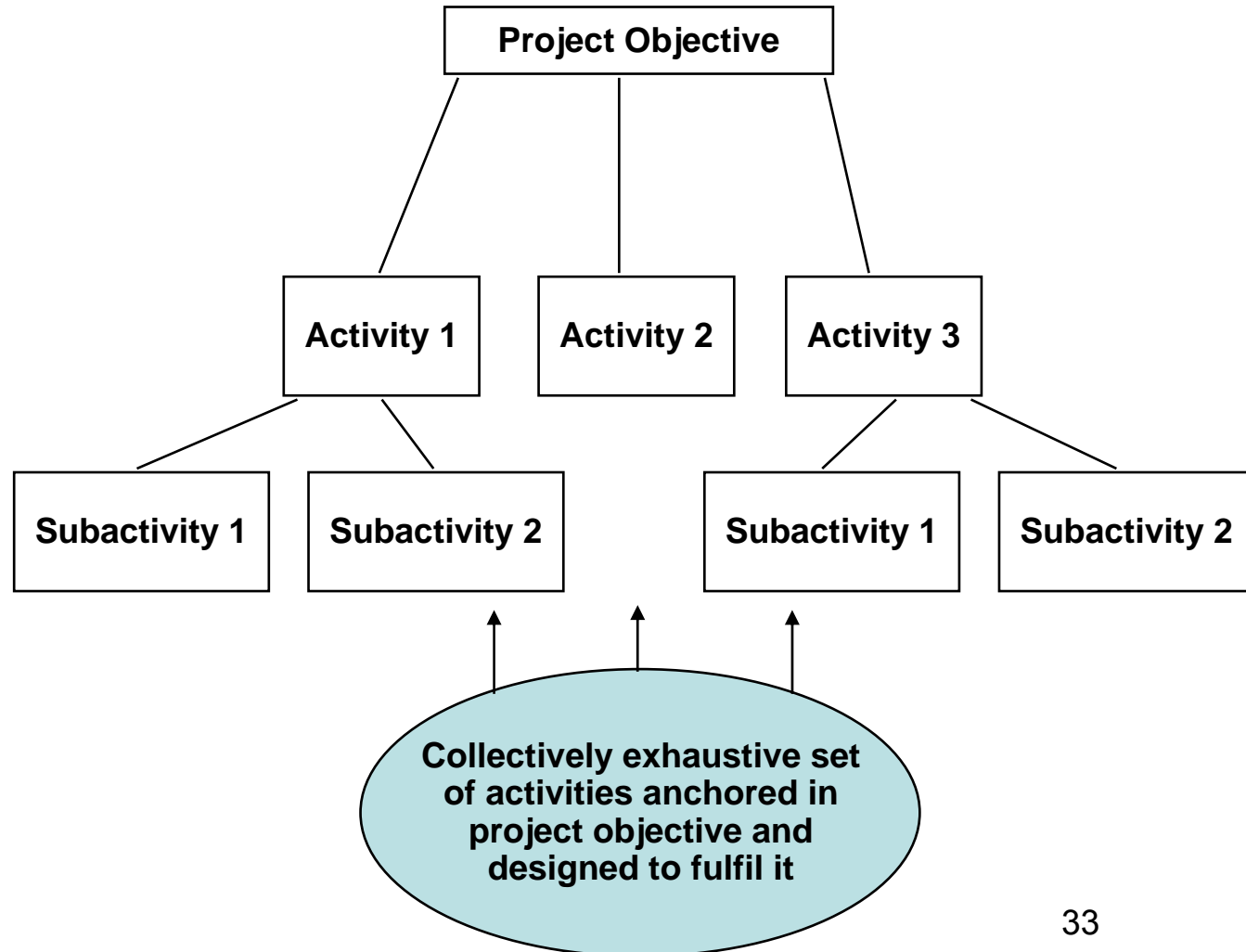
THERE ARE TWO KINDS OF PLANS

List Of Specified Activities And Schedule

1. Activity
2. Activity
3. Activity

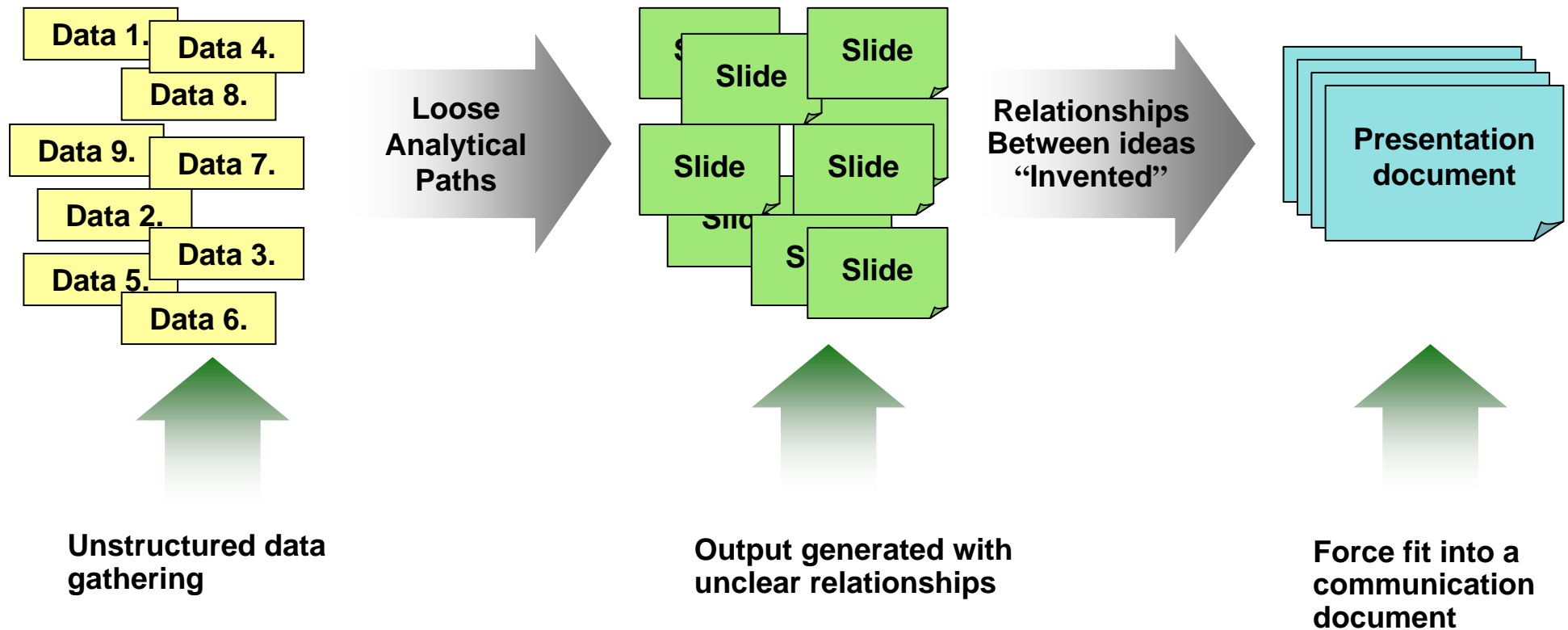


Logically Derived Plan



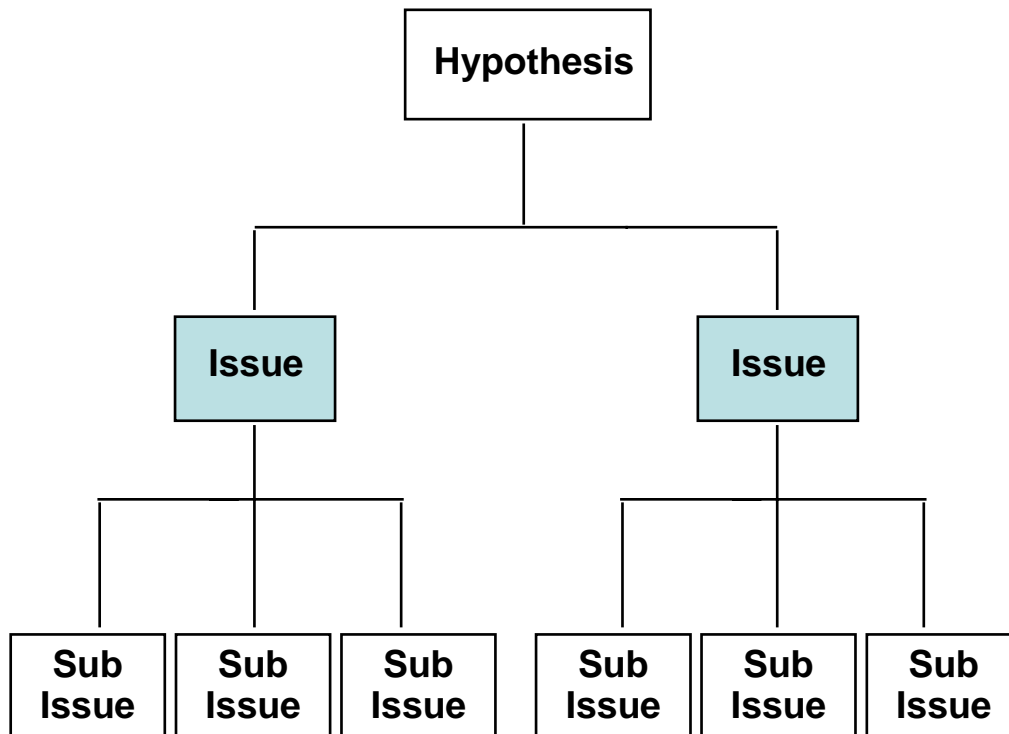
INSUFFICIENT WORK PLANNING LEADS TO “COMMUNICATION OVERLOAD”

DOING ANALYSIS AND WRITING IT UP IN SLIDES



LOGICALLY DERIVED WORKPLANS ARE SUPERIOR TO ACTIVITY PLANS

Logically Derived Work plan



Systematic Logical breakdown



1. Ensures that all activities are germane to the objective of the project and driving to an actionable result
2. Ensures that the program of initiatives is exhaustive and designed to fulfil factors
3. Focuses activities effectively on key leverage factors
4. Enables the validity of the plan to be continually tested

A GOOD WORKPLAN SHOULD CONTAIN A THINKING MAP AND ACTIVITY SCHEDULE



STEP 1. YOU BEGIN WITH THE CENTRAL QUESTION

- 1. Start with the defining the problem that you are setting out to resolve in the project:
Make sure everyone agrees on it**
- 2. Then define the issues by breaking the major question into subsidiary ones**
- 3. After you have sifted through the information on the business and the market in overview, hypothesise a solution to the problem**
- 4. This will express an end result and a means of getting there in question form (eg. Should Company A. invest in a new plant?)**

STEP 2: SPECIFY RELEVANT ANALYSES/DATA/OUTPUT TO VALIDATE OR REFUTE HYPOTHESES

1. Specify analyses

- Which segments / categories — which are *relevant*?
- Level of detail — sufficient to be actionable, & no more
- Number of data points — for appropriate level of certainty

2. Match to available data

- What is necessary and sufficient — versus what would you like?
- What do you already have? What can you get or create, and how?

3. Specify output

- Draw key output document out as *expected* from analysis
- One layer deeper than ‘conceptualizing’

STEP 3: IDENTIFY TASKS AND TIMING

Essential to consider how and when work will get done (and by whom)

- **Connects thinking to doing**
 - **what tasks / steps needed for data / analysis?**
 - **what is timing / sequence?**
 - **if working with clients / colleagues, who does what?**
- **Lets you see what is to be done**
 - **ahead / behind schedule, what is next**
 - **parallel steps, preparatory work for subsequent steps**
- **Need not be formal or complex**
- **List of tasks a complement to, *not* substitute for, thinking before and during work**

SAMPLE WORKPLAN FORMAT: THINKING MAP

*Hypothesised solution
to client's problem:*

**Frostyveg can become more
profitable through improving its
cost position in potatoes**

*Issues to explore
to test the
proposed solution:*

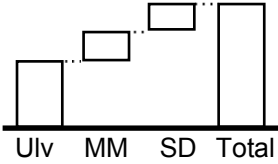
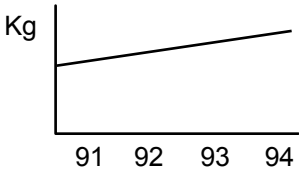
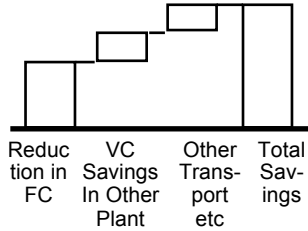
**Are there
opportunities to
reduce
production costs
in existing
branches?**

**Is it feasible to
reduce the
number of
branches?**

**Can we achieve
a lower cost
position than
our domestic
competitors?**

**Do imports pose
a real threat?**

SAMPLE ACTIVITY SCHEDULE

Issue	Sub-Issue	Analysis	Data Source	Output	Timing
Is it feasible to reduce the number of branches?	What are the capacities of each of the branches?	Determine capabilities on an 'equivalent unit' basis	Production managers in each branch	<p style="text-align: center;"><u>Capacity</u> (Kg 13mm Equiv)</p> 	
	What will be total demand in future?	Determine demand on an 'equivalent unit' basis	Marketing team	<p style="text-align: center;"><u>Demand</u> (Proj)</p> 	
	What cost savings are available from branch closure?	From previous analysis Determine which branch provides greatest savings		<p style="text-align: center;"><u>Savings From Branch Closure</u> (Branch A)</p> 	
	Are there other barriers to closing a branch?	Determine risk of having fewer than three locations	Field officers Branch managers		
	Are there opportunities to increase capacity at low cost?	Ability to shift machinery	Engineers		41

ISSUES IDENTIFIED IN YOUR HYPOTHESIS DRIVES THE STRUCTURE OF YOUR WORKPLANS

Hypothesis and issues defined

Hypothesis:

Proposed solution to client's problem

Issues:



Workplan

Issue	Sub-Issue	Analysis	Output	Responsibility	Due Date
Major questions, the answers to which could form recommendations, formatted to yield a yes/no answer (implying action)	More detailed question, the answers to which will collectively solve a major issue. Not likely to have yes/no answers	A few very specific, exercises to gather data and calculate answers to issues - the action steps	The end product of the analysis	The person responsible for the analysis	



Key issues dictates analysis to be conducted

A WELL STRUCTURED WORKPLAN PROVIDES A SOUND FOUNDATION FOR A FINAL PRESENTATION

Issues/Questions

A	_____
B	_____
C	_____
D	_____

Workplans

Issue	Sub-issue	Analysis	Person	Date
A	_____			
B	<ul style="list-style-type: none"> • 1 _____ • 2 _____ • 3 _____ 	B.3  B.3 		
C	<ul style="list-style-type: none"> - _____ - _____ 			
D	_____			

Story Lines

A.....
A.1 •
A.2 •
A.3 •
B.....
B.1 •
B.2 •
B.3 •
-
-
-

Data Interpretation

