DIG 4104C: WEB DESIGN WORKSHOP

Researching client needs: Conducting case studies and market research

Summer 2015

D. Novatnak

Outline

I. Overall Process
II. Defining the Problem
III. Formulating the Hypothesis
IV. Collecting the Facts
V. Conducting the Analysis
VI. Developing the Solution
VII. Applied Market and Case Study Research

Objectives

- Provide a fundamental understanding of how analytical thinking works
- Identify specific tools and techniques that you can use during the problem solving life cycle
- Give a complete framework for managing project issues – from identification to resolution

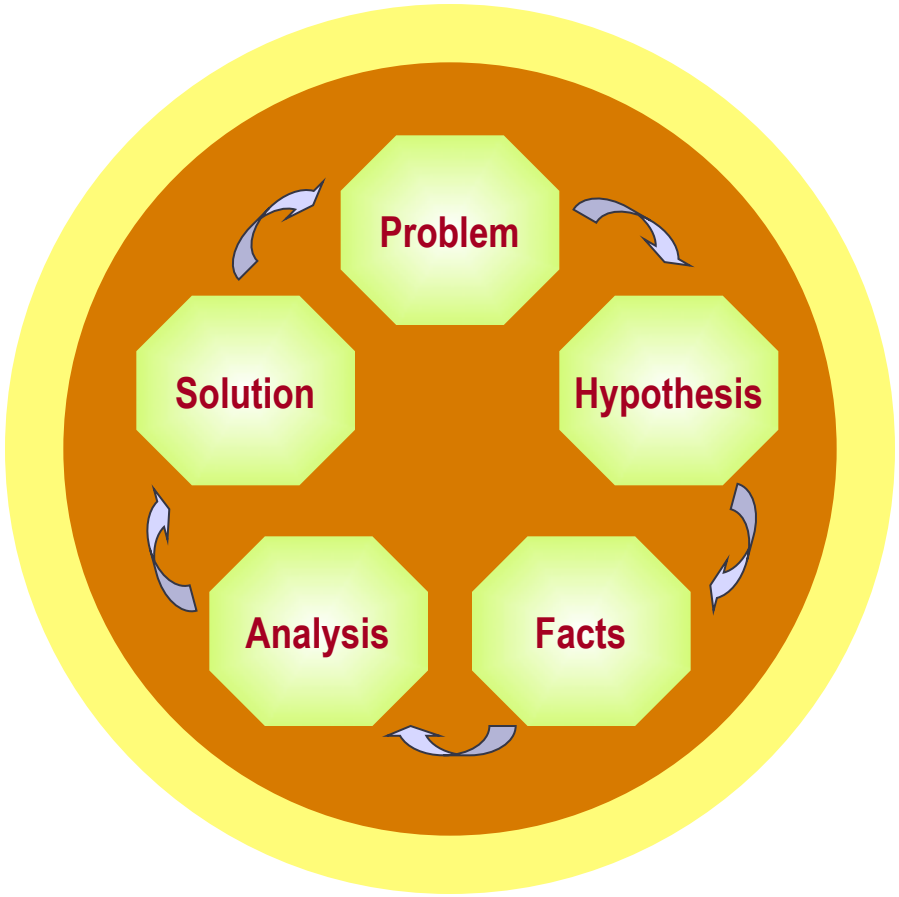
At the end of this lecture, you should be able to….

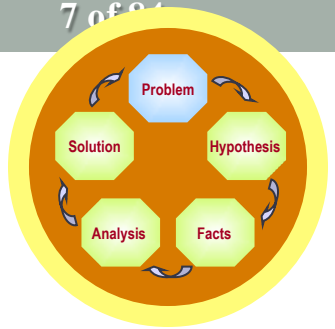
- Understand the systematic process of problem solving
- Define the issue as a starting point for your project
- Focus on the “drivers” behind your issue
- Know how to apply specific techniques, such as brainstorming, root cause analysis, and SWOT
- Know how to test your proposed solutions before submission to the client
- Know how to present viable solutions for solving critical problems
- Perform basic market research
- Develop a basic case study

OVERALL PROCESS

FOR RESEARCH AND ANALYSIS

Research and analysis follow the scientific approach to problem solving

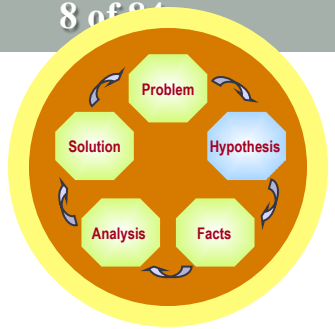




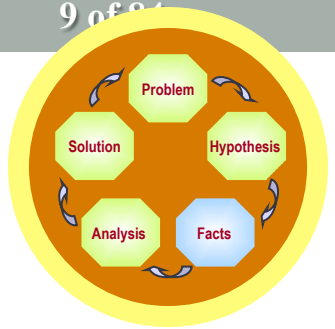
Defining the Problem

- Definition:
  - A problem is a situation that is judged as something that needs to be corrected – implies that a state of "wholeness" does not exist
- Importance:
  - It is our job to make sure we're solving the right problem – it may not be the one presented to us by the client. What do we really need to solve?
- Basic Concepts:
  - Most of the problems are initially identified by our clients
  - Defining the problem clearly improves focus – it drives the analytical process
  - Getting to a clearly defined problem is often discovery driven – Start with a conceptual definition and through analysis (root cause, impact analysis, etc.) you shape and redefine the problem in terms of issues

Formulating the Hypotheses

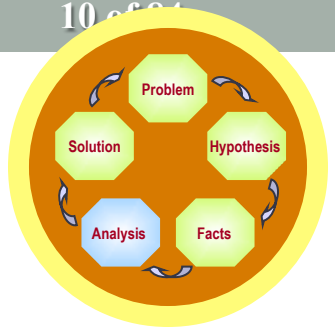


- Definition:
  - Hypothesis is a tentative explanation for an observation that can be tested (i.e. proved or disproved) by further investigation
- Importance:
  - Start at the end - Figuring out the solution to the problem, i.e. "hypothesizing", before you start will help build a roadmap for approaching the problem
- Basic Concepts:
  - Hypotheses can be expressed as possible root causes of the problem
  - Breaking down the problem into key drivers (root causes) can help formulate hypotheses



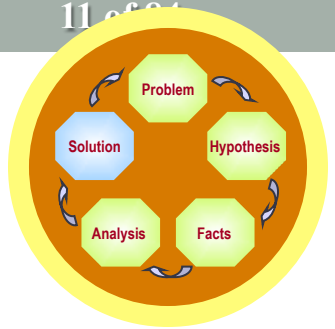
Collecting the Facts

- Definition:
  - Meaningful information (has merit – not false) that is qualitative (expert opinions) or quantitative (measurable performance) to your decisions
- Importance:
  - Gathering relevant data and information is a critical step in supporting the analyses required for proving or disproving the hypotheses
- Basic Concepts:
  - Know where to dig
  - Know how to filter through information
  - Know how to verify – Has happened in the past
  - Know how to apply – Relates to what you are trying to solve



Conducting the Analysis

- Definition:
  - The deliberate process of breaking a problem down through the application of knowledge and various analytical techniques
- Importance:
  - Analysis of the facts is required to prove or disprove the hypotheses
  - Analysis provides an understanding of issues and drivers behind the problem
- Basic Concepts:
  - It is generally better to spend more time analyzing the data and information as opposed to collecting them. The goal is to find the “golden nuggets” that quickly confirm or deny a hypothesis
  - Root cause analysis, storyboarding, and force field analysis are some of many analytical techniques that can applied



Developing the Solution

- Definition:
  - Solutions are the final recommendations presented to our clients based on the outcomes of the hypothesis testing
- Importance:
  - Solutions are what our clients pay us for…
- Basic Concepts:
  - It is important to ensure the solution fits the client – solutions are useless if they cannot be implemented
  - Running an actual example through the solution is an effective way of testing the effectiveness and viability of the solution

TOOLS & TECHNIQUES

FOR "DEFINING THE PROBLEM"

Problem Identification

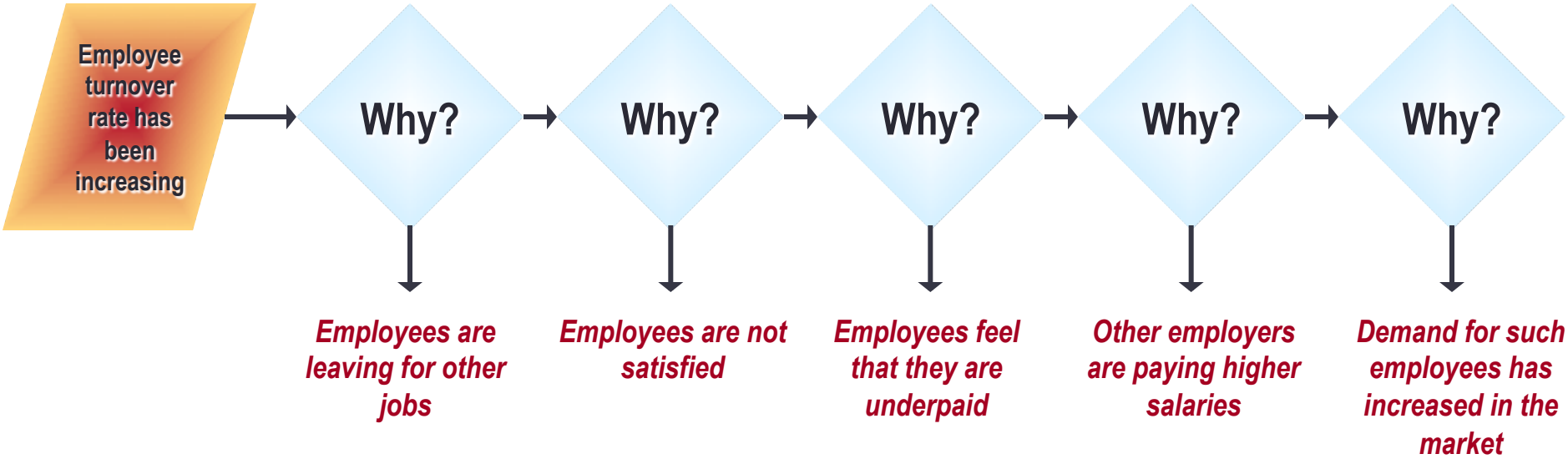
- A problem becomes known when a person observes a discrepancy between the way things are and the way things ought to be. Problems can be identified through:
  - Comparative/benchmarking studies
  - Performance reporting - assessment of current performance against goals and objectives
  - SWOT Analysis – assessment of strengths, weaknesses, opportunities, and threats
  - Complaints
  - Surveys
  - Etc.

Getting to the "Root" of the Problem

- Sometimes the thing we think is a problem is not the real problem, so to get at the real problem, probing is necessary
- Root Cause Analysis is an effective method of probing – it helps identify what, how, and why something happened
- Definition of root cause:
  - Specific underlying cause
  - Those that can reasonably be identified
  - Those that management has control to fix

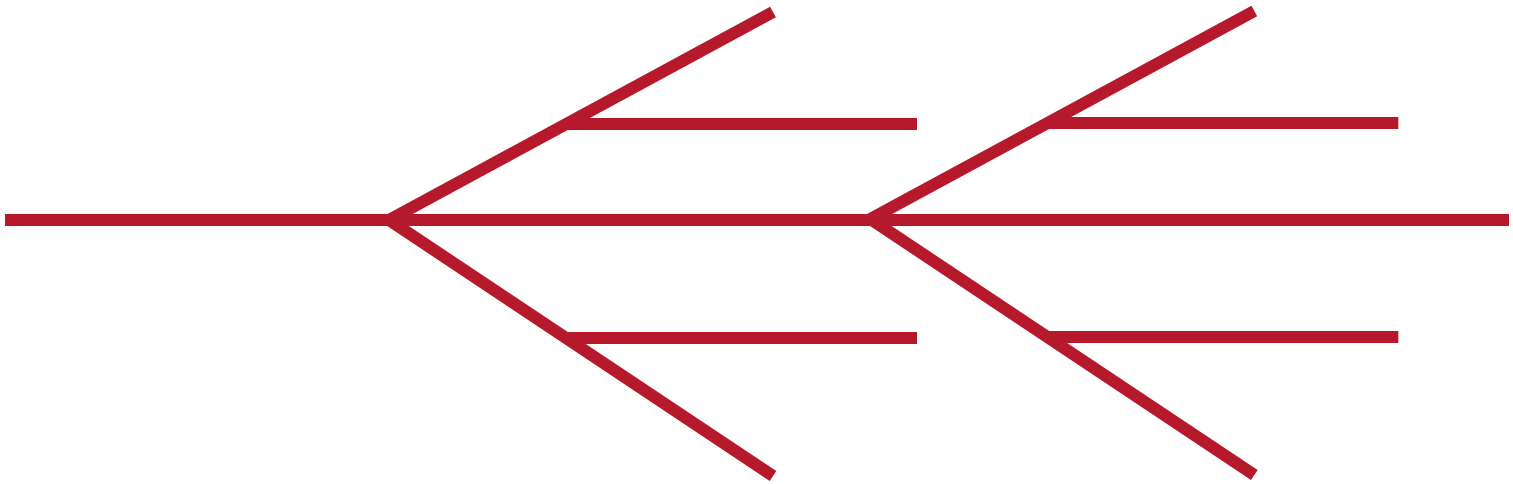
Root Cause Analysis Technique - Five Why's

refers to the practice of asking, five times, why the problem exists in order to get to the root cause of the problem



Root Cause Analysis Technique – Fishbone Diagram

Fishbone Diagram (a.k.a. Cause and Effect Diagram) ***is an analysis tool that provides a systematic way of looking at effects and the causes that create or contribute to those effects.***



The value of the Fishbone Diagram is that it provides a method for categorizing the many potential causes of problems or issues in an orderly way and in identifying root causes

Other Root Cause Analysis Techniques

- Force Field Analysis – Visually show forces that impact your problem or issue
- Scatter Diagrams – Graphs the relationship of two variables – quantifies the correlation, showing how one variable influences another
- Process Mapping – Maps the “as is” flow of activities that make up a process – look for excessive handoffs, redundancies, and other root causes of inefficiencies
- Benchmarking – Compares existing performance to another internal or external source, identifies issues not otherwise revealed through other techniques

Basic Questions to Ask in Defining the Problem (regardless of the technique used)

Who

- *Who is causing the problem?*
- *Who says this is a problem?*
- *Who are impacted by this problem?*
- *Etc.*

What

- *What will happen if this problem is not solved?*
- *What are the symptoms?*
- *What are the impacts?*
- *Etc.*

Where

- *Where does this problem occur?*
- *Where does this problem have an impact?*
- *Etc.*

When

- *When does this problem occur?*
- *When did this problem first start occurring?*
- *Etc.*

Why

- *Why is this problem occurring?*
- *Why?*
- *Why?*
- *Etc.*

How

- *How should the process or system work?*
- *How are people currently handling the problem?*
- *Etc.*

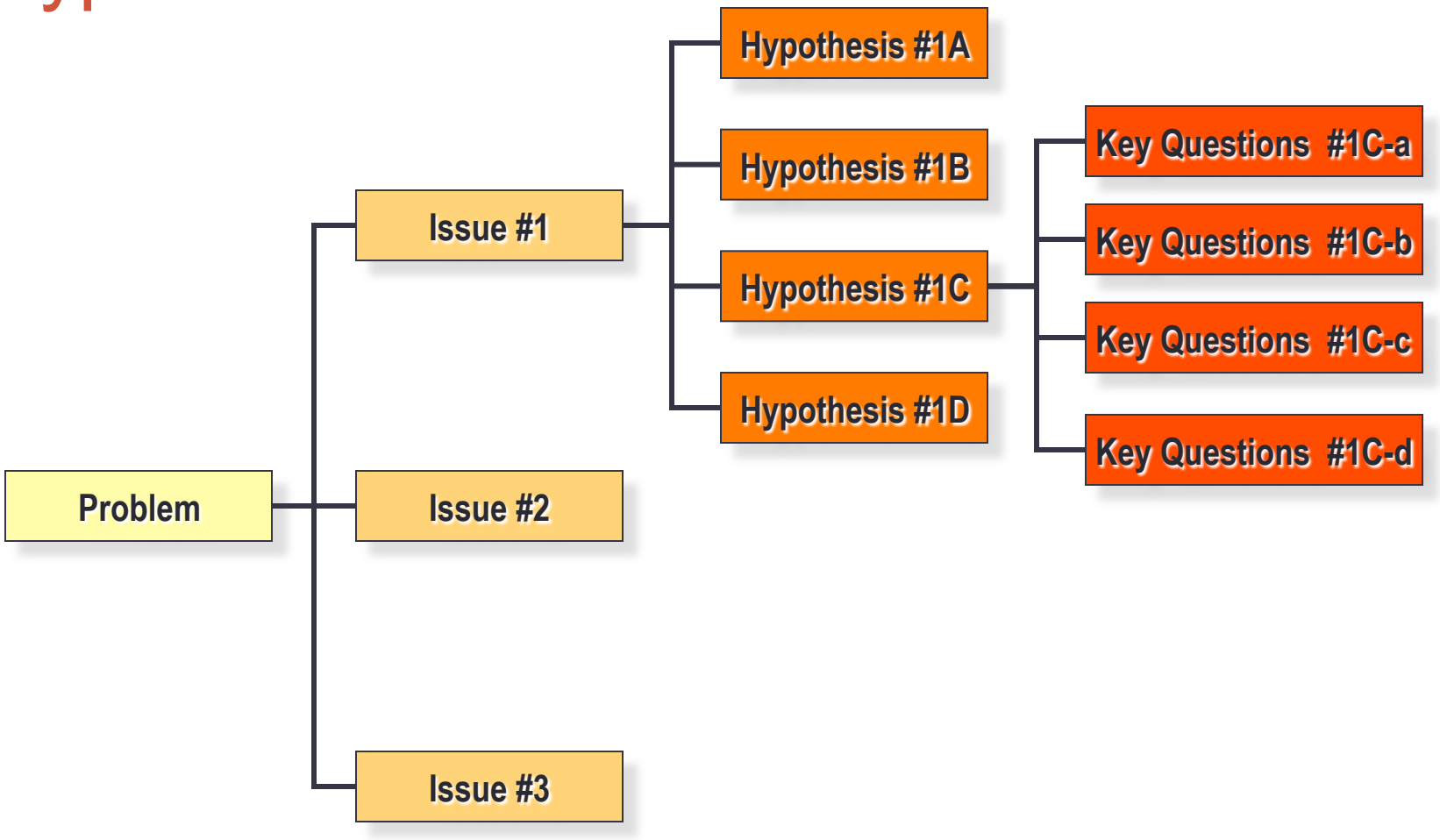
TOOLS & TECHNIQUES

FOR "FORMULATING THE HYPOTHESES"

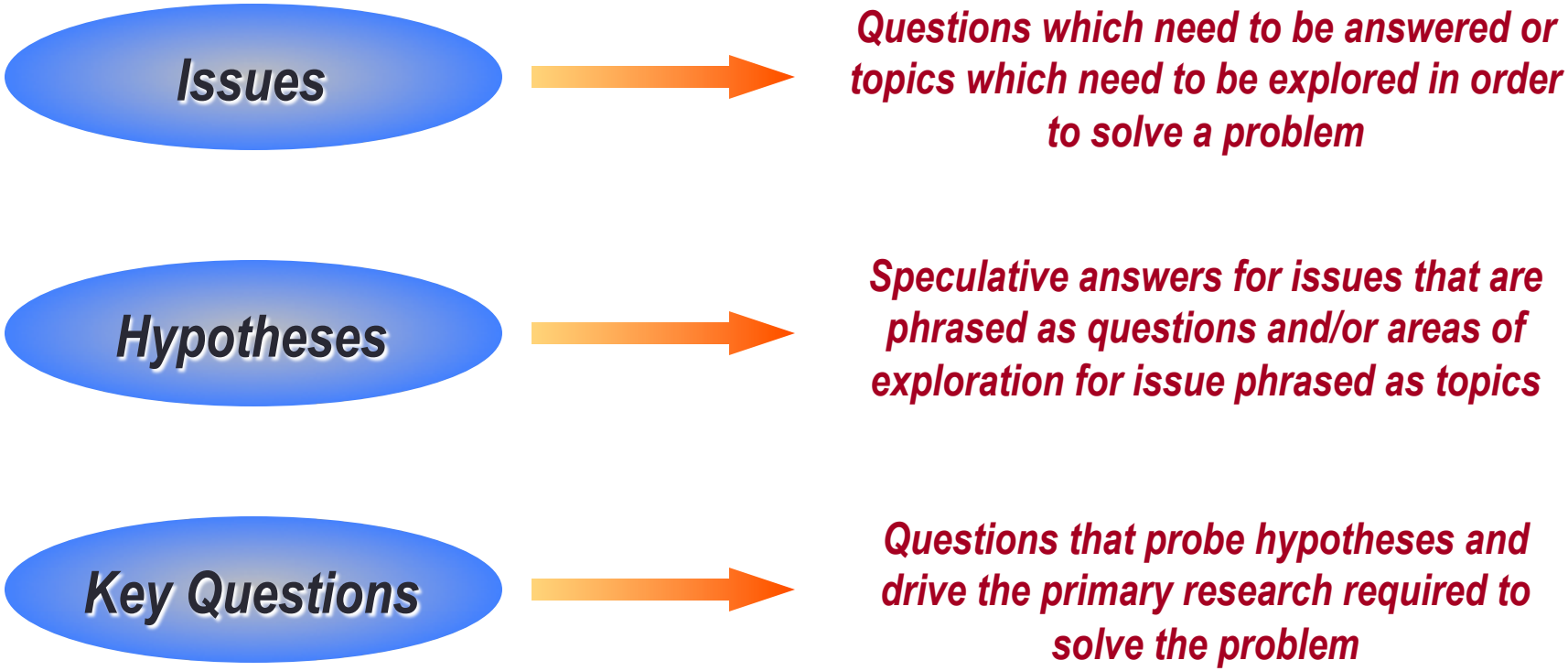
“It is a capital mistake to theorise before one has data”

Sir Arthur Conan Doyle

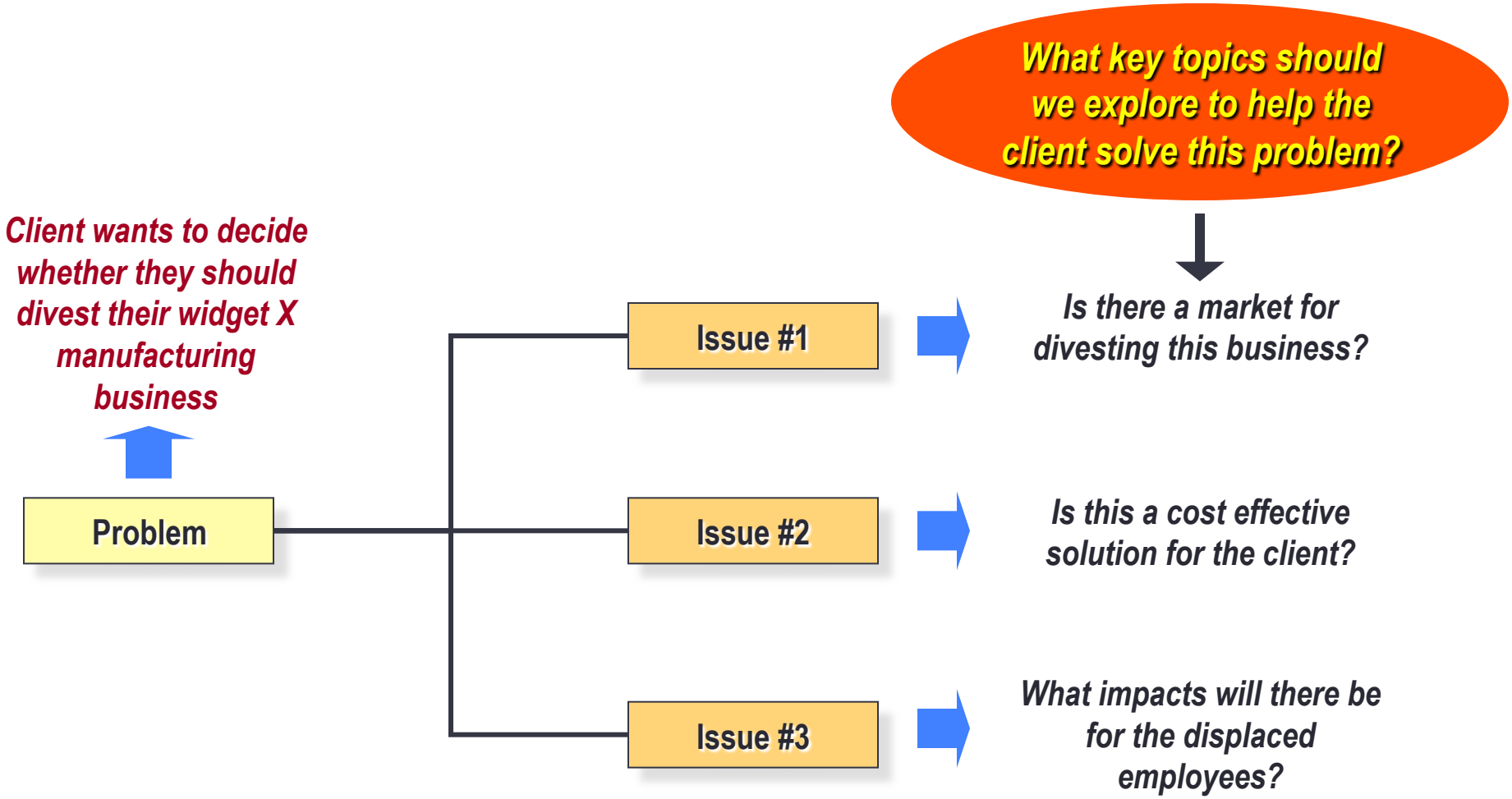
Issue Diagram is an effective method for breaking down problems and formulating hypotheses



Key Components of Issue Diagram



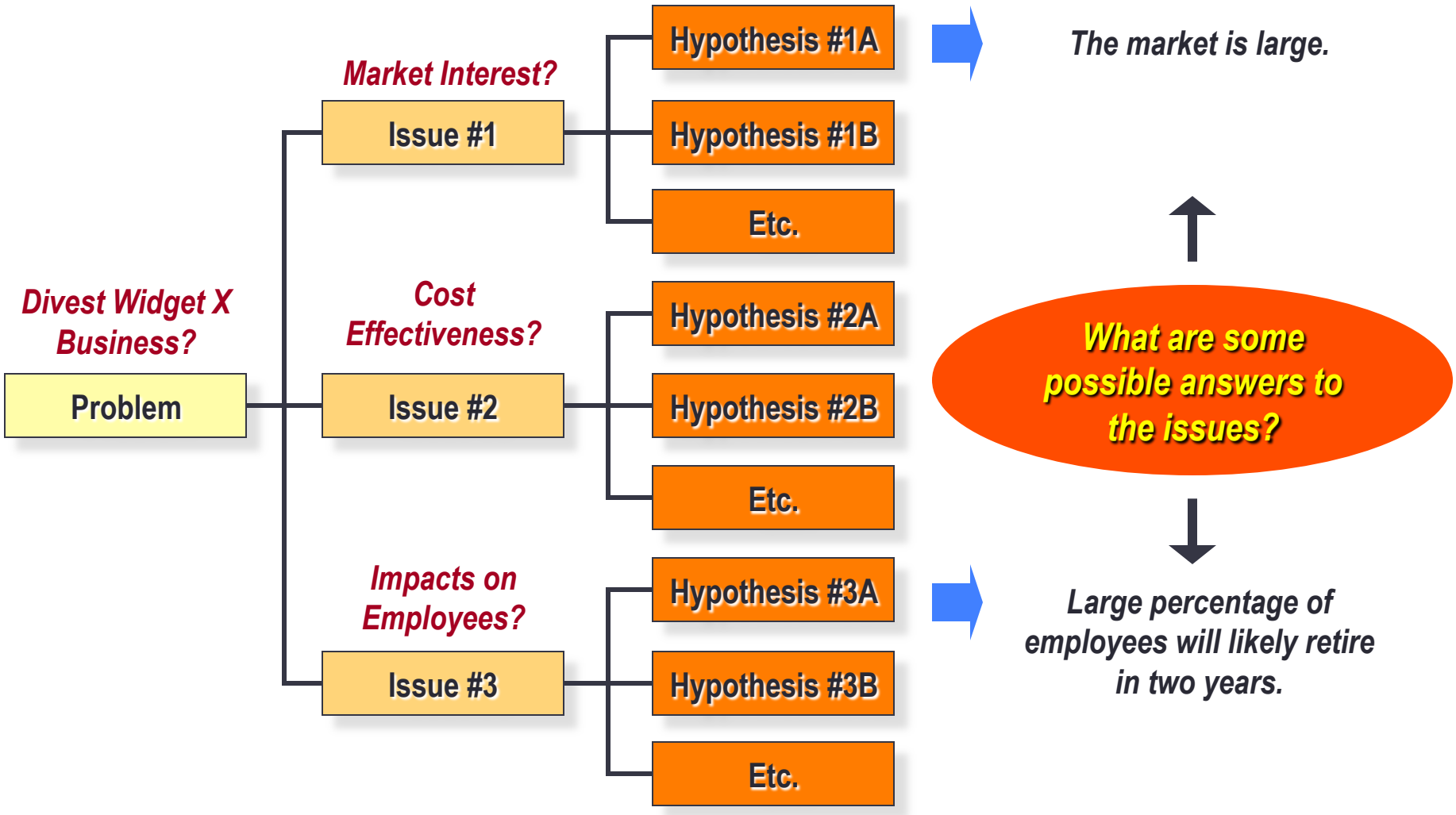
Identifying the Issues



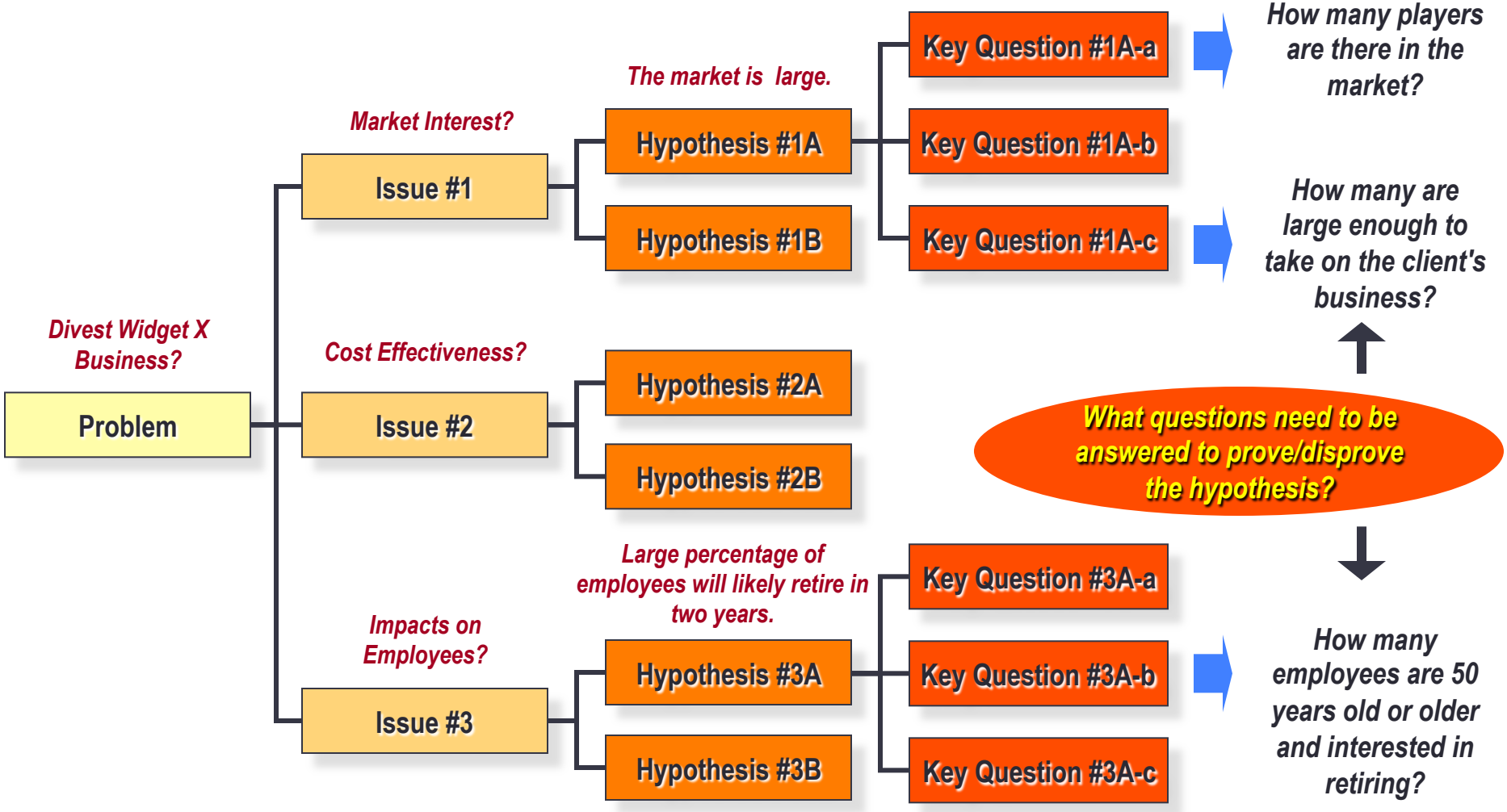
Key to Identifying Issues

1. Develop a comprehensive list of all possible issues related to the problem
2. Reduce the comprehensive list by eliminating duplicates and combining overlapping issues
3. Using consensus building, get down to a “major issues list” (usually two to five issues)

Formulating the Hypotheses



Framing the Key Questions



Common Pitfalls in Creating Issue Diagram

Issues	**Issues which are:** • *Too broad, which expand beyond the objectives* • *Too narrow* • *Too many to be easily remembered* • *Of uneven weight* • *Not sequenced effectively*
Hypotheses	**Hypotheses which are:** • *Too few to cover the issue* • *Too many to be easily remembered* • *Not supportable by data* • *Not directly relevant to the issue*
Key Questions	**Key questions which are:** • *Too few to test the hypotheses* • *Too many to be easily remembered* • *Irrelevant to the hypotheses* • *Not answerable with data*

Key Messages

- Issue diagrams provide a framework for brainstorming and documenting the issues driving the problem and identifying the facts (i.e. data) required to support conclusions and recommended solutions
- Hypotheses and the key questions will help shape data collection requirements and ensure that only relevant data is collected
- Formulation of hypotheses and key questions is an evolving process – they will need to be revised as new insights and discoveries are made

Brainstorming – A Method for Identifying Issues and Formulating Hypotheses

- Brainstorming is useful when there is a wide range of possible issues and solutions
- Brainstorming is not appropriate for testing an idea; it is used to generate ideas
- There are numerous brainstorming techniques, which include group brainstorming, individual brainstorming, and storyboarding
- Individual brainstorming is usually not recommended unless time is too tight, participants are rarely available, group is too large, etc.
- Brainstorming can be useful for Force Field Analysis – identifying all forces impacting the problem

Tips for Brainstorming

1. State the purpose and objective of the brainstorming session from the onset
2. Set ground rules for participants
3. Give everyone an opportunity to participate
4. Solicit all ideas and opinions – nothing is rejected until consensus building takes place
5. After exhausting all ideas, eliminate certain ideas, e.g. not relevant, duplicative, etc.
6. Finalize outcome of the brainstorming process through consensus: Highest Priority, Assigning Points, etc.

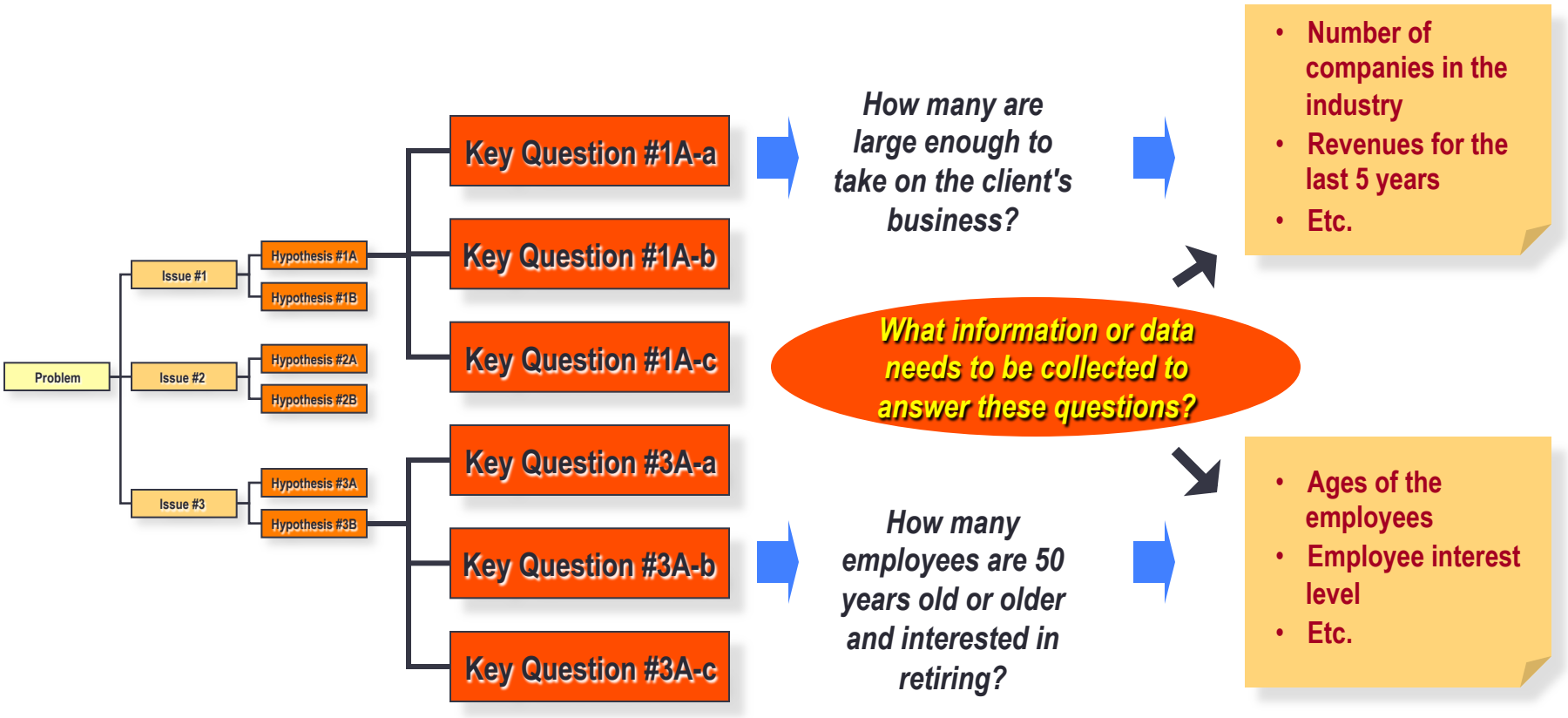
TOOLS & TECHNIQUES

FOR "COLLECTING THE FACTS"

Getting to the Facts

- In order to answer the key questions and validate the hypotheses (presented in the earlier steps), collection of factual information is necessary
- First critical steps are to identify what information, i.e. data elements, is required and develop a data collection approach/technique
- Depending on the type of problem being solved, different data-collection techniques may be used
- Combining a number of different techniques allows looking at problems from different perspectives
- Data collection is a critical stage in problem solving - if it is superficial, biased or incomplete, data analysis will be difficult

Using the Issue Diagram to identify data and information needs



Data Collection Techniques

Technique	Description	Tools
Using Available Information	*Using data that has already been collected by others*	• *Checklist* • *Data compilation forms*
Observing	*Systematically selecting, watching and recording behavior and characteristics of people, objects or events*	• *Eyes and ears* • *Data compilation forms*
Interviewing	*Oral questioning of respondents, either individually or as a group*	• *Interview guide* • *Data compilation forms*
Administering Written Questionnaires	*Collecting data based on answers provided by respondents in written form*	• *Survey* • *Questionnaire*
Conducting Focus Groups	*Facilitating free discussions on specific topics with selected group of participants*	• *Flip charts*

Importance of Combining Different Data Collection Techniques

Qualitative Techniques (Flexible)

- Produce qualitative data that is often recorded in narrative form
- Useful in answering the "why", "what", and "how" questions
- Typically includes:
  - Loosely structured interviews using open-ended questions
  - Focus group discussions
  - Observations

Quantitative Techniques (Less Flexible)

- Structured questionnaires designed to quantify pre- or post-categorized answers to questions
- Useful in answering the "how many", "how often", "how significant", etc. questions
- Answers to questions can be counted and expressed numerically

A skillful use of a combination of qualitative and quantitative techniques will give a more comprehensive understanding of the topic

TOOLS & TECHNIQUES

FOR "CONDUCTING THE ANALYSIS"

Conducting the Analysis

- The next step in problem solving is to "make sense" of the information collected in the previous step
- There is an abundance of analytical techniques that can be applied for understanding:

What are the most important issues?	**Pareto Analysis**
What performance areas are weak?	**Benchmarking**
What are the core competencies of the client?	**SWOT**
What forces can influence the problem?	**Force Field Analysis**

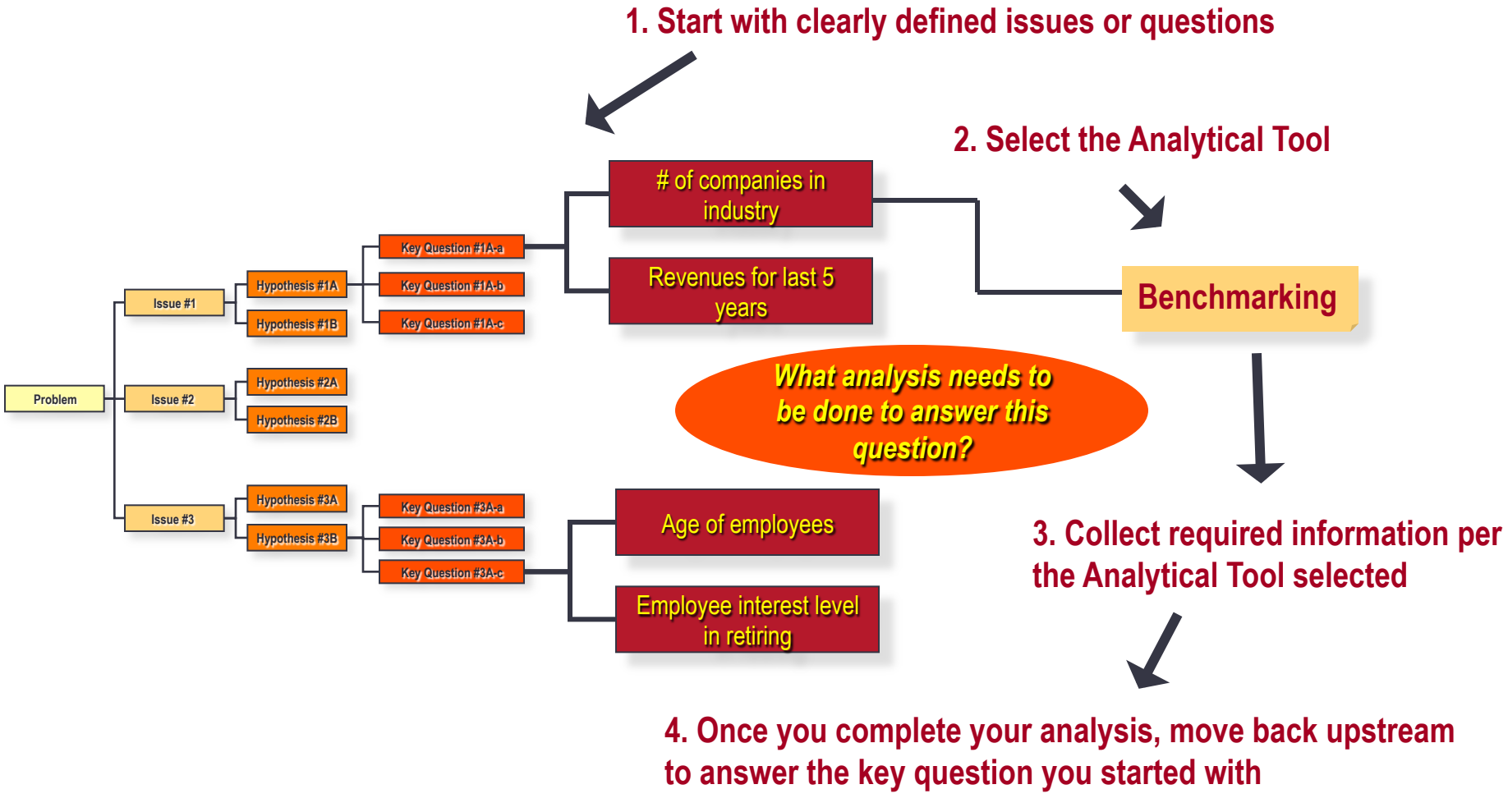
Specific Sequential Steps that lead up to the Analysis

1. ***Make sure you know what you are trying to solve – Clearly defined issues or questions drive the analysis!***

2. ***Match up the clearly defined question or issue with the appropriate analytical tool(s)***

3. ***Once you've matched up the analytical tools against the question or issue, then go out and collect the facts***

Apply analytical tools and move back upstream



Analytical Techniques

- Benchmarking – Compare and measure a process or activity against an internal or external source
- SWOT Analysis – Assessment of strengths, weaknesses, opportunities, and threats
- Force Field Analysis – Overall environmental landscape and how it impacts the subject
- Cost Benefit Analysis – Compare total equivalent costs (all the minuses) against equivalent value in benefits (all the pluses)
- Impact Analysis – What if type analysis to assess the impact of change on an agency
- Pareto Chart – Bar Chart for categorizing issues or other attributes in terms of importance

Benchmarking

- Measures and compares your performance against other similar activities or processes internally or externally
- Differences indicate possible performance issues
- May be difficult to collect comparable measurement data
- Comparing “best in class” performance is better than comparing average performance
- Best sources of data are in the private sector -Hays Benchmarking, Benchmarking Exchange, The Benchmarking Exchange, etc.

SWOT – Strengths Weaknesses Opportunities Threats

- Identifies Strengths, Weaknesses, Opportunities, and Threats by asking: What things are we good at, what things are we not good at, what things might we do, and what things should we not do?
- Probably the most common analytical tool for strategic planning
- Somewhat subjective
- Easy to understand and follow
- Very useful for identifying the core competencies of any organization

SWOT Example

Internal Assessment of the organization, its people, services, competencies, etc.

Strengths

Client has a global infrastructure to service all types of customers

Services are in high demand in most parts of the world

Weaknesses

Client has limited resources for expanding its global reach

Key processes are not very cost competitive when compared to other service providers

External Assessment of direct and indirect forces, social, economic, political, etc.

Opportunities

Untapped demand exists in almost half of the World

New Technologies make it possible to expand service reach

Threats

Other clients are investing in newer technologies

Some clients are entering into strategic partnerships to expand their global footprint

Force Field

- Visually shows significant forces that impact the problem
- Forces tend to be those factors that promote or hinder a solution to a problem
- Prioritize forces between direct (more important) and indirect (less important)
- May need to brainstorm to generate ideas to list all forces

Force Field Example

Problem: Agency is not strategically focused

Positive Forces – Promotes the Solution

- *Defense Department is promoting the Balanced Scorecard*
- *Federal Public Sector has mandates such as GPRA*
- *Lower level agencies have balanced scorecards in place*
- *Strategic planning is growing in importance within the entire public sector*

Negative Forces – Inhibits the Solution

- *Public Sector mandates lack enforcement teeth – no major urgency to become strategically focused.*
- *Agency is not resourced to develop strategic plans and execute on non-strategic issues*
- *Agency has too many other change initiatives going on*

Direct – More Important **Indirect – Less Important**

Cost Benefit

- Identify all expected costs and benefits to make sure the decision has economic merit.
- Costs includes all tangible outlays (time, money, etc.) and intangible /qualitative factors where you can assign some value
- Compare using a set of decision criteria – oranges to oranges, apples to apples, etc.
- Look at the net changes between making the decision vs. not making the decision
- Office of Management and Budget Circular A-94 provides guidelines on how to do cost benefit analysis in the Federal Public Sector.

Cost Benefit Example

Choice A: Proposed Solution - Design and develop an on-line database system

The Costs (minuses)

- *Software License Fees*
- *Upgrade network capacity*
- *Database development time*
- *Training of end-users*
- *Requires regular maintenance*

The Benefits (pluses)

- *Consistent Reporting*
- *Reduced Data Entry*
- *Much faster turnarounds when updating master records*
- *Improved accuracy in reporting*

Choice B: Do Nothing – Status Quo

Net Benefit = $ 250,000

Change in Costs Choice A – B = $ 700,000

Change in Benefits Choice A – B = $ 950,000

Impact Analysis

- Identifies broad and diverse effects or outcomes associated with a problem and/or the proposed solution
- Answers certain questions: How will this change impact our agency? What are the consequences of not acting on the problem?
- Objective is to minimize adverse or negative impacts going forward
- Very useful in assessing risk of different proposed solutions – helps you reach the right solution
- Numerous tools can be used to assess impacts

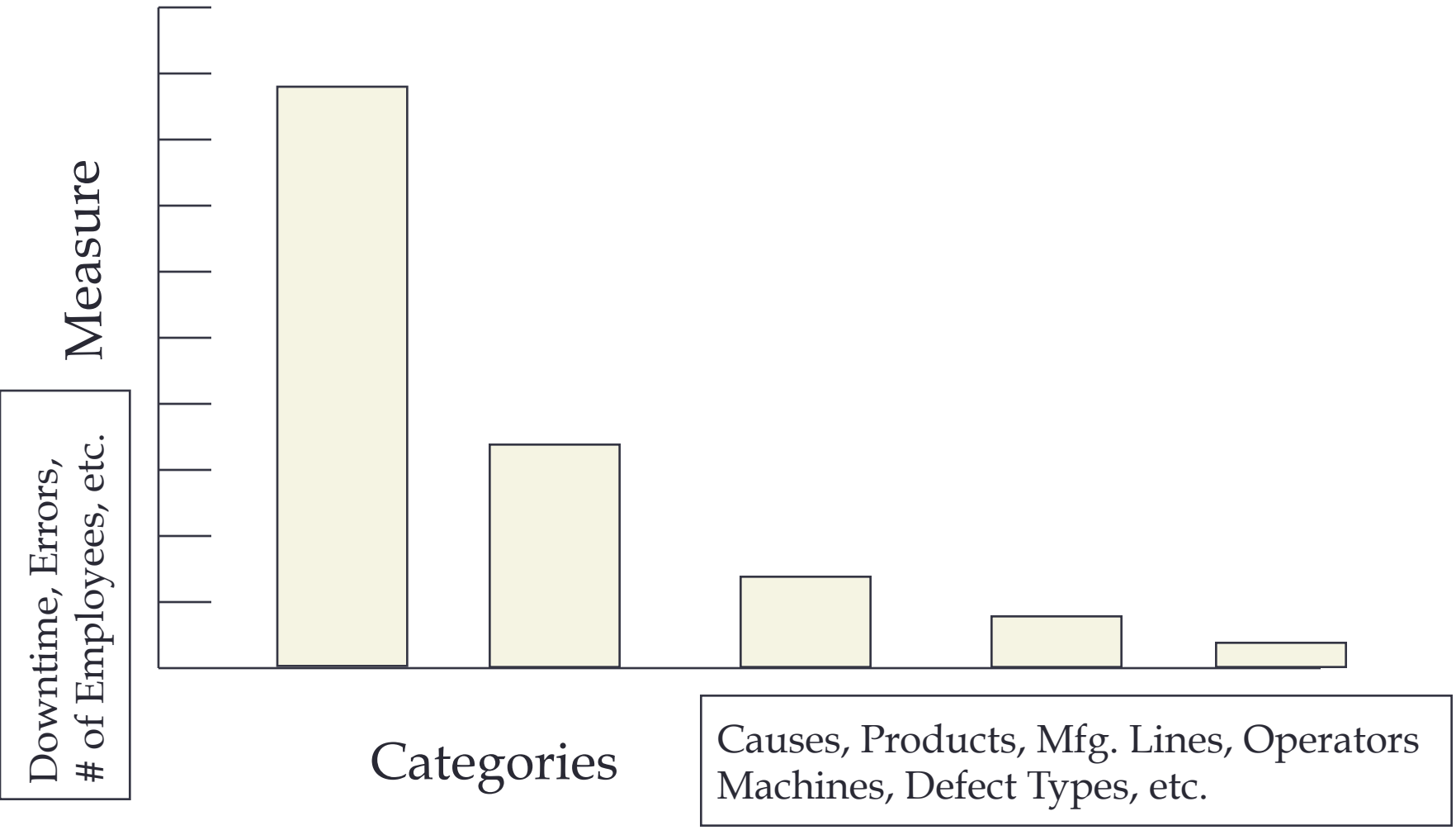
Impact Analysis Tools

- Scenario Playing – Storyboarding out how the future will unfold between alternatives: Do Nothing vs. Solution
- Cost Benefit Analysis - Used to quantify impacts
- Decision Tree Analysis – Build a tree and assign probabilities to each alternative to arrive at the most likely solution
- Simulation – Modeling a process and seeing how it changes when one or more variables change
- Prototype Model – Build and test the solution on a small scale before implementation to flush out lessons learned

Pareto Analysis

- Quantifies what is most important on a graph – 80 / 20 Rule
- Puts focus on the significant problems or issues
- Must group problems or issues based on a common and measurable attribute (such as reworks, errors, downtime, hours, etc.) = Left Vertical Axis of Bar Chart
- Must categorize problems or issues – what type is it? (poor quality, long wait times, etc.) = Right Horizontal Axis of Bar Chart
- Plot the data and rank according to frequency – descending order from left to right

Pareto Chart



Key Messages

- Don't rush out and collect information until you know what analytical tools you need to use – each tool has its own information needs
- Use a combination of tools to cover all the bases
- All decisions involve some assumptions – so you will never have all the facts
- Analysis is a discover driven process, it moves incrementally in baby steps – you learn, adjust and go through numerous iterations until you have insights; i.e. you can now take action on the issue or problem

TOOLS & TECHNIQUES

FOR "DEVELOPING THE SOLUTION"

Basic Concepts

- Select and plan the solution that has the greatest impact on solving the problem
- Use a solutions rating matrix to weigh different solutions based on selection criteria (costs, probability of success, ease of implementation)
- Solutions should have support from your previous analysis that you can clearly communicate to the client
- Test your solutions as much as you can – use some of the Impact Analysis Tools

Key Messages

- 100% out-of-the box solutions don't exist
- No solution is a guarantee – be flexible with implementation and be willing to revisit your requirements
- Solutions rarely work unless you get buy-in and commitment from the client – if the client refuses to accept the solution, it will not work!
- Be prepared to back up your solution with an implementation plan, complete with milestones to measure performance

Common Land Mines

- Once a problem is defined, you must have some ability to develop a possible solution. If the Consultant has no control to make recommendations for a problem, then the problem has been defined outside the scope of the project.
- The client's definition of the problem may not be correct. The client may lack the knowledge and experience that you have.
- Since most problems are not unique, you may be able to validate the problem and possible solutions against other sources (past projects, other experts, etc.).
- The best solutions to a problem are often too difficult for the client to implement. So be careful about recommending the optimal solution to a problem. Most solutions require some degree of compromise for implementation.

PERFORMING THE RESEARCH

MARKET RESEARCH

Market Research v. Marketing Research
(strictly speaking...)

- Market Research
  - Researching the immediate competitive environment of the marketplace, including customers, competitors, suppliers, distributors and retailers

- Marketing Research
  - Includes all the above plus:
    - companies and their strategies for products and markets
    - the wider environment within which the firm operates (e.g. political, social, etc)

Market(ing) Research: Definition

- The systematic design, collection, analysis and reporting of data and findings relevant to a specific marketing situation facing the organization

WARNING!

Market Research is about understanding consumer reactions to the product. Marketing may understand the consumer best but R&D may well (early on) understand the product best

Types of Market Research

By Source	By Methodology	By Objectives
- Primary - Secondary	- Qualitative - Quantitative	- Exploratory - Descriptive - Causal (or experimental)

Types of Market Research: By Source

- Primary
  - Collection of data specifically for the problem or project in hand
- Secondary
  - Based on data previously collected for purposes other than the research in hand (e.g. published articles, government stats, etc.)

Types of Market Research: By Methodology

	Qualitative	Quantitative
Type of Question	Probing	Simple
Sample Size	Small	Large
Information per respondent	High	Low(ish)
Questioner's skill	High	Low(ish)
Analyst's skill	High	High
Type of analysis	Subjective, Interpretative	Objective, Statistical
Ability to replicate	Low	High
Areas probed	Attitudes	Choices
	Feelings	Frequency
	Motivations	Demographics

Benefits of Qualitative Market Research v. Quantitative

Benefit	Comment/Example
Cheaper	Smaller sample size
Probes in-depth motivations and feelings	Allows managers to observe (through one way mirror) 'real' consumer reaction to the issue - e.g. comments and associations (e.g. Levis) regarding a new product fresh from the labs
Often useful precursor to quantitative research	Gives the research department a low cost and timely sense of which issues to probe in quantitative research

Types of Market Research: By Objective

- Exploratory
  - Preliminary data needed to develop an idea further.
  - e.g. outline concepts, gather insights, formulate hypotheses
- Descriptive
  - Describe an element of an ideas precisely.
  - e.g. who is the target market, how large is it, how will it develop
- Causal Test
  - Done through experiment, looking at a cause and effect relationship.
  - e.g. price elasticity.

The Market Research Process

1. Defining the problem and objectives
2. Developing the research plan
3. Collecting the information
4. Analysing the information
5. Presenting the findings

1. Distinguish between the research type needed e.g. exploratory, descriptive, causal

- **If a problem is vaguely defined, the results can have little bearing on the key issues**

2. Decide on budget, data sources, research approaches, research instruments, sampling plan, contact methods

- **The plan needs to be decided upfront but flexible enough to incorporate changes/ iterations**

3. Information is collected according to the plan (N.B. it is often done by external firms)

- **This phase is the most costly and the most liable to error**

4. Statistical manipulation of the data collected (e.g. regression) or subjective analysis of focus groups

- **Significant difference in type of analysis according to whether market research is quantitative or qualitative**

5. Overall conclusions to be presented rather than overwhelming statistical methodologies

- **Can take various forms: oral presentation, written conclusions supported by analysis, data tables**

Potential Problems with Market Research

- When and how not to do it
- Problems with research buyers vs suppliers
- Frequent technical pitfalls
- Problems with traditional market research

When and How Not to Conduct Market Research

- Lack of resources
  - If quantitative research is needed, it is not worth doing unless a statistically significant sample can be used
- Research results not actionable
  - Where psychographic data (for example) is used which won't help the company form firm actions
- Closed mindset
  - When research is used only as a rubber stamp of a preconceived idea
- Late timing re: process
  - When research results come too late to influence the decision
- Poor timing re: marketplace
  - If a product is in the 'decline' phase (e.g. records) there's little point in researching new product varieties
- Vague objectives
  - Market research cannot be helpful unless it is probing a particular issue
- Cost outweighs benefit
  - The expected value of the information should outweigh the cost of gathering the data

PERFORMING THE RESEARCH

CASE STUDY RESEARCH

Case Study Research

- The essence of a case study, the central tendency among all types of case study is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result.

Definition of a Case Study

- Investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.
- Case studies focus on understanding the dynamics present within a single setting.

Usefulness of Case Studies

- Case studies can be:
  - Exploratory
  - Explanatory
  - Descriptive
- Case studies can be used to:
  - Provide description
  - Test theory
  - Generate theory

When to choose:

- Choice of history, case studies or experiments will depend on access.
- Case studies preferred in examining contemporary events.
- Experiments are done when the investigator can manipulate behavior directly, precisely and systematically.

Analyzing within field and cross case data:

- This preliminary analysis assists in organizing the enormous quantities of data
- Cross case data forces researchers to go beyond initial impressions.
- For cross-case data analysis, can look at within group similarities and intergroup differences.
- Select pairs of cases, and list similarities and differences between each group – forces researcher to look for subtle similarities and differences.

Case Study Protocol

- Include following topics:
  - Overview of Case Study
    - Background information
    - Issues being investigated
    - Relevant readings
  - Case Study questions
    - Keep investigator on track
    - Distinguish among levels of questions
    - Pathway questions and evidence
  - Guide for Case Study report
- Field procedures
  - Access to sites, assistance
  - Schedule of data collection

Method

1. Summary
2. Backstory
3. Problem
4. Solution
5. Outcome
6. Reflection

1. Summary

- This is a brief introduction of the engagement, with an emphasis on problem and outcome.
- It should sell the reader on the value of digging further into the details of your solution.
- Think of it as an elevator pitch (if not something Tweetable).
- If someone only read your summary, would they at least understand what you did and the value you believe it offered?

2. Backstory

- Think of this as the beginning, the once-upon-a-time part.
- You're setting up the case study by providing an introduction to its key players and your respective points of view.
- Remember, how you describe this relationship will make it easier or harder for someone to imagine themselves in a similar relationship with you.

3. Problem

- This is the simple part.
- What, exactly, were you hired to do?
- This hits on your expertise and your diagnostic and problem-solving skills.

4. Solution

- What did you do or propose to do?
- This covers your process
  - your strategic prowess
  - your technical capabilities
  - your team dynamic
  - your style

5. Outcome

- What were the results?
  - Did you build a new audience?
  - Strengthen and grow an existing one?
  - Increase sales?
  - Data (Present charts and graphs)

6. Reflection

- Here's where you share the insights and voices of individual team members — planners, designers, developers, even your client — through brief, focused reflections on the job.
- What worked? What didn't? What doubts did you have? What surprised you? What would you have done differently had you more time or more knowledge at the beginning? What did you learn and how will you use that knowledge in the future?
- This, really, is the most important and substantial piece of the puzzle for a prospect.
- If they're seriously evaluating, they've probably heard plenty in the problem → solution → outcome department, but your honest and sincere reflection upon it will be what helps them get to know you and want to work with you.

Criticisms of Case Studies

- Lack of rigor of case study research.
- Confusing case study research with case study teaching.
- Provide little basis for scientific generalization.
- Case Studies take too long.

Summary

- Five Step Process:
  - Define the Problem
  - Test in the form of Hypothesis
  - Focus on Facts
  - Analysis (Various Analytical Tools)
  - Recommend a Solution