Recap: Presentations

1. Overall Presentations went quite well !

2. Most, if not all talks had a clear purpose and described things well

3. Everyone had a deployed dashboard !

4. A few suggestions:

   - Rehearse and practice! Timings, transitions, manage cognitive load
   - Remember the target audience! (Presentation 1: general audience, Presentation 2: Technical audience)
   - Construct your slides carefully
   - Dashboards: more sign-posting, use Tabs!
   - Plots: Larger text labels, larger titles, larger everything!

People's Choice Award: Best Presentation!

Congratulations to Group 7: Eric, Mitch, and Thomson!

Mean scores of:
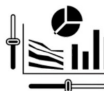
- 9.5 - Visuals
- 9.5 - Presentations
- 9.4 - Content

SOLUTION

Aggregate and Visualize

Intuitive feel

Interactive layout

Layered complexity

People's Choice Award: Best Dashboard!

TBD!

Find out after <u>Presentation 2 </u>on Tuesday March 23!

Suggested Time:

      10:30 – 1 PM &

      2:00 – 3:30

Course Evaluation

https://ubc.ca1.qualtrics.com/jfe/form/SV_2mAPjGl2sleL54O

Reports

UBCO Master of Data Science – DATA 552

Class Outline

Reports: the information challenge

Using the MADMAN writing stage to make sure you have all the information you need

Reports: The organization challenge

Using the ARCHITECT writing stage to tackle the challenge

Reports: A basic structure

Recap: Selecting and Presenting Data

To avoid missing key information and misleading the audience, and providing unactionable information, always ask and answer the 5Ws and the How question:

- Who?
- What?
- Where?
- When?
- Why?
- How?

Recap: Selecting and Presenting Data

Be very intentional and thoughtful when presenting your data.

Consider

- The words you use to discuss and describe the data
- What information you include and/or exclude
- How you manipulate the visual representation of data
  - (i.e. using weird colour schemes, flipping the graphic, making things look bigger than they should, changing the baseline, e.t.c.)

Reports: The Challenge Part 1

Effective communication is as much about (business) strategy as it is about clear and concise sentence structure and easy-to-understand word choice.
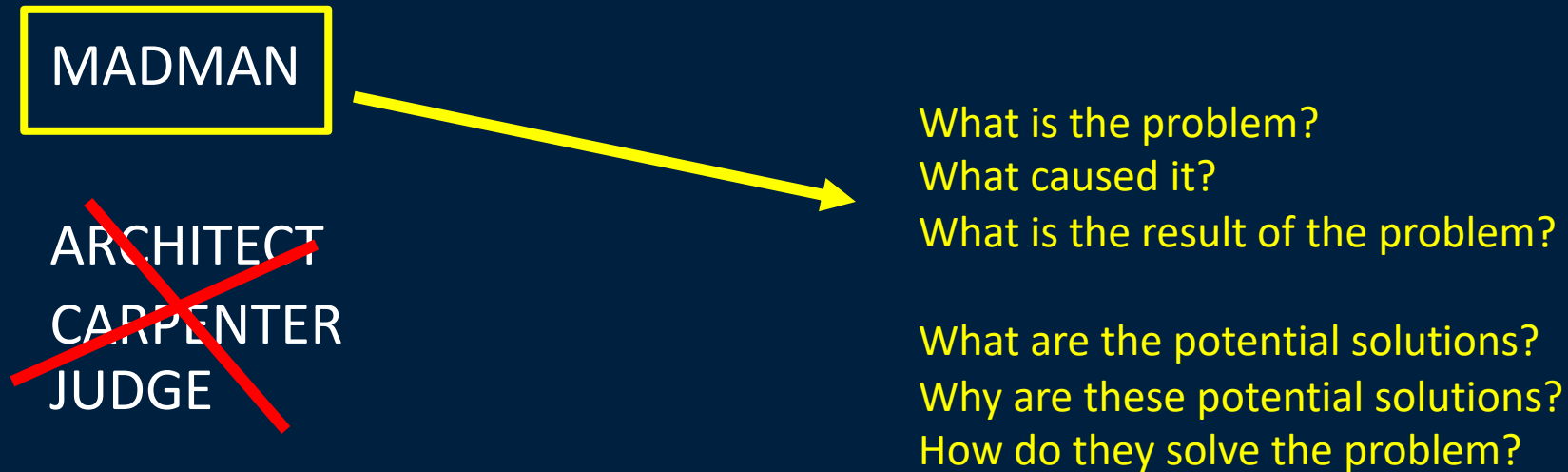
… especially when you're communicating data

This is why it's important that we make sure we understand the (business/organizational) context our data analysis responds to and all of the factors that may impact our audience's interpretation of the data and their ability to act on it.

Using the MADMAN: Understanding the BIG PICTURE

When starting the report writing process, suspend desire to present a cohesive and organized document, and instead make sure we have a complete understanding of the problem and the possible solutions.

MADMAN

ARCHITECT

CARPENTER

JUDGE

What is the problem?
What caused it?
What is the result of the problem?

What are the potential solutions?
Why are these potential solutions?
How do they solve the problem?

What are the answers to these questions?

Where is the data from? Can I trust it?

What does the data say?

How does this help solve the problem? How does this answer the unknown component.

What questions will my reader have about the data and my results?

What data do I have?

Is this data complete? What other factors may impact problem?

Reports: The Challenge Part 2

You may have so much information that it's hard to know several things:

- How to organize your ideas
- How to decide which ideas you'll lead with
- How to decide which ideas to include or leave out

Natasha Terk (2014), *Reports, Proposals, and Procedures*

How do we overcome this challenge?

Question: Writing a report is challenging because we have to decide not only what to include, but also how to include it and where. This challenge is intensified by the fact that our documents will often have multiple audiences, most of which have different needs.

Given what we've discussed in class so far, and your own experiences, how would you solve these challenges?

Inviting the ARCHITECT IN: Selecting the Right Questions

Natasha Terk (2014) explains that after you identify your audience's needs and your business needs, **you need to "identify your readers' single most important question."**

For example:

- "What steps can we take to reduce operating costs during the coming fiscal year?"
- "How can we know that your recommendations will improve our data processing system?"

Then, you need to answer the question clearly and efficiently.

Inviting the ARCHITECT IN: Selecting the Right Questions

What steps can we take to reduce operating costs during the coming fiscal year?

We analyzed your operations and found that three measures will help you reduce costs. We recommend consolidating two staff positions, purchasing tablet computers for field representatives, and reducing the number of off-site meetings.

Example from Natasha Terk (2014), *Reports, Proposals, and Procedures*

Inviting the ARCHITECT IN: Selecting the Right Questions

How can we know that your recommendations will improve our data processing system?"

We will identify your current and projected data processing needs, assess your current system's capabilities, and prepare a detailed proposal. The proposal will include specific recommendations to improve the system, according to the data you typically process."

Example from Natasha Terk (2014), *Reports, Proposals, and Procedures*

Inviting the ARCHITECT IN: Selecting the Right Questions

Once you've identified the main question, and drafted a brief, but comprehensive summary of how your data indicates this question should be answered, you need to identify your "readers' other key questions" (Terk, 2014).

These questions will determine your report's (document's) other sections.

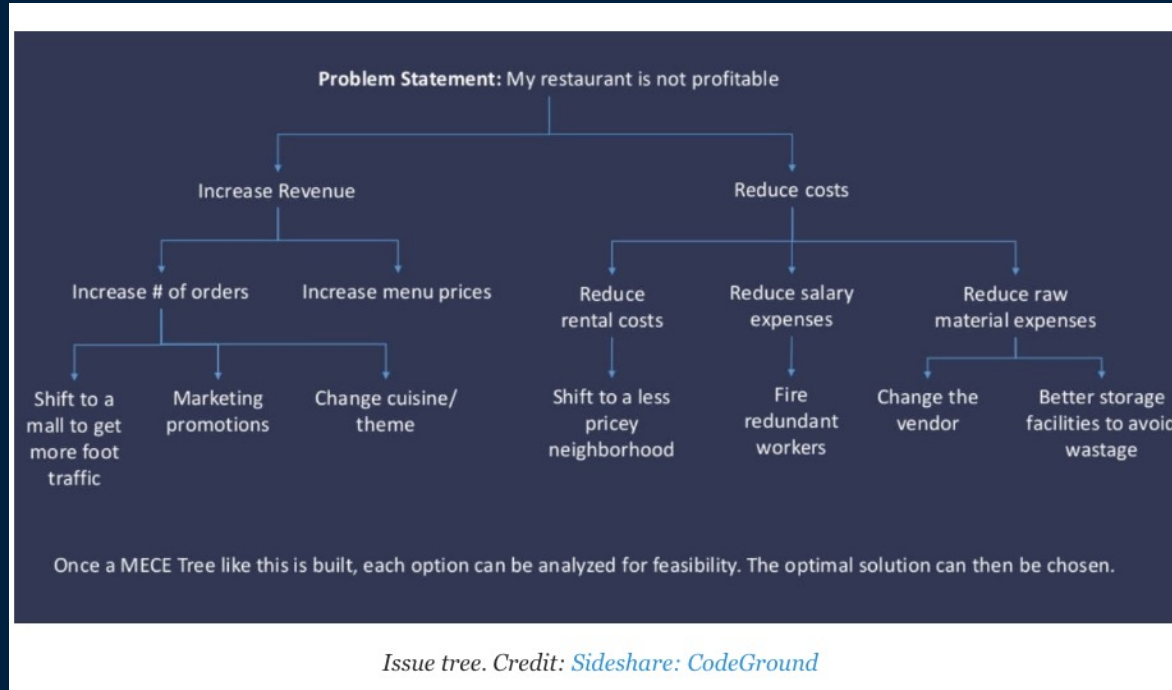# Inviting the ARCHITECT IN: Selecting the Right Questions

The MBA Crystal Ball article "MECE Framework McKinsey" suggests that you can use a tree diagram to identify the "readers' other key questions" (Terk, 2014):
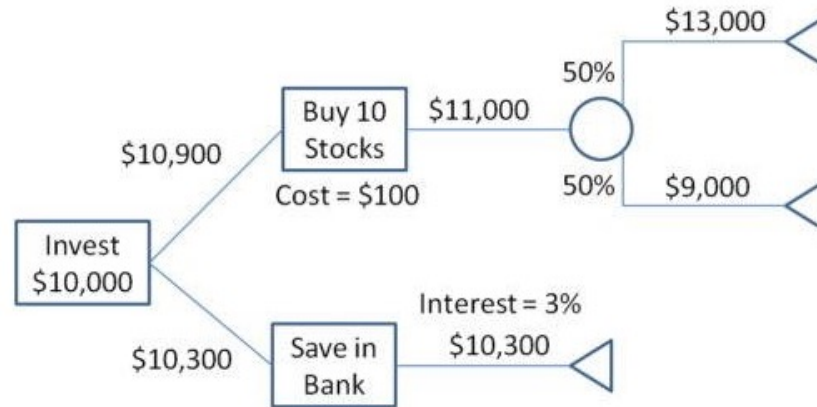
- Issue Tree
- Decision Tree
- Hypothesis Tree

Using this strategy will also help you organize these other important questions

Inviting the ARCHITECT IN: Selecting the Right Questions

Issue tree. Credit: *Sideshare: CodeGround*

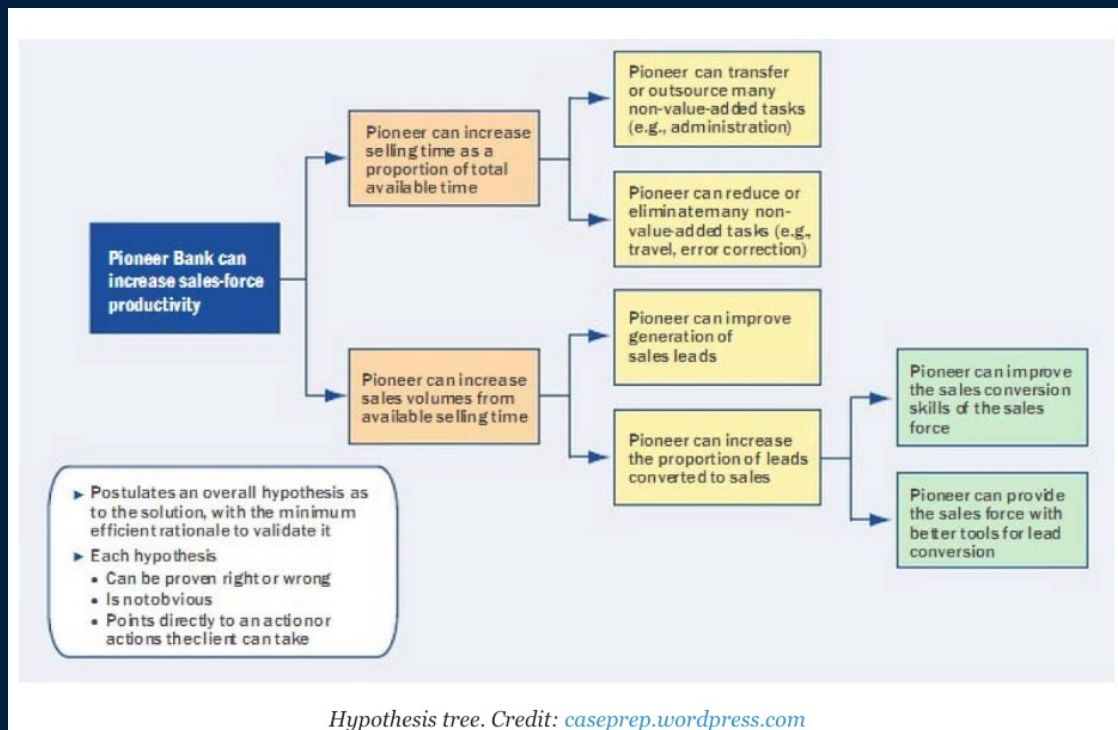Example from MBA Crystal Ball (n.d.), "MECE Framework McKinsey"

Inviting the ARCHITECT IN: Selecting the Right Questions

Decision tree: Credit: decision-making-solutions.com

Example from MBA Crystal Ball (n.d.), "MECE Framework McKinsey"

Inventing the ARCHITECT IN: Selecting the Right Questions

Hypothesis tree. Credit: *caseprep.wordpress.com*

Example from MBA Crystal Ball (n.d.), "MECE Framework McKinsey"

Reports: A Basic Structure

Include an introduction before the body, but write this introduction last.

This introduction may occasionally appear in a separate document, *i.e.,* an email.

EXECUTIVE SUMMARY

Body

Conclusion

Not every document will have a conclusion

Reports: The Executive Summary

The Executive Summary: Answers your readers' single most important question and provides other key details.

It will also include a very brief problem statement and some indication of how you came to that answer.

Reports: The Body

The Body: Answers the readers' single most important question and other key questions in detail.

You answer these questions by explaining what you uncovered in your data analysis and what that discovery means (*i.e.,* how it answers the readers' questions).

That's nice Spela, but the reader has *soooooo* many questions. How do I know which ones to answer and how to organize them all?

Q. That's nice, but the reader has *soooooo* many questions. How do I know which ones to answer and how to organize them all?

YOU GROUP AND CHUNK ALL THE QUESTIONS

➢ **Then you delete anything repetitive and any unnecessary questions.**

➢ **"Briefly answer the overall questions, adding details in a list format" (Terk, 2014) or in a graphic.**

➢ **… and then you "arrange these questions/answer sets in whatever order seems most logical to you" (Terk, 2014).**

Reports: The Body

Q. OMG! I don't know what's logical.

THINK ABOUT YOUR READER

➢ **What's their first question going to be?**

➢ **Once you give them that piece of information, what are they going to want to know next?**

Reports: The Introduction

Terk (2014) explains that "introductions generally cover four functions:

- They inform readers of a document's topic and, sometimes, its purpose
- They briefly summarize any history readers will need to know as context to understand information in the following document
- They summarize key points such as findings, conclusions, and recommendations" (emphasis mine)

An introduction can be anywhere from one-to-two paragraphs to a page-and-a-half.

Reports: The Conclusion

The Conclusion: Reiterate your key findings and tell the reader what to do next or highlight the most interesting/significant components of your analysis.

Cathy Relf (2013) identifies "four basic types of conclusions," which she states can be "summed up by the letters PQRS: **P**redict, **Q**uote, **R**epeat or **S**ummarize."

*Note that not all report documents will have conclusions. However, I think that a brief reminder of the key points is often appropriate. As usual, this will depend on your audience and the context.

Objectives

- Students will be able to anticipate the challenges they will encounter when tasked with preparing a report.

- Students will be able to outline the basic report structure.

- Students will learn how to use the madman stage of the writing process to ensure they have all of the information necessary to prepare an actionable report.

- Students will learn how to use the architect stage of the writing process to organize and structure their reports in an actionable and audience-friendly manner.