The Data Analytics Bootcamp at the University of North Florida
How to Create a Non-Technical Presentation

As a refresher, a non-technical presentation is a high-level overview of the technical topic at hand but with the technical detail abstracted away. The focus is not on the technical details, but rather on how the key messages from this technical presentation can be communicated in a subtle way that any stakeholder (executive or not) can understand. Technical and non-technical presentation slides follow very similar presentation formats except that technical presentations generally include both a problem summary slide and technical approach slides. Non-technical presentations only include the problem summary slide, executive summary slide, and supporting slides. For demonstration purposes, we will be using the technical presentation we developed for Monalco Mining and repurpose this information for a non-technical presentation.

Slide 1: Introducing the problem

The presentation begins by providing a high-level overview of the **value** of the work you're doing. Whether you're presenting to an executive, technical, or non-technical audience, you should clearly state the purpose of your work and how it aligns with the company's financial or strategic drivers. As you've learned, this value is generally summarized in a governing thought (as is demonstrated in the slide below.)

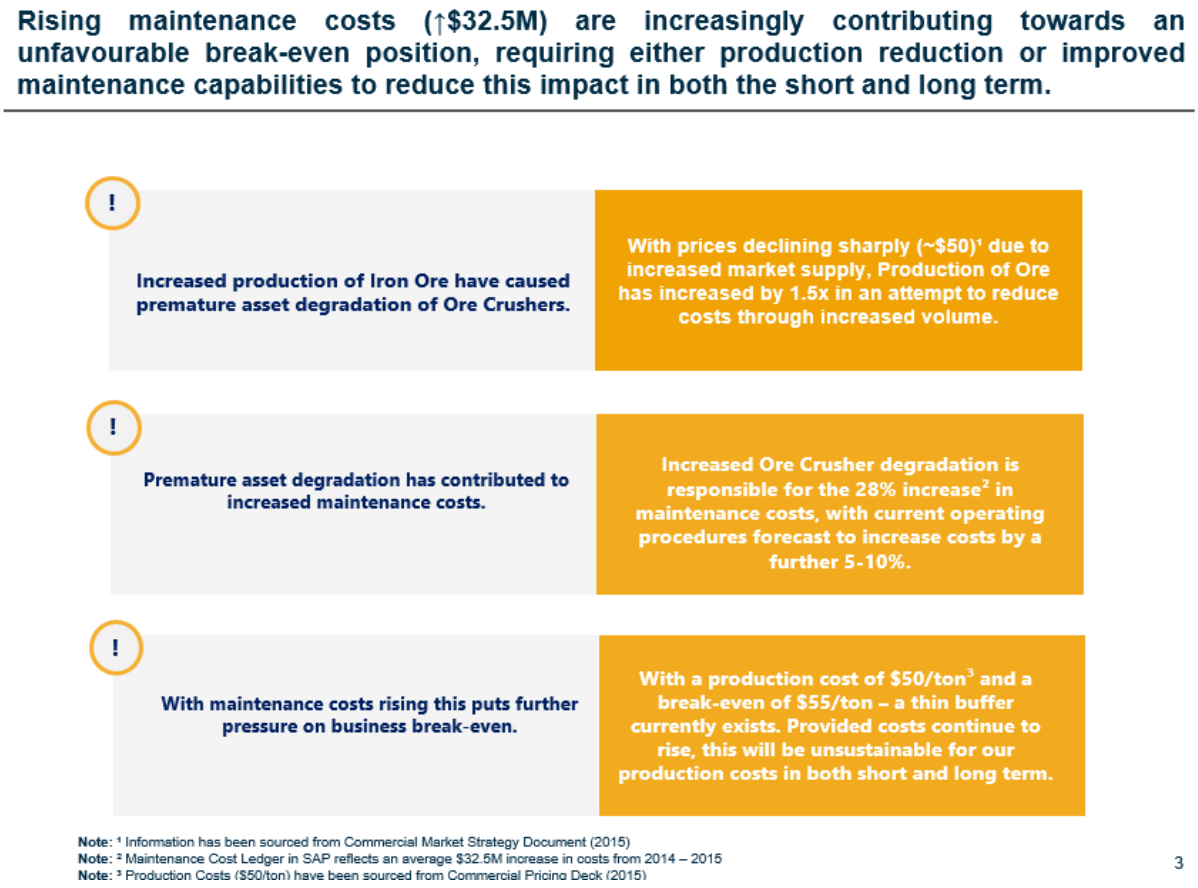


Figure 4.0 – Problem Summary Slide

This example governing thought highlights why this work is being done and provides actionable steps that this analysis may identify to resolve the existing situation. This governing thought is written out as a SMART statement.

Note that the difference between a technical presentation's governing thought and a non-technical presentation's governing thought is quite subtle. A technical governing thought focuses more on 'how' this thought will be implemented, while a non-technical version focuses on a broader approach that describes the situation without any technicalities. Below, you will find an example of a technical governing thought and the non-technical version of that same governing thought.

Technical: Rising annual maintenance costs (28%), as a result of premature asset degradation, have placed upward pressure on Monalco's break-even capabilities requiring either reduced production or proactive maintenance strategies.

Non-Technical: Rising maintenance costs (↑$32.5M) are increasingly contributing to an unfavorable break-even position, requiring either production reduction or improved maintenance capabilities to reduce this impact in both the short and long term.

Slide 2: Executive Summary Slide

With the audience now convinced of the value of the problem that is being tackled, we can now move to the Executive Summary Slide. At this point, you may wonder why the non-technical version shows only the problem summary slide and does not mention any of the 'how.' This is because non-technical presentations do not focus on "the **how**" in a technical manner so there is no value in having a technical slide that introduces the approach taken. **Remember, the purpose of a non-technical presentation is to help all stakeholders (executive, technical or non-technical) understand your key findings**.

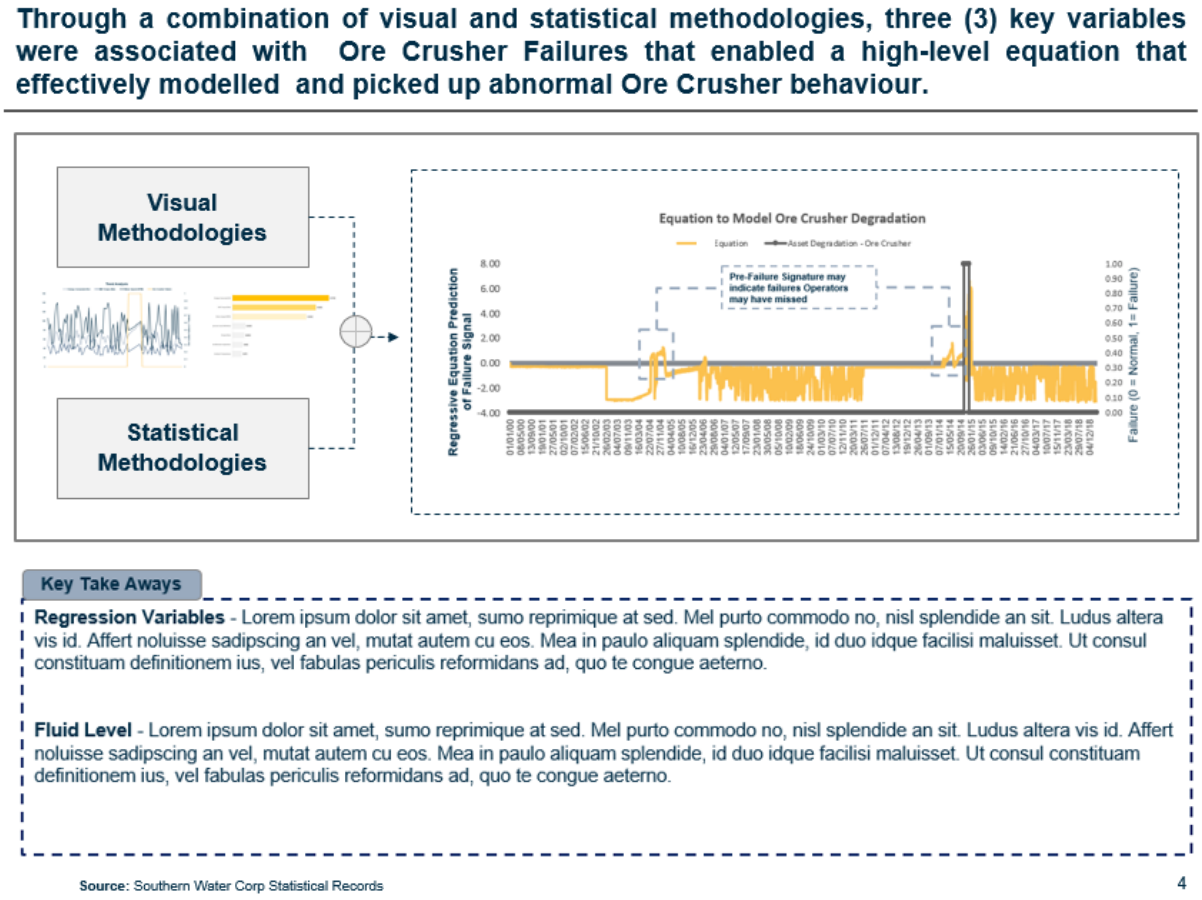


Figure 5.0 – Executive Summary Slide

The non-technical executive summary slide does not mention any technical tools you may have used when analyzing the data. There is no mention of descriptive statistics, correlations, or any other technical jargon. Instead, generic terminology is used to summarize key pieces of the analysis.

“Through a combination of visual and statistical methods, three key variables were associated with Ore Crusher Failures that enabled a high-level equation that effectively modeled and identified abnormal Ore Crusher behavior.”

Note that even though the key technical terminologies have been substituted, the overall context of the Executive Headline remains the same.

Slide 3: Supporting Slide #1 - Visual Methodologies

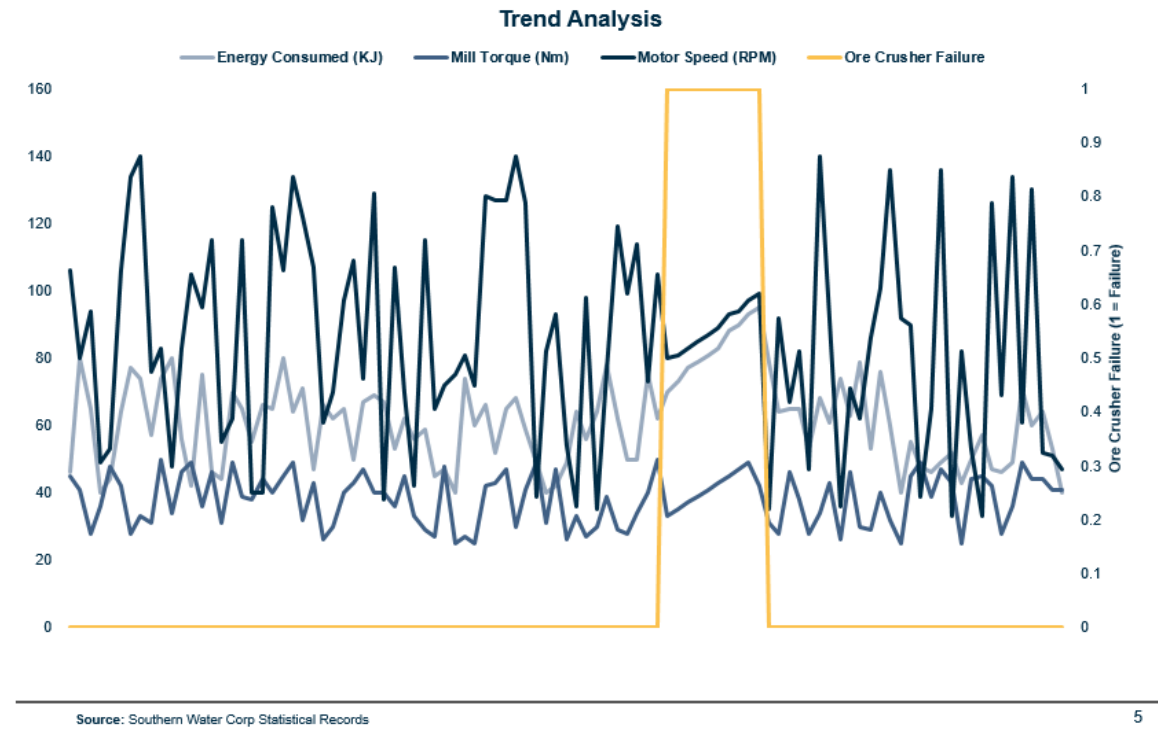
As per the pyramid principle, the supporting slide represents the first supporting insight that gives weight to your executive summary headline.

“…**Through a combination of visual and…”**

Looking at Figure 6.0, it is clear that the content is focused on supporting the reference to “visual” methods in the executive summary headline, but without using any technical jargon.

This lack of technical jargon becomes particularly evident when you compare the supporting slides included in the “How to Create a Technical Presentation” document with the slide below. The technical slide featured boxplots with interquartile ranges and median values – it **expects** the reader to have technical knowledge. The non-technical chart clearly highlights the same message as the technical slide – **however there is no technical assumptions in the associated graphic**. The failure event is clearly evident, with the three variables, Energy Consumed, Mill Torque, and Motor Speed clearly trending in an abnormal manner.

Contrasting both normal and abnormal behaviour through visualisation methodologies resulted in three (3) variables that experienced a notable change in frequency when associated with Ore Crusher Failure; Motor Speed, Energy Consumed and Mill Torque.



Source: Southern Water Corp Statistical Records

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Figure 6.0 – Visualisation Methodologies

Slide 5: Supporting Slide #2 - Statistical Methodologies

"…statistical methodologies, three (3) key variables were associated with Ore Crusher Failures…"

Supporting Slide #2 clearly leverages the link between Supporting Insight #1. Supporting Slide #1 made it clear that the visual analysis identified three key variables that change in response to the Failure Mode (i.e. Failure Mode = 1). This is reaffirmed in Supporting Insight #2. However, note that in the technical version of this slide, the language emphasized 'correlations.' In the non-technical version, this language is replaced by 'associative' strength, which is also clearly explained. This message is communicated **without** any technical language or explanation of techniques.

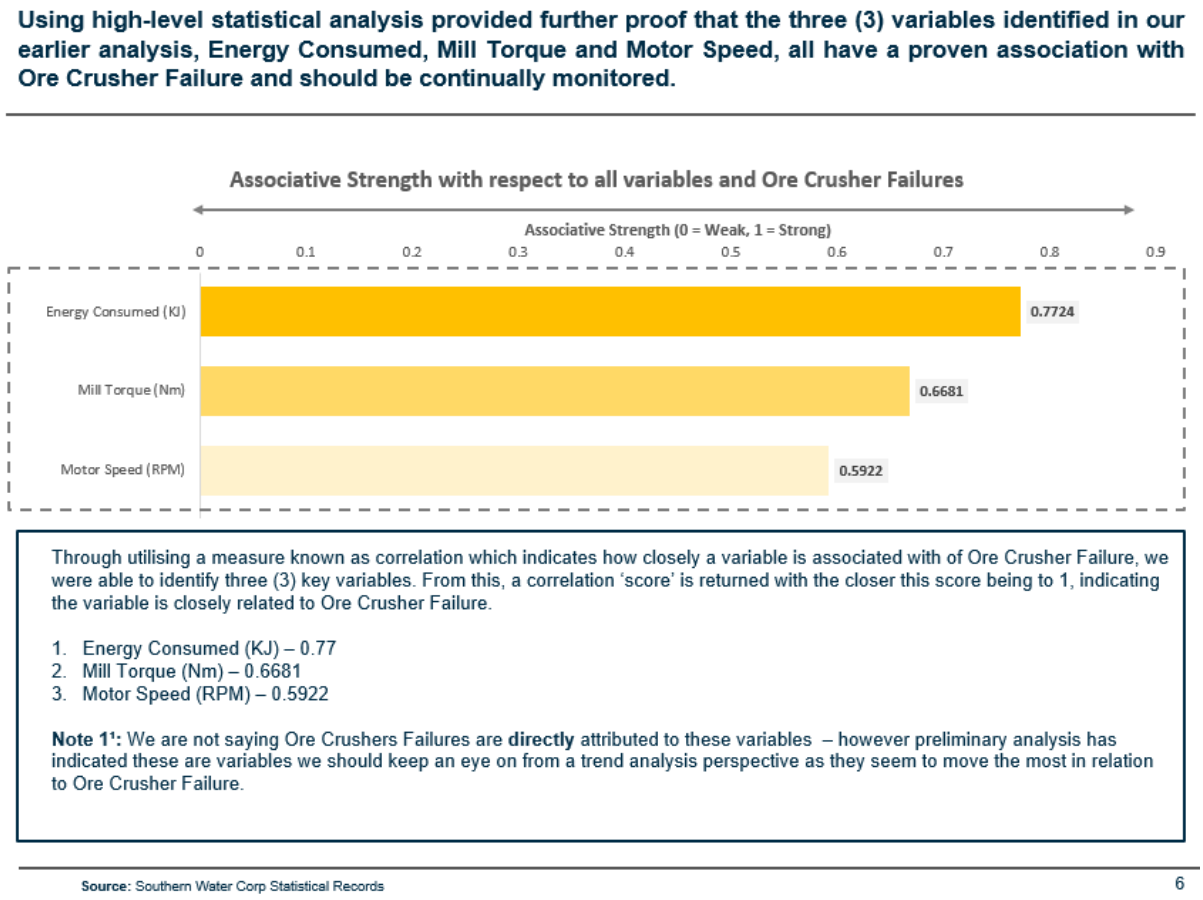

Figure 7.0 – Inferential Statistics (Correlation)

Slide 6: Supporting Slide #3 - High-Level Equation

"…enabling creation of an equation that successfully modeled failure for a single Ore Crusher. …"

Supporting Slide #3 brings us to the end of the presentation. It shows how the equation, which is composed of the three variables that were identified, clearly maps back to the failure. Additionally, having seen supporting slides #1 and #2, the audience has now been guided through the approach we took to reach the conclusive graphic that was shown in the Executive Summary Slide.

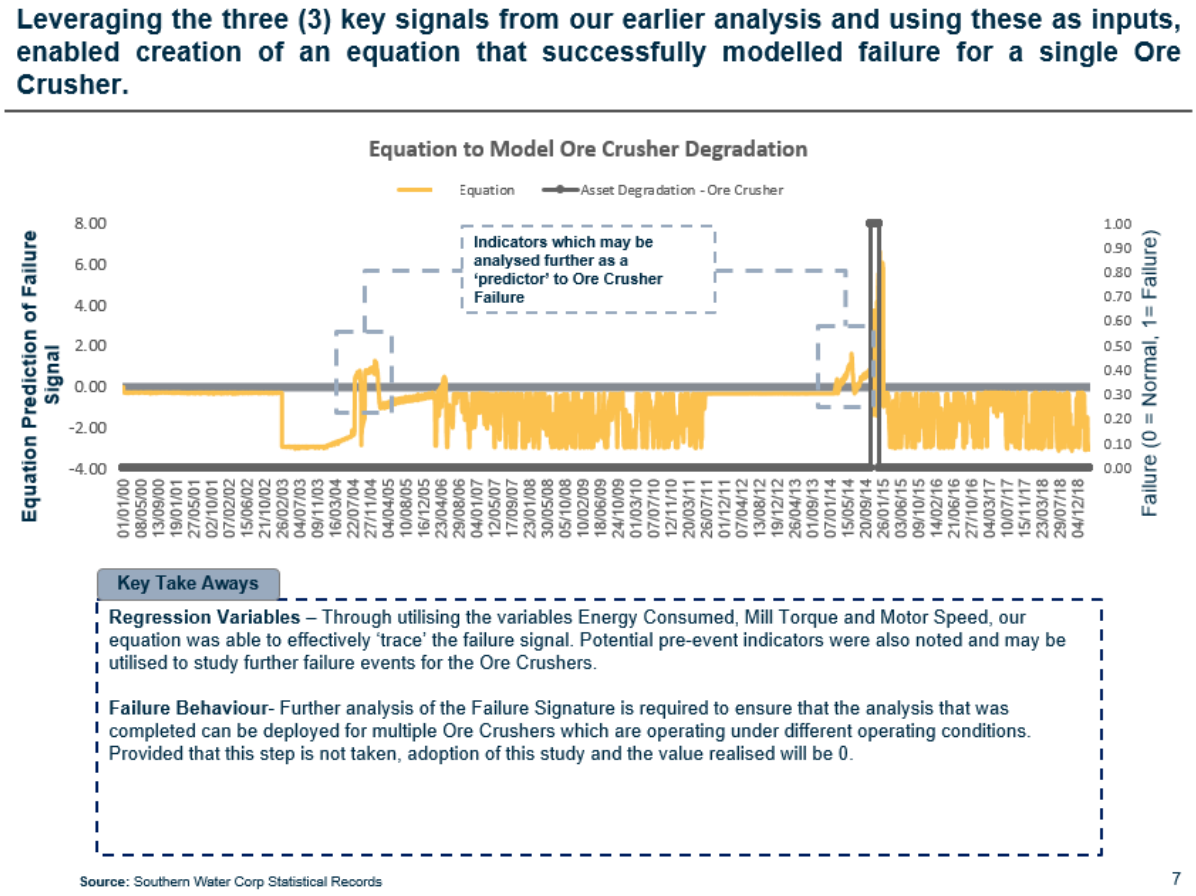

Figure 8.0 – High-Level Equation

As a final check, let's ensure that the audience can understand the flow of the non-technical presentation by reading only the Executive Headlines:

1. Rising maintenance costs (↑$32.5M) are increasingly contributing to an unfavorable break-even position, requiring either production reduction or improved maintenance capabilities to reduce this impact in both the short and long term.

2. Through a combination of visual and statistical methodologies, three key variables were associated with Ore Crusher Failures that enabled a high-level equation that effectively modeled and identified abnormal Ore Crusher behavior.

3. Contrasting both normal and abnormal behavior through visualization methodologies resulted in three variables that experienced a notable change

in frequency when associated with Ore Crusher Failure; Motor Speed, Energy Consumed, and Mill Torque.

4. Using high-level statistical analysis provided further proof that the three variables identified in our earlier analysis, Energy Consumed, Mill Torque, and Motor Speed, all have a proven association with Ore Crusher Failure and should be continually monitored.

5. Leveraging the three key signals from our earlier analysis and using these as inputs, enabled the creation of an equation that successfully modeled failure for a single Ore Crusher.

And that's a wrap! We've covered all three presentation types ranging from high-level executive presentations to detailed technical presentations and lastly non-technical presentations. You've seen these techniques applied in action and have observed the subtle differences between each presentation methodology; now it's your turn to start applying these techniques not just to your next assignment with ChemCorp, but also to your everyday work.