Preparing and Delivering Business Presentations

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Preparation

- Who is my audience?
- What is my objective?
- What is the best format in which to present this?
- What organizational structure is best?

Audience and Objective

- Technical Presentations
  - Audience: Engineers, scientists, technicians
  - Interests: Technical details
  - Objective: Apply what you teach to their problems and processes

http://dwtc.com/en/events/Pages/2016/Society-Petroleum-Engineers-Technical

- Business Presentations
  - Audience: Managers
  - Interests: Corporate strategy ($$$$)
  - Objective: Improve products and decrease costs

http://englishlessons-houston.com/tag/business-english-presentation-phrases/

Content Differences

- Business Presentation
  - How changes will affect product, business, consumers, etc.
  - Technical details relative to product, implementation, $$$$, timing, etc.
  - Decision making emphasized
- Technical Presentation
  - Details of experiment
  - Show how conclusions are arrived at
  - Equations, equipment, process

https://www.dreamstime.com/stock-photo-dollars-background-dollar-bills-new-old-model-have-been-laid-out-circle-image85431696

Continuity:

$$\frac{\partial \rho}{\partial t} + \frac{\partial (\rho u)}{\partial x} + \frac{\partial (\rho v)}{\partial y} + \frac{\partial (\rho w)}{\partial z} = 0$$

X – Momentum:

$$\frac{\partial (\rho u)}{\partial t} + \frac{\partial (\rho u^2)}{\partial x} + \frac{\partial (\rho uv)}{\partial y} + \frac{\partial (\rho uw)}{\partial z} = -\frac{\partial p}{\partial x} + \frac{1}{Re_r}\left[\frac{\partial \tau_{xx}}{\partial x} + \frac{\partial \tau_{xy}}{\partial y} + \frac{\partial \tau_{xz}}{\partial z}\right]$$

Y – Momentum:

$$\frac{\partial (\rho v)}{\partial t} + \frac{\partial (\rho uv)}{\partial x} + \frac{\partial (\rho v^2)}{\partial y} + \frac{\partial (\rho vw)}{\partial z} = -\frac{\partial p}{\partial y} + \frac{1}{Re_r}\left[\frac{\partial \tau_{xy}}{\partial x} + \frac{\partial \tau_{yy}}{\partial y} + \frac{\partial \tau_{yz}}{\partial z}\right]$$

Z – Momentum

$$\frac{\partial (\rho w)}{\partial t} + \frac{\partial (\rho uw)}{\partial x} + \frac{\partial (\rho vw)}{\partial y} + \frac{\partial (\rho w^2)}{\partial z} = -\frac{\partial p}{\partial z} + \frac{1}{Re_r}\left[\frac{\partial \tau_{xz}}{\partial x} + \frac{\partial \tau_{yz}}{\partial y} + \frac{\partial \tau_{zz}}{\partial z}\right]$$

Energy:

$$\frac{\partial (E_T)}{\partial t} + \frac{\partial (uE_T)}{\partial x} + \frac{\partial (vE_T)}{\partial y} + \frac{\partial (wE_T)}{\partial z} = -\frac{\partial (up)}{\partial x} - \frac{\partial (vp)}{\partial y} - \frac{\partial (wp)}{\partial z} - \frac{1}{Re_r Pr_r}\left[\frac{\partial q_x}{\partial x} + \frac{\partial q_y}{\partial y} + \frac{\partial q_z}{\partial z}\right]$$
$$+ \frac{1}{Re_r}\left[\frac{\partial}{\partial x}(u\tau_{xx} + v\tau_{xy} + w\tau_{xz}) + \frac{\partial}{\partial y}(u\tau_{xy} + v\tau_{yy} + w\tau_{yz}) + \frac{\partial}{\partial z}(u\tau_{xz} + v\tau_{yz} + w\tau_{zz})\right]$$

https://www.grc.nasa.gov/www/k-12/airplane/nseqs.html

Format

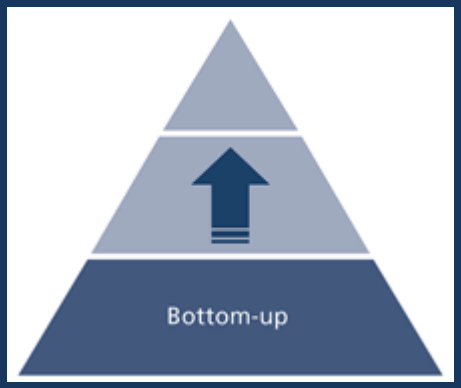
- Usually small conference room (3-15 people)
  - This is why we split the class into 2 groups
- Conference table
- Small screen with projector
- If not a projector….
  - White erase board
  - Poster paper
- Audience participation

Business Presentation: Organization

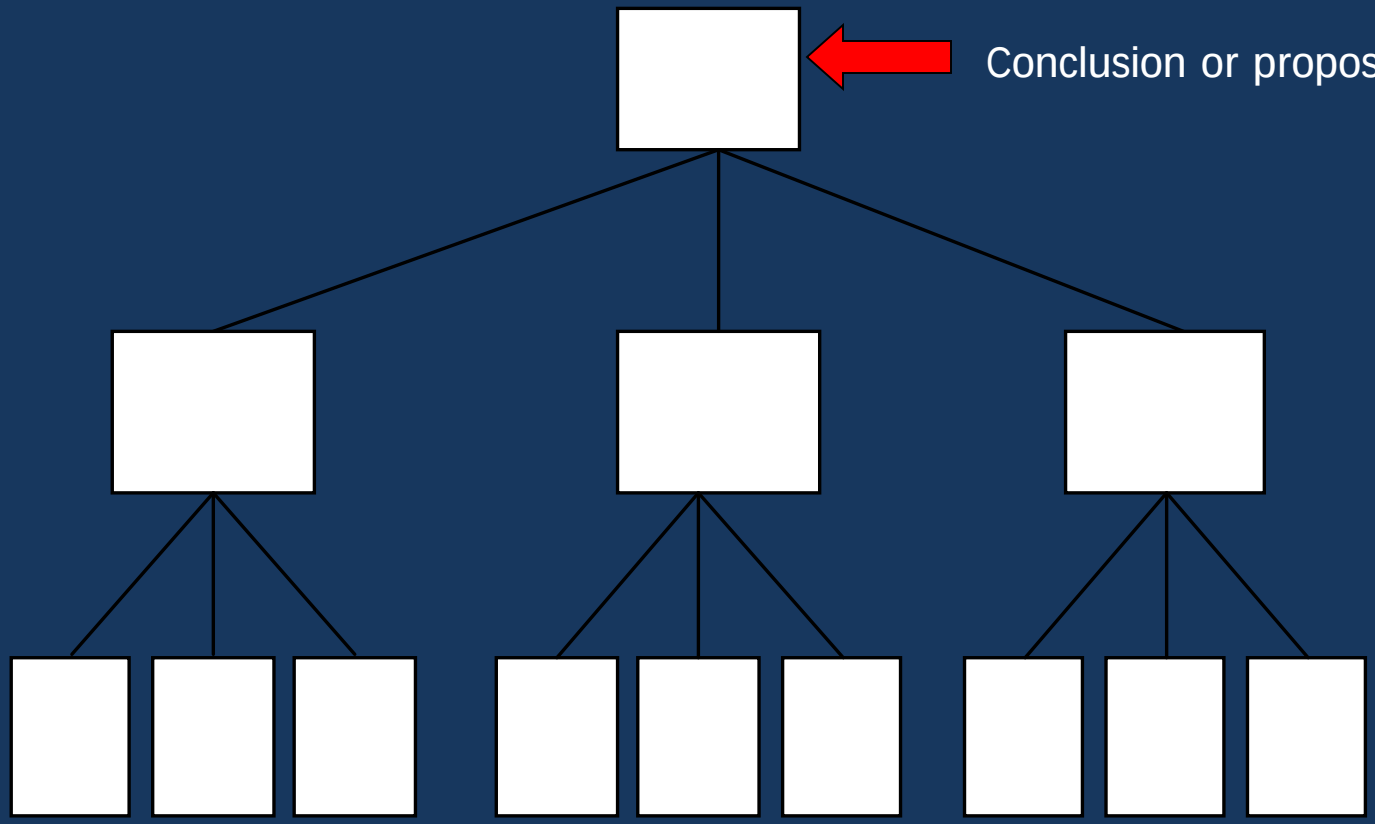
Business

http://test.evolvedeconomy.com/?tag=top-down

Technical



Business Presentation: Pyramid Principle



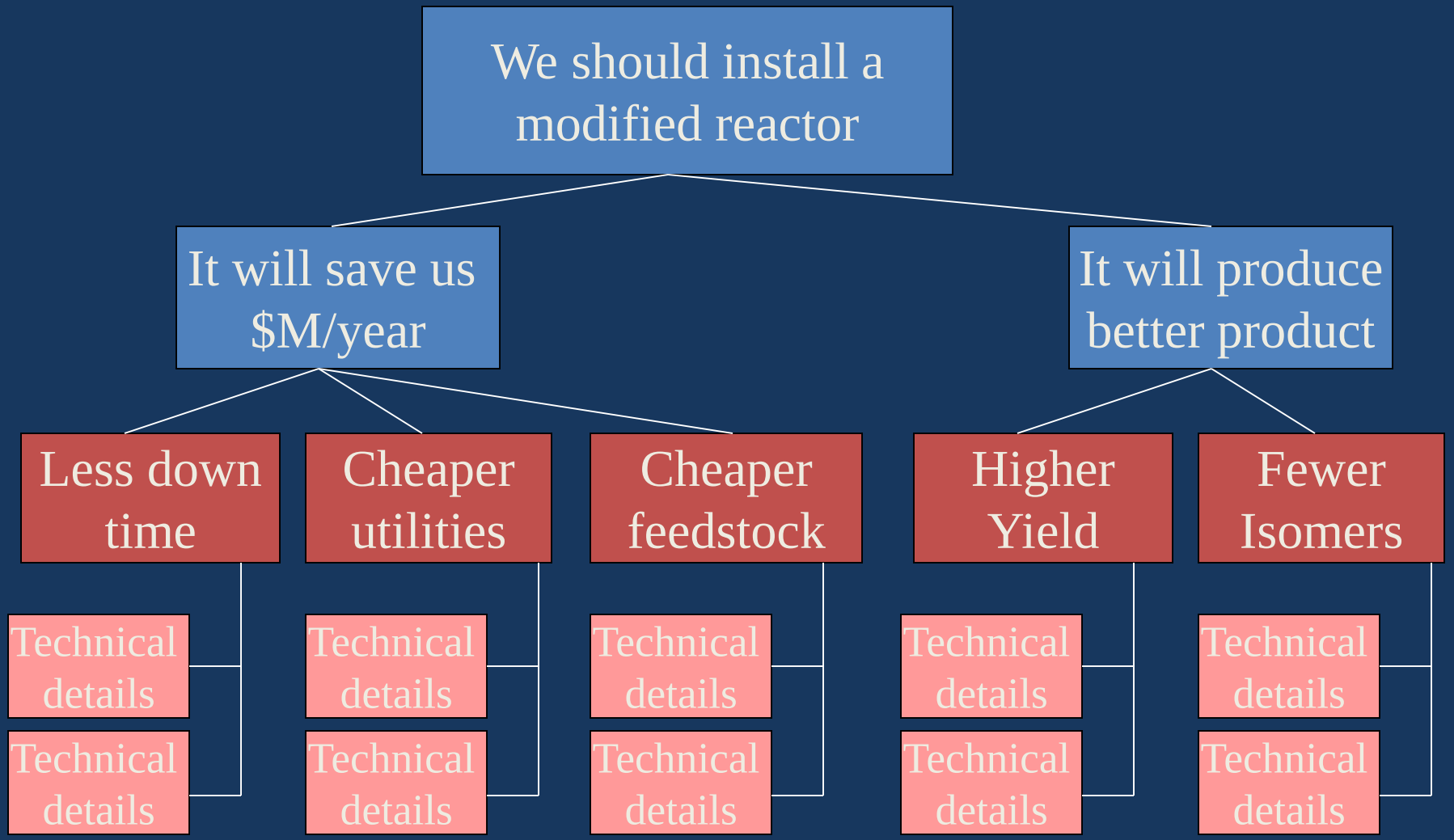
Business Presentation: Pyramid Principle Rules

- Ideas at any level in the pyramid are summaries of the ideas grouped below them (vertical hierarchy)
- Ideas in each grouping are the same kind of idea (parallelism of supporting statements)
- Ideas in each grouping are logically ordered

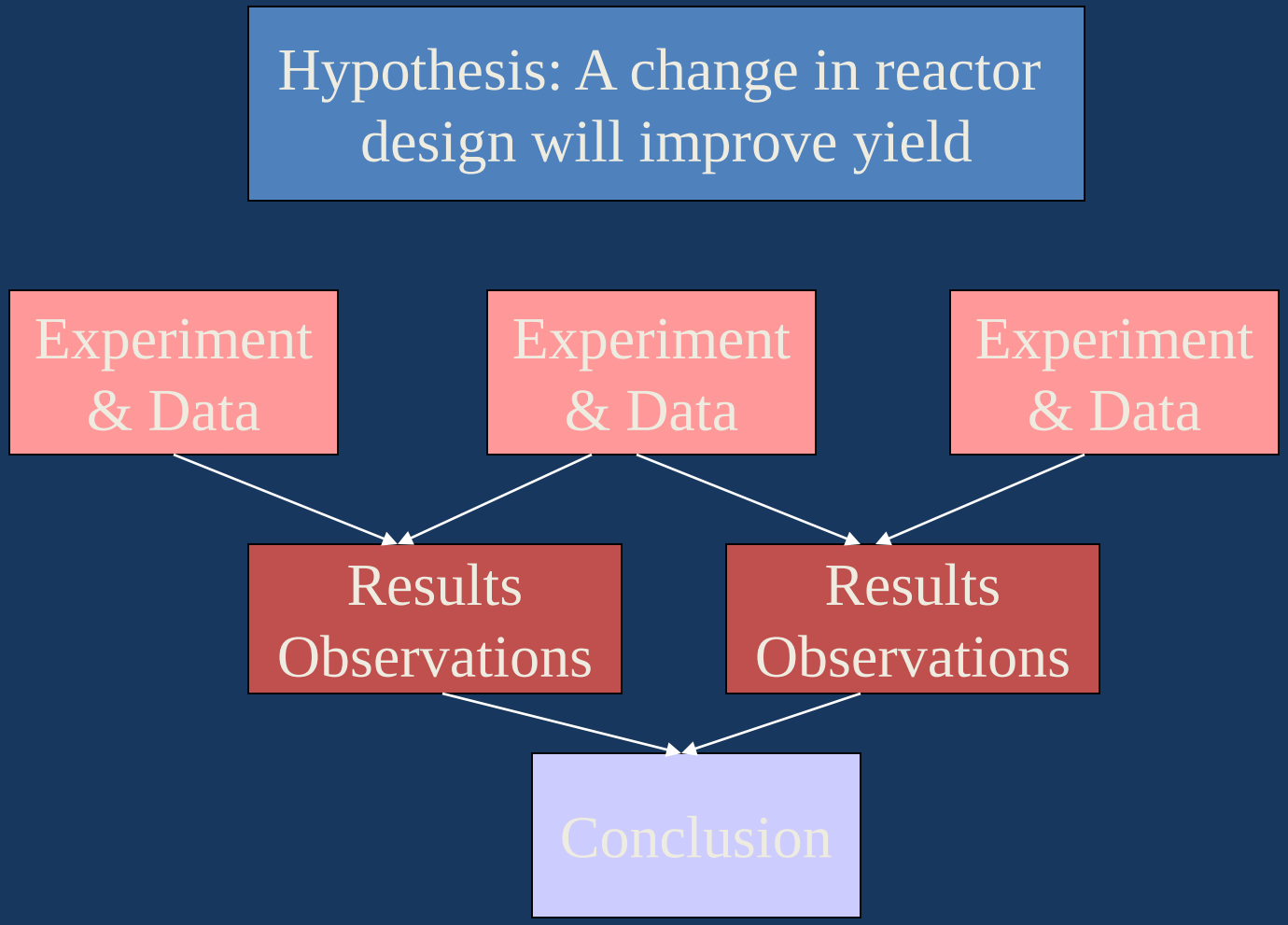
Business Presentation: Inductive Reasoning

- Thesis statement/major conclusion first
  - Supporting statements answer the questions raised by the major conclusion
    - Sub-ideas answer the questions raised by the supporting statements
  - Technical details can be presented to support the conclusions, but they are not the focus. You must "know your stuff" when asked questions, however.

Business Presentation: Logic



Technical Presentation Logic



My Expectation of You

- Audience and objective
  - Presenting to business executives, i.e., your boss and his/her boss
  - Your goal is to effect change (persuade to invest, change point of view, etc.)
- Time: Try for 10 minutes if no discussion
  - Will get questions and discussion
  - OK to postpone answers
- Content:
  - Use top-down format
  - Include economics if possible
  - Additional (back-up) slides for possible questions
- Have fun!
  - Be creative, but stick with engineering-related topics
  - If cannot get real data, can simulate realistic numbers (for this exercise only)

Ideas for Presentation Topics

- New engineering building at BYU
- Recycling of waste in Utah
- Incineration of waste in the US
- Biomass as a fuel source
- Lasik surgery
- Any environmental issues
- Replace I-15 with mass transit
- Nuclear storage
- Gasoline Tax Hike
- Export of liquefied natural gas (LNG)
- Canadian gas pipeline
- Switch BYU fleet to electric vehicles
- Biomedical devices
- New pharmaceuticals
- New materials/polymers
- Space mission
- Drain lake Powell (or not)
- Require laptops for BYU ChE students