

Cost Modeling Group Project:



Massachusetts Institute of Technology
Department of Materials Science & Engineering

3.080 Econ & Enviro Issues In Materials Selection
Randolph Kirchain

Engineering Economic Analysis: Slide 1

Cost Modeling Project: Overview

- Background
 - Your group can open a business making one of four types of baked goods
 - Cake
 - Muffin
 - Biscuits
 - Bread
- Initial Questions - (turn in next Tues Nov 14)
 - What technological decision will you relate to cost?
Examples
 - Design - product dimensions
 - Processing - baking temperature
 - Describe a relationship or model to connect this technological decision to processing requirements
 - What data do you need to make this calculation?
 - Segment your answer into model input, known data, unknown data -
Note that groups will be responsible for collecting cost data



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Cost Modeling Presentation Issues to Address

- Which product will you choose to make?
 - Describe the technological options which you considered and how you incorporated these into your model.
- How much will you charge? How does this compare to the competition?
- How many units will you make per year?
- How much equipment will need to be purchased?
- What are the key cost drivers?
- How sensitive is your decision to changes in your assumptions?
(focus on those that affect the key cost drivers, you should definitely look at the affect of changing capacity and production volume)
- Assuming that you sell what you produce, what is the IRR of this investment? Explore the impact of changing production volume and unsold items on this figure

Deliverables

- Initial questions due on Nov 14th
 - Technological relationship
 - Data needs
- Presentation on Nov 29th
- Due on 12 / 02
 - 3-5 page writeup - done individually
 - Spreadsheet model - submitted through the MIT Server.
 - Only one model needs to be submitted per group