



The Mind Game: A Brief Simulation Game to Enrich Managerial Accounting

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*I hear and I forget, I see and I remember,
I do and I understand, Chinese Proverb*

INTRODUCTION

This poster describes an enjoyable in-class activity: to acquaint students in introductory managerial accounting classes with the effects of uncertainty on budgeting decisions. The activity presented is a Monte Carlo simulation game in Excel.

OBJECTIVES

Consistent with Pathways Objective 4.2 (implement curricular models for the future), to develop a budget uncertainty simulation

- that can be implemented in a few class sessions rather than throughout the entire course, and
- that would be fun and engaging for the student teams.

To help students develop the AICPA core competencies of

- Decision modeling (Functional)
- Interaction and Problem Solving & Decision Making (Personal)

SIMULATION

The Mind Company

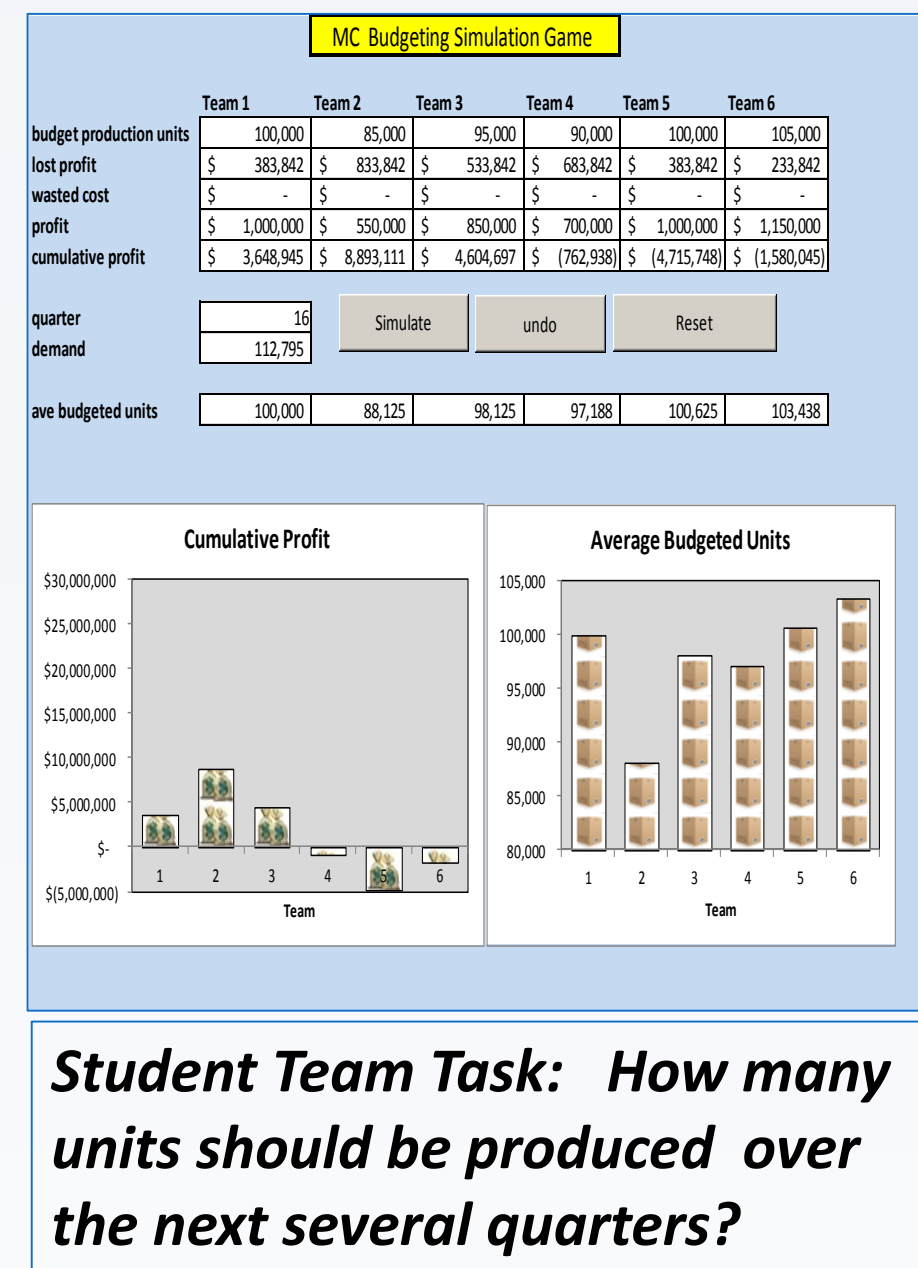
- Produces intelligent electronic devices, the “Brain in a Box,” used in the production of compact cars
- Technology requires that the device is completely redesigned every quarter and unused boxes are discarded*

Production Demand:

- Average Demand = 100,000 units
- Demand can Vary +/- 25,000 units
- Most likely range is between 85,000-115,000 units

Production Costs:

- Fixed Cost for the Production Line = \$2,000,000
- Unit Production Cost is estimated at \$180
- Selling price = \$210

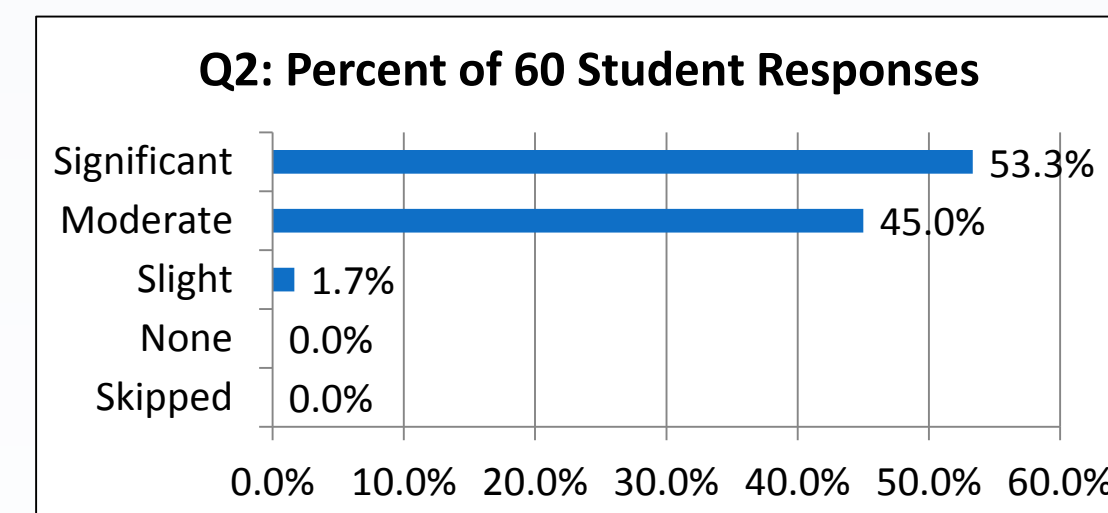


Student Team Task: How many units should be produced over the next several quarters?

SELECT RESULTS

Experiment 1: Student Response to Questions after Game

Question 2: By playing the Mind Game, I gained an understanding of how uncertainty can affect profits.		
	%	#
Significant	53.3%	32
Moderate	45.0%	27
Slight	1.7%	1
None	0.0%	0
Skipped	0.0%	0
Responses		60



Experiment 2: Student Response to Final Exam Question about Uncertainty

Final Exam Question: Decision Makes Must Take Uncertainty into Consideration				
ANSWER	Played the Game	Did not Play the Game	Unknown	Difference in % Correct between Played/Not Played Significant at 5% Level (z=2.41)
TRUE	64	32	13	
FALSE	42	43	6	
BLANK	1	2	0	
% Correct	60%	42%	68%	
Total (203)	107	77	19	

CONCLUSIONS/NEXT STEPS

- In the survey completed after the game students expressed (1) a better understanding of uncertainty and (2) enjoyment of the game and team interaction
- On an exam question about uncertainty, students who played the game performed significantly better
- Extensions may include (1) using uncertainty about fixed costs, (2) changing parameters to test knowledge about breakeven and (3) trying the simulation before and after the accounting topic.

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