

# Case Interview Workshop

## How to Crack the Case

DEAN & COMPANY  
STRATEGY CONSULTANTS

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WASHINGTON, D.C.  
(703) 506-3900



Consulting firms (and increasingly other corporations) use case interviews to evaluate candidate skills in a more realistic environment

## The Challenge of Evaluating Candidates

- **The interviewer's goal is to quickly assess if you would succeed in *their* consulting environment**
  - Consulting Industry: Demanding clients, changing topics, unstructured problems
  - Dean & Company: Small firm, quantitative, early ownership, non-hierarchical
- **Your resume is critical in earning an interview by establishing that you have the raw materials we look for:**
  - Intellectual capacity
  - Business intuition
  - Demonstrated achievement
  - Entrepreneurial spirit
  - Effective communications
  - Professional integrity
- **However, because the consulting industry is so dynamic, we look for current skills and future potential more than your specific experience**
  - Limits the usefulness of traditional resume interviews
- **The *case interview* is a discussion about a problem or scenario used to evaluate your fit with the company and position**



# Cases come in many forms – at Dean & Company we tend to use Business Problems, which often contain Market Sizing elements

## Types of Cases

	<u>Brainteaser</u>	<u>Resume-Based</u>	<u>Market Sizing</u>	<u>Business Problem</u>
<b>Definition:</b>	Relatively short-answer thought question	Open-ended discussion derived from a topic on the resume	Estimate the size of something from little hard data	Analyze a real-world problem facing a client
<b>Key Skills Tested:</b>	<ul style="list-style-type: none"> <li>• Creativity</li> <li>• “Raw Horsepower”</li> </ul>	<ul style="list-style-type: none"> <li>• Applying knowledge in new directions</li> <li>• Building a logical &amp; structured argument</li> </ul>	<ul style="list-style-type: none"> <li>• Structuring &amp; logic</li> <li>• Prioritization</li> <li>• 80/20 estimation</li> <li>• Sanity checking</li> </ul>	<ul style="list-style-type: none"> <li>• Structuring open, complex problems</li> <li>• Logical conclusions</li> <li>• High stakes communications</li> </ul>
<b>Example:</b>	Three switches connect to three bulbs in another room that I can enter only once. How can I map switches to bulbs?	You applied for grants. How would you reform funding in <i>[your subject matter here]</i> ?	How many coffee cups does Starbucks go through in a year?	Should we invest in Company X?
<b>Dean Use?</b>	Never	Occasionally, especially in ad hoc resume interviews	Rarely stand-alone, more often as part of a larger question	Absolutely



## Case interviews are more about logic and reasoning than specific results

### Case interviews ARE designed to assess your ability to...

- Structure complex problems
- Prioritize ideas, manage time
- Perform analysis, interpret data
- Demonstrate creativity
- “Think business”
- Communicate recommendations

### ... but they ARE NOT designed to:

- Test specific industry or functional experience
- Have a “right” answer
- Have a single way to address the question
- Be confrontational or misleading



There are four basic skill sets we evaluate during the case interview

## The Case Interview: Evaluation Criteria

- **Problem solving**
  - Develops hypotheses
  - Structures thinking
  - Uses intuition and creativity
  - Gets to the “so whats”
  - Has intellectual curiosity
- **Communication skills**
  - Listens actively
  - Speaks clearly and concisely
  - Understands graphic presentation
  - Structures answers well
  - Seems excited and engaged
- **Analysis and research**
  - Demonstrates quantitative aptitude
  - Gathers and evaluates information, asks questions
  - Sees the forest for the trees
- **Interpersonal skills**
  - Is well rounded
  - Displays maturity and responsibility
  - Has high energy level
  - Is tactful
  - Fits with the firm’s culture

**Can the person do the work?**

**Would I want to be “stuck” in an airport with this person?**

**Could I put this person in front of a client?**



Part of the challenge is structuring your thoughts and managing your time well

## The Four Stages of a Case Interview

### *The Set-Up*

**Suggested  
Time**

**I. Ask Initial Questions**

**5%**

**II. Develop Hypothesis and Approach**

**10%**

**III. Work Through the Case**

**70%**

**IV. Summarize and Pull Up**

**15%**



## How to “Nail” a case

### I. Ask Initial Questions

- Clear up any ambiguity in the problem/scenario
- Make sure you know what the output is!
- If data is given, be sure to write it down

### II. Develop Hypothesis and Approach

- Explain your rationale for the answer and how you intend to get there. Identify the “sub-questions”
- Ask more questions, but don't be afraid of silence
  - Take time to structure the problem and your answer

### III. Work Through the Case

- Execute your plan, adjusting as you get feedback
  - Walk the interviewer through; explain and write-down your progress
  - Actively listen, not only the words but facial expressions, etc.
- Make estimates liberally, but explain your logic
  - Don't instantly back down if challenged to explain yourself
- Don't freeze up. Talk out your thoughts and confusion.

### IV. Summarize and Pull Up

- Pull-up to a conclusion that answers the original question
  - Communicate with more than words. Use graphs, charts, flows, etc., if they will add value to your answer.
- Interpret your results and answer follow-up questions
  - Think business, not math
  - Does it “seem” right? If not, high or low? Why?
  - Which assumptions need more work? What if “X” were true?



## An example: Market Sizing

**How many cell phones  
were sold in the United  
States last year?**





## Market Sizing: A quick answer

### I. Ask Initial Questions

- To confirm--we are talking about new sales, not total users?
- And the physical phones, not just changing service plans?
- Do you mean all types of mobile phones?

### II. Develop Hypothesis and Approach

- Start with all people in the US -- but realize that only some of them will have mobile phone service (“penetration”)
- Typically someone gets a service, and then buys a new phone for one of two reasons (“turnover” or “phones/year”)
  - Change providers or plans
  - Want the latest technology
- **Number of sold phones = People x Penetration x Turnover**

### III. Dive Into the Details

- Let’s assume there are 300 MM people in the United States
- Estimate 60% of Americans own a cell phone
- Then lets assume that phones have a lifetime of three years
- That means  $300 \text{ MM} \times 60\% \times (1/3) = 60 \text{ MM}$  cell phones sold

### IV. Pull Up and Summarize

- I estimate 60 MM cell phones were sold in the US last year
- Then I ask myself . . . Does this make sense? . . .
- And I suggest how I could make a more accurate estimate



## Market Sizing: Going deeper

### Interviewer Follow-up Questions

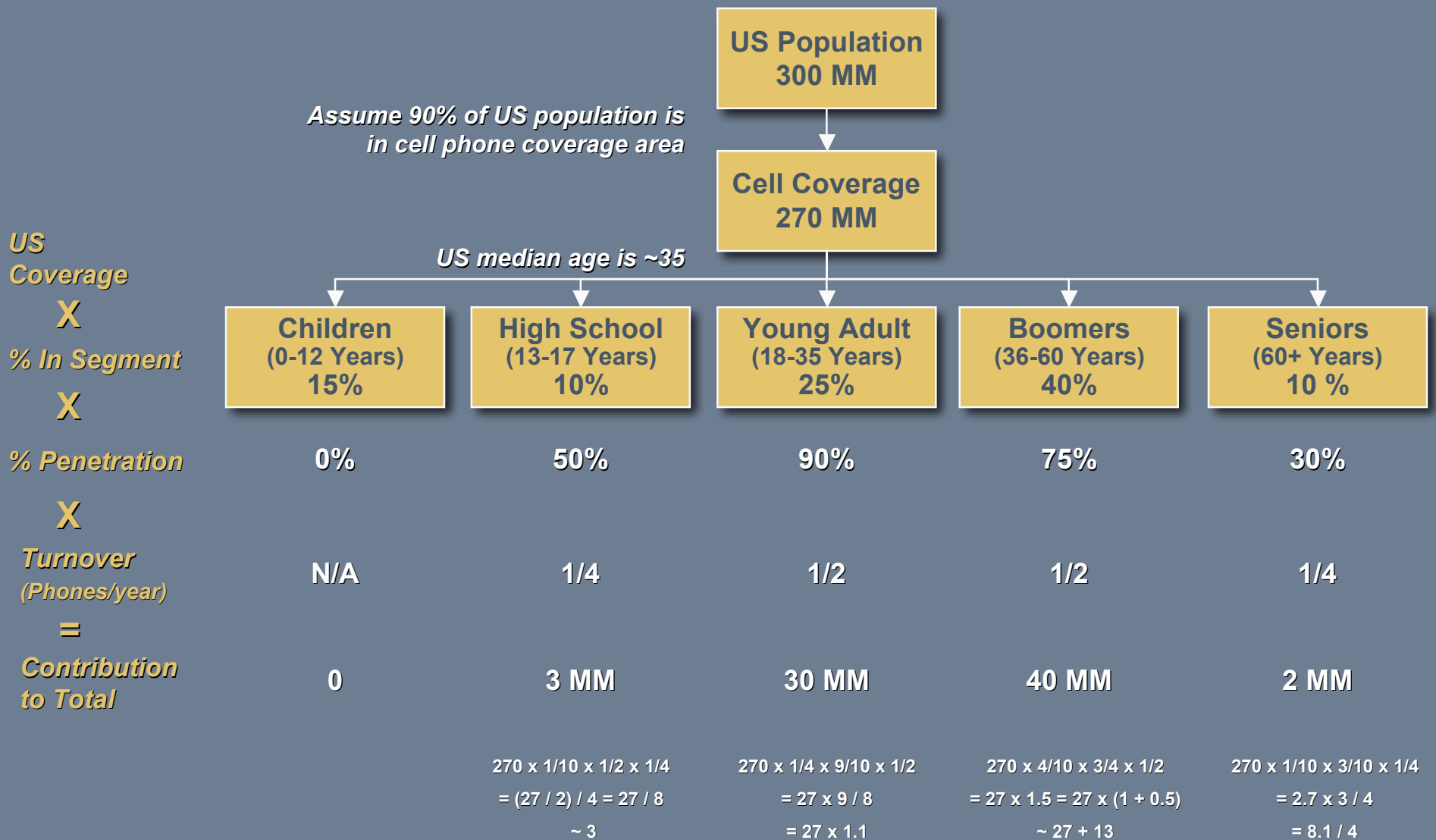
- Is a person living in the middle of nowhere going to own a cell phone?
- Almost all of my friends have cell phones and they are always showing off the new model. Can we use this type of data to refine your estimate?

### Revisions to Approach

- While the numbers need adjusting my analytical framework still holds:  $\text{Sold Phones} = \text{People} \times \text{Penetration} \times \text{Turnover}$
- You are right, people won't buy a phone unless they have network coverage. The US is very well built out so lets estimate 90% of US Population is covered.
- It's not surprising your friends are heavier users, they aren't average. Lets break up the whole into a handful of "segments," each with its own set of penetration and turnover assumptions:
  - Children: Don't own cell phones
  - High School: Want them, but need parental permission. Not much money to spend.
  - Young Adult: Lots of freedom, technology savvy, more disposable income
  - Boomers: Probably have for work, lots of disposable income, but less tech savvy
  - Seniors: More uncomfortable with technology, but emergency function valued
- After calculating phones sold in each segment, add them up



“After looking at a segmented approach to the market, I estimate ~75 MM cell phones were sold in the US last year”





## More Market Sizing Tips

- Feel free to make assumptions, but cross check at the end to make sure things make sense
- Know some key figures to scale the problem

Demographics		Revenue Sizing		Macroeconomics	
World Population	~7 B	Small Company	\$3 MM	World GDP/Capita	\$8 K
US Population	~300 MM	Large Company	\$300 MM	US GDP/Capita	\$38 K
Median Age	~35 yrs	Fortune #500	\$3 B	US/World GDP	~25%

- Listen to feedback and adjust your approach/assumptions accordingly
- Simplify! (but explicitly explain your actions)
  - Use round numbers whenever possible
  - Drop numbers that are small relative to others
  - Think about percentages as fractions:  $80\% \times 75 = \frac{4}{5} \times 75 = 4 \times 15 = 60$
  - Make sure your math adds up
- Before the interview, know what to expect and practice



## Dean Sample Case II: A Business Problem

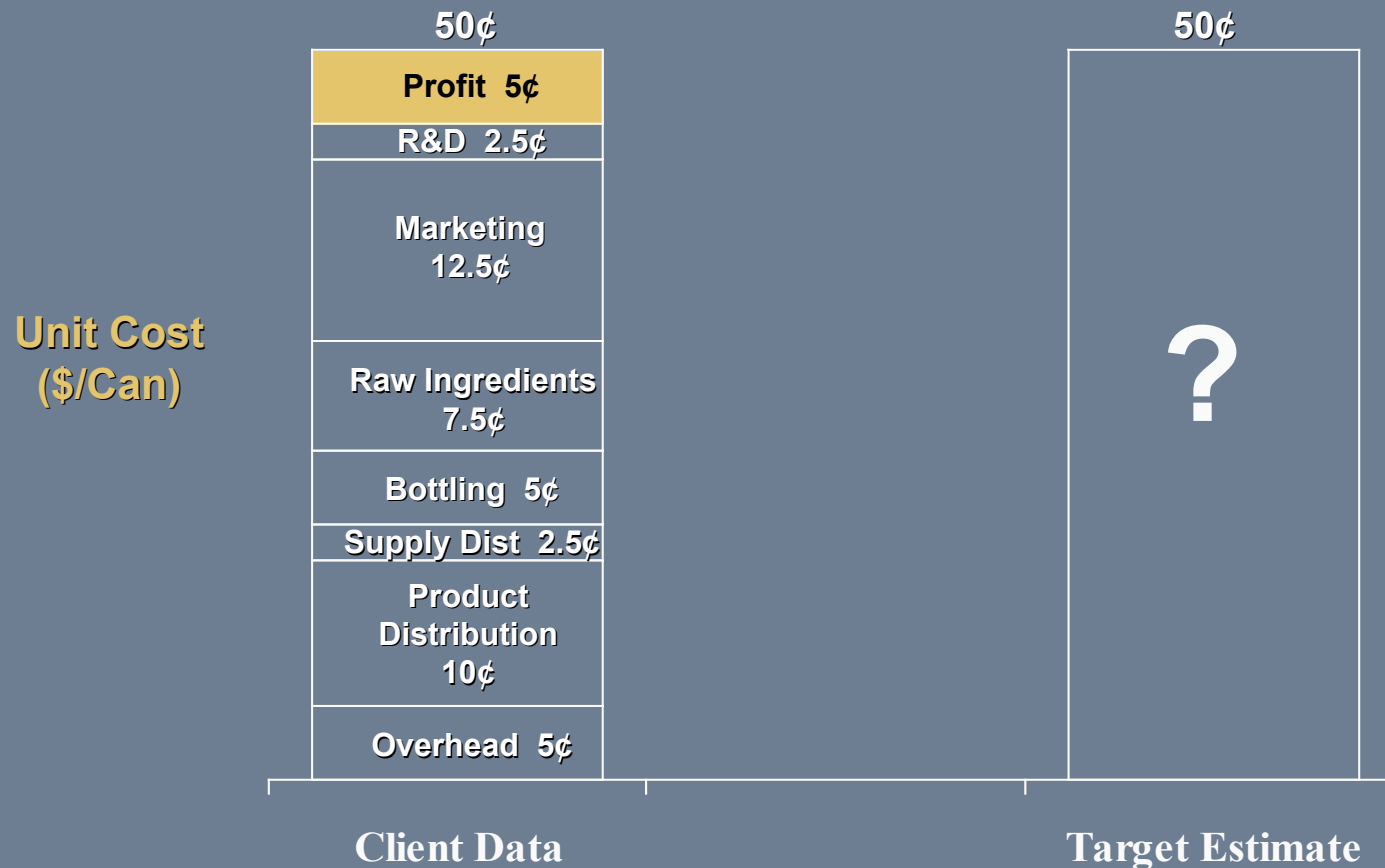
### **A Business Problem Case: The Set Up**

- Your client, the Coca-Cola Corporation, is assessing its competitive positioning for “Coca-Cola Classic”
- Your assignment is to provide your assessment of RC’s profitability and product strategy, then use the results to determine if RC is likely to threaten Coke
- In-store market research has determined that both products sell for \$0.50/can
- While the data on RC’s costs are not available, Coke has provided significant information on their own product

**Answer discussed is one solution,  
this is one of many potential approaches**



# Business Problem Case: The Set-Up -- What initial information/clarifications do you need to move forward?





## Business Problem Case: Sample “Scoping” Questions

### I. Ask Initial Questions

- Clear up any ambiguity in the problem/scenario
- Make sure you know what the output is!

#### Example Questions:

- Global or U.S. only?
- Is data for “Coca-Cola Classic” or all soft drinks?
- I know Coca-Cola Classic is made by a huge corporation. What about RC?
- Did the “market research” assess the following:
  - Alignment of RC products to Coke products?
  - Regional focus of RC and overlap with Coke?
- Does RC have the same cost categories as Coke?



# Business Problem Case: Given initial information/clarifications, what is your hypothesis and approach?

**Unit Cost  
(\$/Can)**

	50¢	50¢
	<b>Profit 5¢</b>	<b>Profit</b>
	R&D 2.5¢	R&D
	Marketing 12.5¢	Marketing
	Raw Ingredients 7.5¢	Raw Ingredients
	Bottling 5¢	Bottling
	Supply Dist 2.5¢	Supply Distribution
	Product Distribution 10¢	Product Distribution
	Overhead 5¢	Overhead
	<b>Coca-Cola Classic</b>	<b>RC Cola</b>

**Headquarters**  
**Geographic Focus**  
**Overlap**

**Atlanta, GA**  
**Entire US**  
**20%**

**Raleigh-Durham, NC**  
**Southeast US**  
**100%**





## Business Problem Case: Sample Hypothesis/Approach

### II. Develop Hypothesis and Approach

- Explain your rationale for the answer and how you intend to get there. Identify the “sub-questions”
- Ask more questions, but don’t be afraid of silence
  - Take time to structure the problem and your answer

#### Example Approach:

- The ultimate threat to Coke could come from many angles (e.g., price pressure, new products), but assume RC remains profitable
- Both companies price the same, so differences will be in costs. I can use Coke’s cost structure and infer differences for RC
- I’ll start with the production costs: Ingredients, Distribution, and Overhead. Assume that cost/unit is depends on number of cans (“economies of scale”).
  - How many cans does each company produce and distribute?
- That leaves money for discretionary costs (marketing, R&D) and profit. We can discuss how these resources are split, infer RC’s strategy, and ultimately any threat to Coke



# Business Problem Case: Given your hypotheses and approach, how should you “dig in” and conduct the analysis?

Unit Cost (\$/Can)	50¢		Estimated RC Unit Cost vs. Coke
	Coca-Cola Classic	RC Cola	
	Profit 5¢	Profit	
	R&D 2.5¢	R&D	
	Marketing 12.5¢	Marketing	
	Raw Ingredients 7.5¢	Raw Ingredients ~7.5¢	>, <, or =
	Bottling 5¢	Bottling ~ 5¢	>, <, or =
	Supply Dist 2.5¢	Supply Dist ~2.5¢	>, <, or =
	Product Distribution 10¢	Product Distribution ~10¢	>, <, or =
	Overhead 5¢	Overhead ~5¢	>, <, or =
	<b>Coca-Cola Classic</b>	<b>RC Cola</b>	

Headquarters	Atlanta, GA	Raleigh-Durham, NC
Geographic Focus	Entire US	Southeast US
Overlap in Cans	160MM (20%)	40 MM (100%)
Total Cans Produced	800 MM	40 MM



## Business Problem Case: Sample Detailed Analyses

### III. Dive Into the Details

- Execute your plan, adjusting as you get feedback
- Make estimates liberally, but explain your logic
- Don't freeze up. Talk out your thoughts and confusion

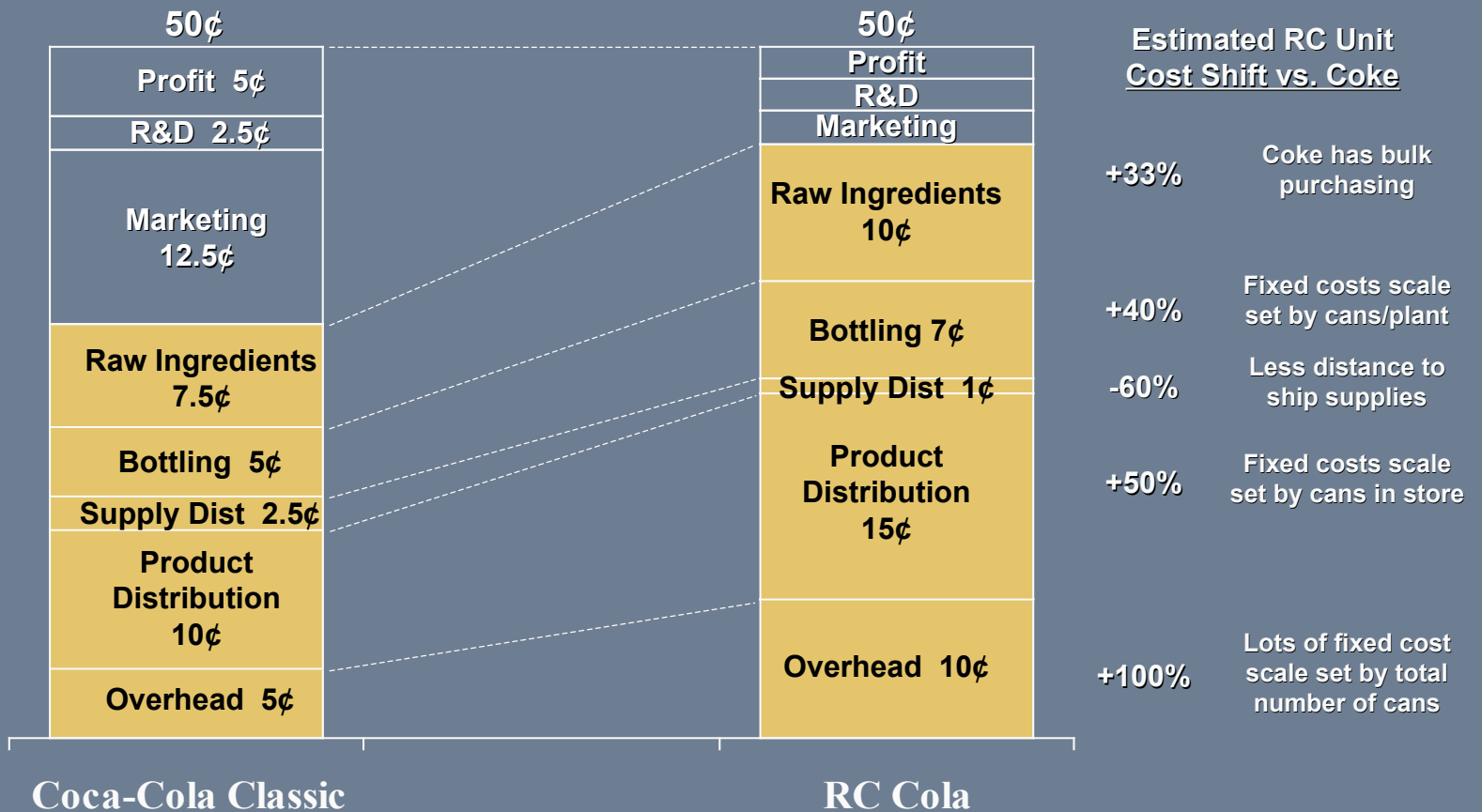
#### Example Analysis:

- Product Distribution: Assuming RC and Coke sell in the same outlets, Coke has a 4:1 advantage in “overlapping cans”. Assume RC's cost/can will be more by a half
- Ingredients: Coke buys 20x more than RC. But corn syrup and water are easy to come by so this limits advantage. Assume RC's cost/can will be higher by a third.
- Bottling: Coke produces 20x more, but probably has more plants. Assume 4:1 Coke:RC plants -- 5x advantage in production per plant. RC cost/can ~40% higher  
— Do we have any data on number of factories for each company?
- Overhead: Coke is part of a multinational company, RC is stand alone. Yet both companies need HR, etc. Estimate cost/can is double that of Coke.
- Supply Distribution: RC doesn't have a national presence, so cost is likely lower, maybe half as much. Estimate cost/can ~60% lower so the numbers are easier.



# Business Problem Case: Given your detailed analysis, how should you “pull-up” and summarize your findings/conclusions?

**Unit Cost (\$/Can)**



Headquarters	Atlanta, GA	Raleigh-Durham, NC
Geographic Focus	Entire US	Southeast US
Overlap in Cans	160MM (20%)	40 MM (100%)
Total Cans Produced	800 MM	40 MM



## Business Problem Case: Sample Pull-Up/Summary

### IV. Pull Up and Summarize

- **Pull-up to a conclusion that answers the original question**
  - Communicate with more than words. Use graphs, charts, flows, etc.
- **Interpret your results and answer follow-up questions.**
  - Think business, not math
  - Does it “seem” right? If not, high or low? Why?
  - Which assumptions need more work? What if “X” were true?

#### Example Summary:

- The sum of production costs is 43¢, leaving 7¢ for Marketing, R&D, and Profit
- Assuming all 7¢ went to profit (we know it can't) RC would make \$2.8MM, a huge disadvantage to Coke who generates \$40MM in total and \$8MM in the overlap area
  - Furthermore, in this scenario Coke is making significant investments in R&D and marketing which RC is not matching
- RC Cola is unlikely to be a threat to Coca-Cola Classic, even in the overlap region
- As well, even with minimal investments in R&D (1-3¢/can for market research) and marketing (3-5¢/can for coupons), RC will have challenges going it alone
  - Difficulty funding business growth (e.g., new products, customers, markets)
  - Finding a corporate buyer could reduce costs (even just overhead) and contribute profits as a product in a larger portfolio



## More Business Problem Tips

- **Listen very carefully to your interviewer**
  - They will drop hints that may become important later
  - Pay attention to their involuntary reactions (e.g., did their eyes just light up?)
  - Don't contradict your interviewer. Take the facts as presented in the case, often simplifications have been made (did you want to consider PowerAde?)
- **Don't assume you are wrong if you are challenged**
  - ... but don't assert you are right either!
  - Test your argument with logic and cross checks.
  - If you were wrong, it is NOT the end of the world. Adjust and move on.
- **It isn't over until it's over**
  - Be prepared for iterations based on your existing result (e.g., what if's)
  - Cases are often embedded in cases (e.g., do a market size, then apply it)
  - You are being evaluated from the time you walk in to the time you leave
- **Invest time in organization**
  - Lay out a structure on paper with key assumptions/data noted
  - Verbally walk through the calculation as you work through
  - Think for yourself, your interviewer knows the "classic" frameworks



## Be prepared

### The Simple (But Important!) Stuff

- **Research the firm**
  - Know the basics: what type of company, major office locations
  - Company personality
  - Recruiting cycle
  - Types of interviews
- **Practice interviewing**
  - Many case interview guides/tools
- **Appropriate attire (business or business casual)**
- **Bring paper, pen/pencil, copies of your resume & transcript**
- **RELAX!**

#### Some Excellent Resources

- **Career Services**
- **Alumni/ae Networks**
- **Career fair**
- **Company Web Sites**
  - [www.dean.com](http://www.dean.com)
- **Career Resource Websites**
  - [www.wetfeet.com](http://www.wetfeet.com)
  - [www.vault.com](http://www.vault.com)



## Questions You Should be Prepared to Answer

- Why are you interested in consulting?
- Why have you chosen this specific firm to apply to?
- What are three words to describe yourself?
- What is your greatest weakness?
- Tell me about your junior independent work/senior thesis
- Have I missed anything?
- What question did you expect me to ask that I haven't?
- Do you have any questions for me?





## Brainteasers

- How many games are played in the NCAA tournament?
- You have a cube which is 10 x 10 x 10 made up of cubes which are 1 x 1 x 1. You dip it in paint. How many cubes have paint on them?

## Market Sizing

- How many roses are sold in the U.S. each year?
- Estimate the market for frozen rats in America.



## Business Problems

- It's 6pm in NYC and you just found out the price of subway tokens is going up by 25 cents tomorrow—how many tokens do you buy tonight?
- A whisky company has recently lost significant share in the last two years—why?