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TOP CONSULTING INTERVIEW PREP

2010 Casebook

**CONSULTING INTERVIEW
PRACTICE CASES AND GUIDE**



MICHIGAN

**ROSS SCHOOL OF BUSINESS
CONSULTING CLUB**

Pizzanomics (1 of 5)

RCC Original

Problem statement narrative

An aspiring chef just moved to NY, and is trying to decide if it makes more sense to get in on the new fad of high end pizza places with imported cheese and wood burning ovens, or open a more traditional pizza place. Which type of pizza restaurant will be more profitable?

Guidance for interviewer and information provided upon request(1)

- Startup costs are the same to buy ovens and other materials
- Both types of restaurants need the same amount of space to operate
- The traditional place uses locally sourced materials (cheese, sauce, etc) while the high end places imports mozzarella from Italy. The high end place also offers a different set of topping options.
- Both markets are equally developed at this point
- Don't let the candidate start asking for numbers yet -- info on cost and revenue in future slides

Pizzanomics (2 of 5)

RCC Original

Questions for the candidate

- A good candidate will create a structure trying to compare and contrast the revenue and cost structure of the two options. Before giving him the cost drivers, make him/her brainstorm on what the differences might mean. If they start focusing on non-pizza items, tell them to ignore that for now.
- Once they list out the cost drivers, give them the unit cost and number of units but not the totals (make them do the calculations) on the next page. Tell them the data is from two pizza places located close to the area where the chef wants to open his restaurant.
- Do the same for Profit numbers

Pizzanomics (3 of 5)

RCC Original

Cost Structure

High End Pizza Place

	<u>Unit Price</u>	<u>#</u>	<u>Total</u>
Labor	\$5,500	52	\$286,000
Utilities	\$550	12	\$6,600
Wood	\$400	36	\$14,400
Rent	\$6,000	12	\$72,000
Pizza	\$4	72,000	\$288,000
Toppings	\$100,000	1	\$100,000
Misc			\$25,000
Total			\$792,000

Traditional Pizza Place

	<u>Unit Price</u>	<u>#</u>	<u>Total</u>
Labor	\$3,500	52	\$182,000
Utilities	\$800	12	\$9,600
Wood		NA	\$0
Rent	\$5,000	12	\$60,000
Pizza	\$3	23,000	\$69,000
Toppings	\$25,000	1	\$25,000
Misc			\$30,000
Total			\$375,600

Labor - High end place needs more employees due to higher volume and more prep work (\$5,500 per week, vs. \$3,500 per week) Utilities – Traditional Pizza Place has higher utilities, because they use a gas oven vs. wood (priced per month)

Wood -\$400 per cord or wood, 3 cords needed per month

Rent – per month basis, also included furnishings, which is why the high end place is more expensive.

Pizza – is the materials cost per pizza – don't give out the number of pizzas here, just the unit cost.

Toppings –Volume drives price differential here too

Miscellaneous – traditional pizza place sells more non-pizza items (drinks, pasta, hamburgers, etc)

Pizzanomics (4 of 5)

RCC Original

Revenue

High End Pizza Place

	<u>Unit Price</u>	<u># sold</u>	<u>Total</u>
Plain Pizza	\$10	22,000	<i>\$220,000</i>
Specialty	\$12	50,000	<i>\$600,000</i>
		72,000	<i>\$820,000</i>
Additional (drinks,etc)			<i>\$70,000</i>
Total Revenue			<i>\$890,000</i>
Total Cost			<i>\$792,000</i>
<u>Profit</u>			<u><i>\$98,000</i></u>

Traditional Pizza Place

	<u>Unit Price</u>	<u># sold</u>	<u>Total</u>
Plain Pizza	\$13	11,000	<i>\$143,000</i>
Specialty	\$17.50	12,000	<i>\$210,000</i>
		23,000	<i>\$353,000</i>
Additional (drinks,etc)			<i>\$90,000</i>
Total Revenue			<i>\$443,000</i>
Total Cost			<i>\$375,600</i>
			<u><i>\$67,400</i></u>

The high end pizza place sells many more pizzas, especially specialty. Strong candidates will notice that the high end place doesn't make any additional profit on specialty, since there is no extra margin put in, only enough to cover the cost of toppings.

Pizzanomics (5 of 5)

RCC Original

Next steps

- If the candidate is able to figure out the profitability, ask them to think about how they could increase profitability for both options
 - High End
 - Charge more, especially for specialty pizza (keep in mind there may be capacity issues at some point, use your discretion)
 - Enter delivery business (may damage brand)
 - Sell more additional items
 - Traditional Pizza Place
 - Decrease price on plain / specialty
 - Start marketing program / frequent user program
- This is based off an article in NY Mag, comparing two pizza places, Motorino and Rocket Joe's
 - <http://www.motorinopizza.com/bk-menu.pdf>
 - <http://www.menupages.com/restaurants/rocket-joes-east/menu>
 - <http://nymag.com/restaurants/cheapeats/2009/57896/>

Gas station (1 of 7)

BCG, Round 2

Problem statement narrative

Your client is a gas company that operates in a town with a population of 1,000. There is only one other gas company in this town, and it is 1 mile away. The other nearest gas stations are outside town, and they are 20 miles away (see picture on next page).

Recently, our client was approached by a supermarket with the idea of selling groceries in the gas station. Our client is a simple businessman and has hired us to evaluate this proposal. What should our client consider?

Guidance for interviewer and information provided upon request

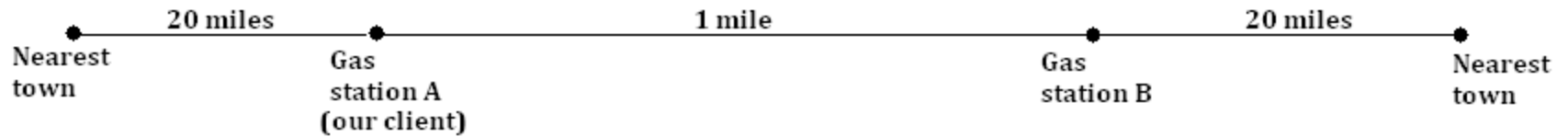
1. What are the proposed groceries the gas station would now sell? (turn question around and ask the candidate).
Likely answers include cigarettes, milk, snack foods; probably not fresh produce or healthy foods.
2. Currently, the gas station is barely scraping by. Profit is essentially 0.
3. If asked anything about the other gas station, the answer is “we don’t know, but assume they are identical”

Candidate should recognize that each gas station serves 500 people.

Gas station (2 of 7)

BCG, Round 2

Map of area (not to scale)



Gas station (3 of 7)

BCG, Round 2

Framework

Additional questions for candidate

What information would you want to consider when deciding whether or not to sell groceries at this gas station? (You as interviewer are trying to get candidate to provide this framework)

Solution guide

- Revenue: Increased revenue from selling groceries in store; more people coming to buy gas from this station instead of station B.
- Costs: Up front investment costs such as a freezer, shelves, etc.
 - Recurring costs such as labor will be minimal since same staff can handle gas and groceries.
 - Will there be any profit-sharing with the grocery store?
- Competition: What is keeping the grocery store from going to gas station B as well?

Gas station (4 of 7)

BCG, Round 2

Costs

Additional questions for candidate

What kind of costs could there be?

Solution guide

- Investment in freezers, shelves, utilities.
- No increase in labor expected.
- Total increase in costs: one-time cost of \$1.25MM.

Gas station (5 of 7)

BCG, Round 2

Revenue stream

Additional questions for candidate

- Groceries:
 - What kind of people will shop for groceries here?
 - How much do they spend per year?
- What else can be a source of revenue?
 - Candidate should recognize that more people will buy gas here now.
- What is the total increase in sales?
- The gas station owner is a simple man and wants to look at this like a perpetuity. What does this work out to?
 - (discount rate) $r = 10\%$
 - (growth in cash flows) $g = 0\%$

Solution guide

- People who shop here are probably not health conscious, since gas station groceries are not healthy. They are probably also in a rush, and will make small purchases (milk, cigarettes, jerky, etc.)
 - Out of 1000 people, assume 500 will buy groceries here at \$200 per year per person
 - $\rightarrow \$100,000$ per year
- Increase in gas sales: very important distinction: people won't buy more gas, but more people will buy gas here (stealing customers from station B)
 - We can steal 50% of station B's customers (250 people), who purchase \$100 in gas per year $\rightarrow \$25,000$ per year
- Total increase in sales per year: \$125,000.
- As a perpetuity: \$1.25MM.

Gas station (6 of 7)

BCG, Round 2

Competition and Should they do it?

Additional questions for candidate

What would you advise the gas station owner to do?

Solution guide

- This is a prisoner's dilemma.
- If station A does it, it is value neutral, BUT, we can take \$250,000 away from station B (good). But what is keeping station B from retaliating and doing the same thing? Remember, station A is barely scraping by. If station B responds, we could go out of business since revenue would no longer cover the one-time cost (bad). If station B does not respond, then we can steal all customers from station B and be profitable (good).
- If A does not do it, station B might do it. Then station A would lose \$250,000 and it could go out of business (bad).
- No matter which scenarios the candidate chooses, push hard for the other option and play devil's advocate.

Gas station (7 of 7)

BCG, Round 2

Final Recommendation

Recommendation

(based on what candidate decides)

Do it, and try to push station B out of business.

Don't do it, and hope station B doesn't do it either.

Risks

(based on what candidate decides)

Station B might respond and bring both stations down.

Or Station A might miss out on the opportunity and lose first mover advantage.

Next steps

Try to form an exclusive contract with the grocery store.

Bidding on the Olympics (1 of 4)

BCG, Round 1

Problem statement narrative

Our client, a major TV Network, wants to know how much to bid on the TV rights for the 2016 Olympic Games. Bid will need to be paid in 2010.

The amount of programming is as follows:

16 days total

Opening Ceremonies on a Friday: 8pm – 11pm

14 days of programming for 10 hours a day,

9am – 12 pm, 2pm – 5pm, and 7pm -11 pm M-F

11am – 9pm on the Weekends

Closing Ceremony on the following Saturday from 8pm – 11pm

Guidance for interviewer and information provided upon request(1)

- This only includes the rights to U.S. programming, overseas programming is out of scope
- Assume they will only show the Olympics on their one flagship channel
- Olympic programming will replace regularly scheduled programming
- Prime Time is considered anytime after 7pm on a weekday, and all day during the weekends.
- Interviewee should point out that the network will earn ad revenue while the coverage is on, and hopefully will consider added viewership to the network as a whole due to Olympic coverage.
- Interviewee should consider the costs to put on the event, and opportunity cost of ad revenue from other program.

Bidding on the Olympics (2 of 4)

BCG, Round 1

Breakdown of Ad Revenue during Olympics

	Prime Time	Non Prime Time
Revenues	\$400k / 30 seconds of ads	\$200k / 30 seconds of ads
Amount of Ad time	10 min / hour	10 min / hour

Breakdown of Costs

	Prime Time
Cost associated with coverage*	\$428 MM
Opportunity Cost of ad revenue from other programming	\$1M / hour

* This includes all fixed and variables costs for travel, equipment, salaries, etc. Don't let the candidate get caught up in these costs.

Bidding on the Olympics (3 of 4)

BCG, Round 1

Candidate should calculate the total revenue to be received in 2016..	Revenues	Programming hrs	Minutes o f Ads	Ad Revenue	<div>Total Revenue =\$928 Million</div>
	Prime Time	86	860	860*400K *2=\$688M	
	Non Prime Time	60	600	600*200K*2=\$240M	
				The *2 is because you make\$400K per 30 seconds	
... and the total costs	Event Costs	Opportunity Cost	<div>Total Cost =\$574 Million</div>	<div>Total Profit in 2016 =\$928M - \$574M = \$354 Million</div>	
	\$428M	\$1 M per programming hour (\$146M)			

Now, the candidate should think about Time Value of Money

- Profit of \$354 Million (Plus any additional bump for future viewership or required profit margin candidate may include) will be received in 2016, but bid must be paid in 2010.
- If asked, give them a Cost of Capital of 12%
 - A great candidate will recognize rule of 72, which states that you divide 72 by the interest rate to determine how long (in years) it will take an investment to double. $72 / 12 = 6$, which is how long in the future we will receive our profits. Therefore, \$354M in 2016 is worth \$177M in 2010.

Bidding on the Olympics (4 of 4)

BCG, Round 1

Answer Guidelines

- The key takeaways from this case are to:
 - Recognize time value money
 - Understand and identify Opportunity Costs
 - Make judgment on unknown information (how much value having the Olympics will bring to other programming on the network)
- Great candidates will:
 - Understand there are 10 weekday days and 4 weekend days (plus the opening and closing) and not list out every day to calc hours for programming
 - Know and use the Rule of 72
- Exact answers are irrelevant, though should be around \$177 million, with well thought out adjustments to increase or decrease the number.

Wayne Rooney (1 of 5)

Booz & Company, Round 1 (European Offices)

Problem statement narrative

You are working for the manager of Real Madrid. The manager of Manchester United is calling your client and offers to sell Wayne Rooney. How much would you advice Real Madrid to bid?

Guidance for interviewer and information provided upon request(1)

What is Real Madrid/Manchester United?

Real Madrid: A professional soccer team based in Madrid

Manchester United: A professional soccer team based in London

Who is Wayne Rooney?

An English soccer player. Widely considered the best English player. He plays forward.

In soccer, clubs generally pay a transfer fee to get players out of existing contracts. For prices for players of similar skill to Wayne Rooney, please refer to slide 3.

Information on how to price Wayne Rooney: see slide 2to 5

Wayne Rooney (2 of 5)

Booz & Company, Round 1 (European Offices)

Information on how to price Wayne Rooney

Candidate should identify possible ways to price Wayne Rooney:

Two of several options:

- Benchmarking (see slide 3)
- Value-based pricing (see slide 4)

General Information (to be provided upon request):

Real Madrid's president is absurdly rich. If he is convinced that Wayne Rooney is worth it, he will be willing to pay any price.

Manchester United's jersey sponsor is AIG. Rumors have it that they might be in need for cash. However they are not willing to sell Wayne Rooney below fair value. Moreover candidate may assume several clubs to be interested in Wayne Rooney.

Wayne Rooney (3 of 5)

Booz & Company, Round 1 (European Offices)

Benchmarking Wayne Rooney (information to be provided upon request)

Transfer fees for comparable players:

Name	Year	New Team	Old Team	Transfer Price
Kaka	2009	Real Madrid	AC Milan	65M Euro
Andrej Schewtschenko	2006	Chelsea London	AC Milan	46M Euro
Ronaldo	2002	Real Madrid	Inter Milan	45M Euro

Additional information/considerations:

- How is the market for soccer players and especially world class strikers currently doing?
 - Candidate may assume no significant changes from the transfer of strikers/offensive players listed above
- Are there other options both for Real Madrid and Manchester United?
 - Candidate may assume that there are other forwards on the market while several clubs are interested in W. Rooney
- National differences in markets for soccer players?
 - Candidate may assume homogenous market across Europe
- Where players listed above fairly priced?
 - Candidate may assume that prices above represent fair market-value for these players
- Where prices above paid for similar contract lengths?
 - Candidate may assume that all players signed a 5-year contract, which is also what we look at for Mr. Rooney. Moreover the candidate may assume that the existing contracts of the players were similar in length and pay.

Wayne Rooney (4 of 5)

Booz & Company, Round 1 (European Offices)

Valuing Wayne Rooney (Information to be provided upon request)

Main Revenue Streams	Expected impact of Wayne Rooney on profits in these areas (costs in these areas may be assumed to be fixed – not depended on purchase of Wayne Rooney)
Ticket Sales	Assume that the stadium is sold out for every game already. Hence there is no impact from having Wayne Rooney on the team.
Jersey Sales	<p>100 M Real Madrid fans worldwide</p> <p>Assume 3% of fans buy a Rooney jersey (and would not have bought a jersey from another player)</p> <p>Profit per jersey (for Real Madrid): 30 Euro</p> <p>Total profit: 5M* 30 Euro = 90M Euro</p> <p>Candidate may assume that this is a one time effect only occurring in year 1 of Wayne Rooney's contract.</p>
Bonuses for European Cup Performances	<p>Chances of winning the Champions League increase by 5% due to Wayne Rooney.</p> <p>Bonus for winning the Champions League: 40M Euro</p> <p>Incremental expected profit from Wayne Rooney: 2M Euro (5% of 40M)</p>
Bonuses for TV broadcasts	Assume an additional 3M Euro per year in bonuses from TV since Real Madrid games would be broadcasted more frequently.

Wayne Rooney (5 of 5)

Booz & Company, Round 1 (European Offices)

Valuing Wayne Rooney (continued)

Incremental profits (from previous slide) year 1: 95M Euro; after year 1: 5M Euro

Incremental profits for a 5-year contract, for the areas listed on previous slide: 100M Euro

Incremental costs (Information to be provided upon request):

- Salary for Wayne Rooney: 8M Euro per year
- Assume all other costs to be fixed

Resulting profit (candidate may assume a discount rate of 0%):

60M Euro ($100M - (5 \text{ years} * 8M/\text{year})$)

Risks: A good candidate will identify risks and discount the expected profit accordingly, e.g.:

- Injuries
- Worse than expected/past performance of Wayne Rooney (e.g. due to foreign, unfamiliar environment)
- Local fans at Manchester might be more receptive to Rooney as an English Player than supporters of Real Madrid

Strawberry Jam (1 of 5)

Roland Berger, Round 1

Problem statement narrative

Your client produces strawberry jam for the US market. It experienced declining profits last year.

Roland Berger has been hired to investigate what causes the decline in profitability and what to do about it.

Guidance for interviewer and information provided upon request(1)

Industry:

- Industry profitability has been stable. The client is the market leader and has the strongest brand. Competition is unchanged from previous years.

Client's profits:

- Client has been profitable in 2008 and before. Only in 2009 has profitability been disappointing.

Client's product mix:

- (See slide 2 and 3)

Customers/Consumers:

- Consumers are price sensitive, but brand loyal.

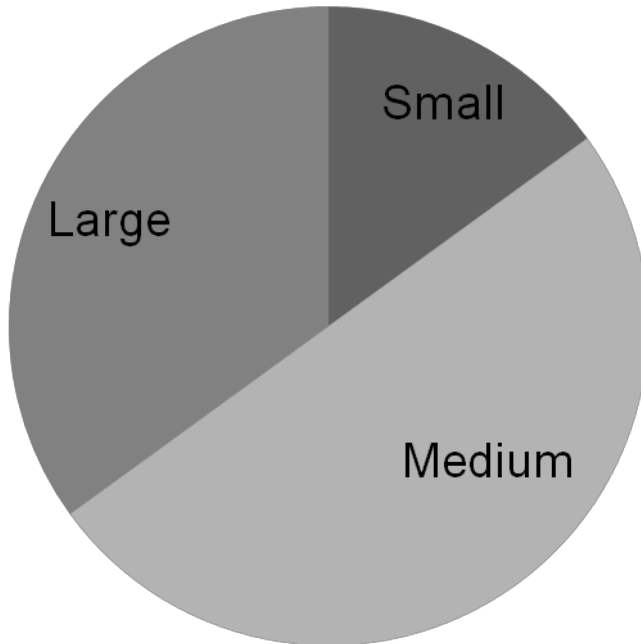
Reasons for declining profitability:

- (See slide 4)

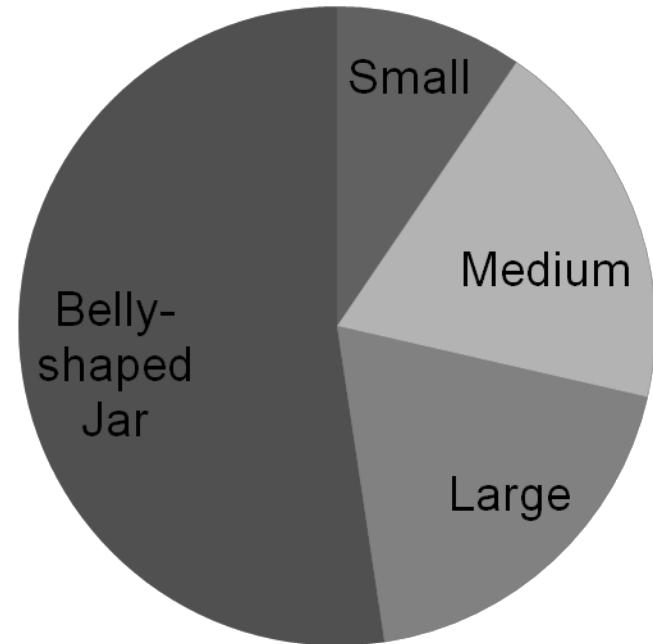
Strawberry Jam (2 of 5)

Roland Berger, Round 1

Product Mix 2008



Product Mix 2009



Strawberry Jam (3 of 5)

Roland Berger, Round 1

Additional Information on Product Mix (to be provided upon request)

- Before 2009 the client only produced standard-shaped jars (small, medium, large).
- In 2009 the client introduced a belly-shaped jar.
- The belly-shaped jar has the same size as the medium standard jar.
- The belly-shaped jar sells at the same price than the medium-shaped jar.

Strawberry Jam (4 of 5)

Roland Berger, Round 1

What causes the decline in profitability

Candidate should brain-storm reasons for the decline in profitability.

For example, the candidate can run through the value chain of the jam manufacturer to figure out where the change in product mix effects the profitability negatively.

Main areas to focus on (information to be provided upon request):

Production:

- When introducing the belly-shaped jar, the speed of the line filling the classes needed to be reduced. Otherwise classes broke when filling them with the jam
- This lead to the necessity of overtime for line operators

Distribution:

- Belly-shaped jars take more room per jar on the trucks. Additionally, belly-shaped jars are more likely to break during shipping than medium-sized jars.

Profitability:

- Profit on the belly shaped and medium (standard) size jars is identical.

Strawberry Jam (5 of 5)

Roland Berger, Round 1

What should the client do?

Candidate should provide a recommendation how to improve the profitability considering the information gathered from the previous slides

Solution guide

Possible Recommendation

Eliminate belly-shaped jar

- Profitability of belly-shaped jar is lower than for standard jars
- Consumers are brand loyal and will switch back to standard jars
- Consumers are price sensitive, hence it will be difficult to increase prices for belly-shaped jar

Risks: E.g. losing high ground/brand leadership; competitors introduce belly-shaped jars themselves

Other Possibilities:

- Adjust production and distribution to increase profitability of belly-shaped jars
- Raise prices for belly-shaped jar (be aware of price-sensitivity of consumers)

Premium Home Retailer (1 of 12)

A.T. Kearney, Final Round

Problem statement narrative

“This economy has destroyed our profits” John Burnett, the Chief Merchandize Office at Premium Home remarked to himself as he read the past year’s annual results that were just released from the finance department. The CEO and Board are looking to me for ideas, but how should I prioritize and think about various options at my disposal. Should I reduce prices to increase sales.? I can also switch from domestic to foreign suppliers for my products to reduce costs. What should I do?

Premium Home Retailer (2 of 12)

A.T. Kearney, Final Round

Guidance for interviewer and information provided upon request

- Premium Home is a retailer specializing in selling home furnishings and accessories.
- Target audience medium to high-end of market (median customer household annual income of \$130-\$200k)
- Company image stressed style, modernity, and luxury
- 800 stores across US

Competitors

- Department Stores (Macys)
- Specialized Chains (Crate & Barrel, Williams & Sonoma)

Two divisions

- Home & Kitchen (dinnerware, kitchen supplies, bedding)
- Furniture (couches, dining room chairs, bedroom sets, etc)

In last year revenue down 50%

- Customer unemployment up
- Customer trade down to mass merchandisers (Wal-mart, Target)

Guidance for interviewer and information provided upon request

Premium Homes uses two warehouses

- One for Home & Kitchen and one for Furniture
- Warehouse space rented, but uses internal labor
- Product stored at warehouse until needed by stores.
- Product shipped to stores through third-party logistics company
- Premium Homes does NOT own fleet

Premium Home Retailer (3 of 12)

A.T. Kearney, Final Round

Interviewee Questions:

#1- Please calculate impact on gross profit if John were to decrease all prices 5% and assume a 30% increase in sales volume.

#2- What are the potential cost savings of switching to foreign suppliers?

#3- What are some of the short and long-term risks in implementing your recommendations?

#4- Are there any assumptions Premium Home made that you would challenge or factors that merit further consideration?

Premium Home Retailer (4 of 12)

A.T. Kearney, Final Round

Question #1 Additional Background

In recent promotion for new line of celebrity branded cookware, we saw 5% decrease in price resulted in 30% increase in sales volume.

Question #2 Additional Background

Today Premium Homes buys all of the products sold in stores from domestic suppliers

- Suppliers either produce products in the US or act as wholesaler/distributed for products produced abroad
- Suppliers pay for delivery of product to Premium Home warehouse
- Low order lead time (3-4 days on average)

Purchase from foreign suppliers

- Purchasing domestics eliminates logistical challenges of international suppliers
- Tariffs, customs handling, etc
- Cheaper product cost due to lower wage rates
- Reduce middleman wholesaler
- If compelling case, we think we could buy up to 50% of products from foreign suppliers
- Longer lead times required (2-3 months)
- Need to hold more safety stock inventory

Premium Home Retailer (5 of 12)

A.T. Kearney, Final Round

Table 1: 2009 Revenue Statement (Ms USD)	Home & Kitchen	Furniture	Total
Revenue (Ms \$)	\$ 3,000	\$ 1,000	\$ 4,000
Cost of Goods (includes warehouse, transportation, etc)	\$ 2,250	\$ 700	\$ 2,950
Gross Profit	\$ 750	\$ 300	\$ 1,050
SG&A (fixed costs)			\$ 1,480
Net Profit			\$ (430)
Total Units Sold (Ms)	50	1	51

Premium Home Retailer (6 of 12)

A.T. Kearney, Final Round

Table 2: Breakdown of Total Cost of Goods (\$Ms)	Home & Kitchen	Furniture	Total
Total Cost of the Product only	\$ 2,000	\$ 675	\$ 2,675
Total Warehouse Handling/Storage Costs	\$ 150	\$ 20	\$ 170
Total Shipping/Handling from Warehouse to Stores	\$ 100	\$ 5	\$ 105
Total Product, Warehouse, Handling, & Shipping Costs	\$ 2,250	\$ 700	\$ 2,950

Premium Home Retailer (7 of 12)

A.T. Kearney, Final Round

<u>Table 3: Current per Unit Data</u>	<u>Home & Kitchen</u>	<u>Furniture</u>
Total Units Sold	50	1
Average Product Cost per Unit (Domestic Suppliers)	\$ 40	\$ 675
Warehouse, Handling, and Storage Costs	\$ 3	\$ 20
Shipping and handling from Warehouse to Stores	\$ 2	\$ 5

Premium Home Retailer (8 of 12)

A.T. Kearney, Final Round

Table 4: Data for Switching to Foreign Suppliers	Home & Kitchen	Furniture
Average per Unit Cost of Product Only	\$ 20	\$ 495
International Shipping and Handling Cost; From Supplier to Premium Home Warehouse (per unit)	\$ 5	\$ 50
Tariff (% of Product Cost Only)	10%	26%
Additional Ms of units needed in inventory due to increase in lead times	2.04	0.08

Premium Home Retailer (9 of 12)

A.T. Kearney, Final Round

Table 5: Data on Competitors (\$Ms)	Premium Homes	Competitor A	Competitor B	Competitor C
Revenue	\$ 4,000	\$ 4,500	\$ 5,000	\$ 3,000
COGS	\$ 2,950	\$ 3,000	\$ 3,200	\$ 2,000
Gross Margin	\$ 1,050	\$ 1,500	\$ 1,800	\$ 1,000
SG&A	\$ 1,480	\$ 1,350	\$ 1,400	\$ 930
Net Profit	\$ (430)	\$ 150	\$ 400	\$ 70
# of Stores	800	700	850	500
# of Suppliers	5,000	3,000	2,000	2,500
Cost of Capital	10%	9%	10%	9%

Premium Home Retailer (10 of 12)

A.T. Kearney, Final Round

Question #1 Solution

<u>Base Case</u>	<u>Home & Kitchen</u>	<u>Furniture</u>	<u>Total</u>
Revenue (Ms \$)	\$ 3,000	\$ 1,000	\$ 4,000
Cost of Goods (includes warehouse, transportation, etc)	\$ 2,250	\$ 700	\$ 2,950
Gross Profit	\$ 750	\$ 300	\$ 1,050
SG&A (fixed costs)			\$ 1,480
Net Profit			\$ (430)
Base Case Units Sold	50.0	1.0	51.0
Base Case Price per Unit	\$ 60	\$ 1,000	
5% Price Reduction	\$ 57	\$ 950	
30% Increase in Units	65.0	1.3	66.3
COGs per Product	\$ 45	\$ 700	
<u>5% Price Reduction</u>	<u>Home & Kitchen</u>	<u>Furniture</u>	<u>Total</u>
Revenue (Ms \$)	\$ 3,705	\$ 1,235	\$ 4,940
Cost of Goods (includes warehouse, transportation, etc)	\$ 2,925	\$ 910	\$ 3,835
Gross Profit	\$ 780	\$ 325	\$ 1,105
SG&A (fixed costs)			\$ 1,480
Net Profit			\$ (375)
Gross Profit Improvement			\$ 55

Premium Home Retailer (11 of 12)

A.T. Kearney, Final Round

<u>Question #2 Solution</u>			
	<u>Home & Kitchen</u>	<u>Furniture</u>	<u>Total</u>
Base Case Units Sold	50.0	1.0	51.0
Percent of Units Impacted	50%	50%	
<u>Foreign Supplier Costs</u>			
Product	\$ 20.0	\$ 495.0	
Shipping (to warehouse)	\$ 5.0	\$ 50.0	
Tariff	\$ 2.0	\$ 128.7	
Shipping (Warehouse to Stores)	\$ 2.0	\$ 5.0	
Warehouse, Handling, and Storage Costs	\$ 2.0	\$ 5.0	
Total Variable Cost	\$ 31.0	\$ 683.7	
Original Variable Cost per Unit	\$ 45.0	\$ 700.0	
Savings per Unit	\$ 14.0	\$ 16.3	
P&L Savings	\$ 350.0	\$ 8.1	\$ 358.2
Additional Inventory Units	2.04	0.08	
Extra Inventory Cost	\$ 63.2	\$ 54.7	\$ 117.9
Inventory Carry Cost (10%)			\$ 11.8

Premium Home Retailer (12 of 12)

A.T. Kearney, Final Round

Sample Solution Elements

Question #3

- Price Cut
 - Brand image hurt
 - Can suppliers provide 30% more units
 - Can third-party logistics transport extra volume
 - Competitor response?
 - What if we raised prices?
- Foreign Supplier
 - Brand image hurt
 - Inventory Stockouts
 - Can warehouse hold additional inventory
 - Case warehouse staff manage extra inventory
 - Do we have skillset to manage imports (tariffs, customers, etc)
 - Lead time volatility unknown
 - Can't respond to changes in market as quickly

Question #4

- Price elasticity- That 5% price cut in Kitchen & Home and Furniture will have same impact as new line of celebrity cookware.
- Are foreign products same quality as domestic suppliers?

Portable Storage (1 of 7)

Bain, Round 1

Problem statement narrative

Your client is a US storage company that rents out storage space at its own facilities. It is considering entering into the commercial portable storage market where it would deliver the storage unit to you, allow you to rent it for as long as you need it, and then pick up the container when you are done with it. Your objective is to determine if the company should enter this market.

Guidance for interviewer and information provided upon request(1)

- Storage containers are old freight shipping containers
- Assume entry into 1 test market
- Assume that this is a new offering so you would capture 100% of the market share
- Who are the target customers for this kind of offering?
- Make the candidate brainstorm target customers before giving them the following:
 - Commercial
 - Retail
 - Manufacturing
 - Office moves
 - Small businesses with Seasonal spikes

Portable Storage (2 of 7)

Bain, Round 1

Questions for the candidate

How might we identify demand for this offering?

Acceptable Answers

- Monitor competitors
- Identify what portions of existing contracts are short-term, use very little space, or store large items infrequently
- Assume that revenue structure is as described in table below (10 week contract, \$300 per week, 50 weeks in a year, 80% utilization)
- Actual revenue structure (to be given after candidate brainstorms):
 - 80% of pods are utilized
 - Average length of contract is 10 weeks
 - Price is \$300 per week
 - Each of the pods is utilized all year (5 cycles)

Portable Storage (3 of 7)

Bain, Round 1

Questions for the candidate

What might be some of the costs?

Acceptable Answers

- Storage
- Labor
- Trucking
- Marketing
- Management
- Acquisition
- Insurance
- Utilities

Portable Storage (4 of 7)

Bain, Round 1

Actual Cost Details to Be Given to Candidate

- Acquisition cost = 15k per unit
- 400 units needed
- \$4 per mile
- Avg of 500 miles
- Storage cost = 200k per year
- Overhead = 100k per year

Portable Storage (5 of 7)

Bain, Round 1

Calculations

<u>Costs</u>	Per Unit Cost	# of units	effective units	Total Cost Y1	Annually Y2-Y5	Y1-Y5 Total
Storage Unit Acquisition	\$15,000	400	400	\$6,000,000		\$6,000,000
Transportation*	\$4 per mile	320	1600	\$3,200,000	\$3,200,000	\$16,000,000
Storage Costs				\$200,000	\$200,000	\$1,000,000
Overhead				\$100,000	\$100,000	\$500,000
Total Costs				\$9,500,000	\$3,500,000	\$23,500,000
 <u>Revenue</u>						
# of Units	320					
length of contract	10 weeks					
Price	\$300 per week					
Cycles/Yr	5					
Total Revenue				\$4,800,000	\$4,800,000	\$24,000,000

**Transportation: \$4/mile x 500 miles round trip per rental x 5 rentals per year for 320 units*

Portable Storage (6 of 7)

Bain, Round 1

Questions for the candidate

What might be some ways of increasing the margin?

Acceptable Answers

- Lower prices for longer term contracts
- Repeat customer pricing
- Decrease overhead
- Acquire units more cheaply (overseas, etc.)

Portable Storage (7 of 7)

Bain, Round 1

Recommendation

Enter the market. Profits will be negative in the first year but profitable over 5 years using a simple payback calculation. Long-term, expand into additional geographic markets.

Tips to make this case more difficult:

- Require interviewee to discount cash flows
- Require more brainstorming
- Have interviewee create an entry strategy (markets where demand is high but avg mileage is low)

Household Cleaners Growth (1 of 6)

BCG Round 1

Problem statement narrative

Your client is a global consumer packaged goods company —Grime Co.

Grime Co. makes paper products (like paper towels), home cleaning products, and laundry care products. The company's Board of Directors has set an aggressive net sales target of \$2 billion by 2015 (four years). Currently, net sales are at \$1 billion. The CEO has come to you to ask for help.

Specifically, our client would like you evaluate the company's position and to help develop a strategy to deliver top-line results of \$2 billion by 2015.

Net sales: Retail sales minus trade spend. Trade spend is what manufactures pay distributors or retailers to incentivize them to sell their products to end consumers.

Guidance for interviewer and information provided upon request

This case is about growth both through internal actions and through acquisition. Initially, the candidate should brainstorm an array of possible growth strategies. Eventually, he or she will have to drill down on new products and acquisition, in addition to considering market growth. Then, she or he will have to evaluate two targets, demonstrating an understanding of positive and negative synergies. Without considering market growth, organic growth, and inorganic growth —and without exploring synergies in acquisition — the candidate will not be able to solve the case.

Additional information:

- The company has a strong stance on sustainability
- Sales are divided evenly between the three categories — 33%
- The company has low profit margins and does not want to take on additional debt, so cash available for investment is about \$300 million. (Be sure not to say “for acquisition”.)

If the candidate asks which growth strategies Grime Co. has considered, the interviewer should prompt her or him to brainstorm various options — see next slide.

Household Cleaners Growth (2 of 6)

BCG Round 1

The candidate must touch on market growth, new products, and acquisitions to solve the case — in any order. The following structure is how the candidate may organize information. Profit or cost should not be part of the structure.

Area the candidate should explore:

1

Market growth: Growth through maintaining market share in a growing market

2

Organic growth: Actions taken within the organization to drive revenue. Examples:

- Price adjustments to drive volume
- Increased advertizing
- Expansion into new geographies
- Vertical integration
- Promotions and deals
- Negotiation for better placement
- New products

Interviewer should steer candidate to explore new products

3

Inorganic growth: Growth through acquisition or joint venture

Information provided upon request

When the candidate asks, reveal that market growth alone will bring sales to \$1.5 billion by 2015. Specifically, the company is growing overall at 10% and expects to maintain a constant market share. (10% compounded over four years is roughly \$500 million incremental.) In the interest of keeping this case shorter, the candidate does not have to calculate this. If the candidate asks about categories, tell him or her that growth is about the same in all three.

The candidate must cite new products: it is the only organic growth strategy that is viable for our client in this case. The interviewer should provide logical reasons to why the other options are not available at this time.

Our client has a new toilet cleaning product in development that analysts believe will do well. The following details should be provided by request:

- Product is near launch — hits shelves in a months
- Price will be \$5 a unit, but requires 20% trade spend per product to reach volume target
- Expected to sell 40 million units on average per year

No other investment is required — sunk cost. (See slide 3 for calculations.)

The candidate must identify growth through acquisition: Our client's Corporate Development department has identified two high-priority acquisition targets — Organoclean and Home Defense Inc. (See slide 4 for detailed information.)

Household Cleaners Growth (3 of 6)

BCG Round 1

2

New Product Calculations

The candidate must determine how much top line growth can be achieved through the launch of the new product.

Current Net Sales \$1 billion

Net Sales in 2015¹ \$1.5 billion

Deficit \$500 million

Price² \$5 per unit

Trade spend \ominus 20% \ominus \$4 per unit

Avg. units per year \otimes 40 million

New product \$160 million

New deficit \$340 million

Net sales per year \ominus \$160 million

1. \$500 million incremental achieved through market growth, as cited on the previous slide 2. Data presented to candidate from previous slide; these are just calculations

Household Cleaners Growth (4 of 6)

BCG Round 1

3

Acquisition Calculations: Sales Forecast

The candidate must determine which property our client should purchase. Candidate should request each data set: sales, products and growth

Target	Organoclean (Private)	Home Defense Inc. (Public)
Products	Organic household cleaners	Household cleaners, bug control
Sales	\$150 million	\$200 million
Growth rate	10%	20%
2011 sales	\$165 million	\$240 million
Instruct candidate to round to the nearest \$10 million	\$181.5 million	\$288 million
	\$199.65 million	\$345.6 million
	\$219.615 million	\$414.72 million
Rounded 2015 sales	\$220 million	\$410 million

With a deficit to the 2015 sales target of \$340 million, the candidate might be tempted to choose Home Defense Inc. as the better acquisition target. (Remember that our client only has \$300 million available for purchases, so a quick 1.5x sales multiple as a potential acquisition price suggests our client can only buy one of the two.) If asked, confirm that our client can only buy one.

However, the candidate must also consider positive and negative synergies before choosing a target...

Household Cleaners Growth (5 of 6)

BCG Round 1

3

Acquisition Calculations: Synergy Considerations

A good interview will cite several of these as potential synergies. Push the candidate along until he or she lands on both distribution and values:

P
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E

- Distribution synergies
- Procurement synergies
- Manufacturing synergies
- Back-office synergies
- Co-branding new products
- Scale synergies

N
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E

- Corporate culture mismatch
- Anti-trust issues
- Mission or values clash
- Brand dilution




Synergies impacting Organoclean and Home Defense

The candidate must determine which property to purchase.
Candidate should brainstorm synergies and calculate financial impact.


Organoclean

Our client believes it can leverage its Europe distribution network to generate additional sales:

- \$40 million year one¹
 - Should triple in 4 years
- 
- \$500 million deficit
 - \$160 million new product
 - \$220 million Organoclean 2015
 - \$120 million Europe sales
 - = 0 deficit to 2015 target

Home Defense Inc.

Our client will not sell harmful chemicals, and all of Home Defense's bug killers fall into this category. They cannot be reformulated or sold. Our client would have to discontinue these products

- 25% of sales are bug killers
- 
- \$500 million deficit
 - \$160 million new product
 - \$410 million Home Defense 2015
 - + \$102.5 million lost sales
 - = \$32.5 million deficit to 2015 target

1. Candidate can consider year 1 today

Household Cleaners Growth (6 of 6)

BCG Round 1

At this point, the candidate should realize that Organoclean is the best option between the two, and that together with the launch of the new product and market growth, Grime Co. will hit its 2015 net sales target of \$2 billion

Recommendation

Although market growth and the launch of a new toilet product should get Grime Co. to \$1.66 billion in net sales by 2015, the \$2 billion net sales target will not be met. Therefore, Grime Co. will have to pursue growth through acquisition. Of the two targets preferred by the client — and since Grime Co. can only buy one — we recommend purchasing Organoclean. The growth of the company coupled with positive distribution synergies will allow Grime Co. to reach its 2015 target.

Risks and Mitigation

- Growth trajectory of target could change
- Price of target could be too high to afford
- Target could be unprofitable — risk of sales focus
- Using all available cash limits other investments
- Doubling in size itself could be a risk — too fast

- Verify growth estimates
- Use DCF valuation to determine best price
- Gain access to data room and review financials
- Compare purchase against NPV of other projects
- Make sure to update systems to match growth

Next Steps

- Verify assumptions and assign roles
- Draft pre-diligence plan
- Establish contact with target
- Conduct detailed valuation and determine BATNA
- Roll out new product

Household Cleaning Services (1 of 8)

BCG, Mock interview

Problem statement narrative

Your client, Restoration Co., is a fire and water remediation company, that specializes in extensive cleanup in the aftermath of fires and floods. They are currently hired by insurance companies on behalf of those affected by these disasters. While this existing business is quite profitable, they are looking to expand into the residential cleaning market (typical household cleaning, such as vacuuming, dusting, etc.). They have come to BCG with two questions:

1. What is the size of the residential cleaning market?
2. Should the company enter this market?

Guidance for interviewer and information provided upon request(1)

1. The client is only looking at the US right now (all of it)
2. US population is 300MM
3. There are 100MM households in the US
4. US residential cleaning market is growing steadily with inflation.
5. Their main goal is to enter the market profitably.

Household Cleaning Services (2 of 8)

BCG, Mock interview

Market sizing question

Additional questions for candidate

- If candidate comes to 100MM households,
- Question for candidate: How would you segment this market?
 - Answers may include: types of homes (response: good idea, but assume all home types are equivalent); geography (good idea, but assume all geographic locations are same)
 - Answer we are looking for: socioeconomic status (i.e. household income): Assuming households can be split in half according to whether they earn more or less than \$75,000, what would you estimate the % willingness to pay (WTP) for each segment?

Solution guide

Candidate should realize that the higher income people will have a higher WTP. Make the candidate guess first, then give the answer:

- Above \$75K: 40% willing to pay for service
- Below \$75K: 10% willing to pay for service

Household Cleaning Services (3 of 8)

BCG, Mock interview

Market sizing question (cont.)

Additional questions for candidate

Given this information, what is the size of the market?

Solution guide

- $50\text{MM} * 40\% + 50\text{MM} * 10\% = 25\text{MM}$ purchases per year.
- However 25MM is not the market size!
- Candidate should ask what typical cleaning prices are: \$2,000 per year on average.
- Market size: \$50B.
- Interviewer should say, “That’s a pretty big number” simply to test whether candidate is sure of his/her math. Look for floundering.

Household Cleaning Services (4 of 8)

BCG, Mock interview

Should they enter the market?

Additional questions for candidate

How would you go about figuring out whether to enter the market?

Solution guide

Candidate should ask about competition:

- National players (10% of market)
- Regional players (20% of market)
- Individual players (70% of market)

Candidate should also ask about customer preference:

- Ranges on a scale from “quality” to “price”
- National players compete on quality
- Individual players compete on price
- Regional players compete on both

Household Cleaning Services (5 of 8)

BCG, Mock interview

Should they enter the market? (cont.)

Additional questions for candidate

Where should Restoration Co. position itself on this spectrum?

Solution guide

Restoration Co. should position itself based on quality:

- It currently does extensive cleanup after disasters; surely it can handle regular cleaning.
- It does not want to dilute its brand name.
- It does not want to enter into a pricing war with a highly segmented market (70% of market competes on price, and these are individuals).
- Bonus: candidate should recognize that market size goes from \$50B to \$5B (10%)

Household Cleaning Services (6 of 8)

BCG, Mock interview

Should they enter the market? (cont.)

Additional questions for candidate

How would you figure out the profitability of national players?

- Revenue: Average price for a cleaning service is \$75.
- Cost: \$10/hour on labor; \$5/job on cleaning supplies (these are all-inclusive costs)
- When asked: average cleaning lasts 5 hours.

Solution guide

- Revenue: \$75
- Cost: \$55 ($\$10 * 5 + 5$)
- Profit: \$20
- Ask candidate what the profit margin is: 27%

Household Cleaning Services (7 of 8)

BCG, Mock interview

Should they enter the market? (cont.)

Additional questions for candidate

Anything else to consider before making your final recommendation, such as how to separate ourselves from the competition?

Solution guide

- Candidate should come up with ways to separate Restoration Co. from its competition:
 - Using premium cleaning supplies (such as sustainable chemicals, scented shampoo, etc.)
 - Performing a survey of the house to assess for potential fire or flood hazards.
 - Offer a free cleaning first.
 - Bad idea: enter into a pricing war in a segment that competes on quality.

Household Cleaning Services (8 of 8)

BCG, Mock interview

Final Recommendation

Recommendation

Enter the market: Market size is \$50B (even better: \$5B), and margins are a healthy 27%, since we will compete on quality with the national players.

Risks

27% margin needs to be put in context of current business

Possible brand dilution

- But let's offer only quality products

Need to separate our business

- But go with ideas mentioned on the slide before

Next steps

Review financing and up-front costs

How can we use our current client book to jump start business?

How will our sales model change (currently relies upon insurance companies, will change to door to door marketing)?

College Football Program (1 of 7)

RCC Original

Problem statement narrative

Our client is a public university that is considering adding an inter-collegiate football team to its athletic program. They have asked us to help them determine if this is a good idea.

Guidance for interviewer and information provided upon request

This is a two part case that will test a candidate's understanding of basic financials, market entry analysis, etc. It can be given as a McKinsey (command and control) case or as a more standard case.

Additional information provided upon request:

- Enrollment is 10,000 students
- The school is near a city of 1 million residents
- The school is located in the Southern US where football is very popular.
- The school feels that adding a football program has many benefits including increased exposure and brand awareness, school pride, enhanced "college" experience for students, improved connections with alumni, and additional revenue.
- The school currently participates in 16 men's and women's sports including basketball, track & field, baseball.
- Their only financial requirement is to break even. They are interested in the intangible benefits listed above.
- Longer term, they hope to pay for a new stadium and use football to subsidize other sports programs on campus

College Football Program (2 of 7)

RCC Original

The candidate will need to explore both revenues and costs associated with the new program in order to determine if the program can break-even. A good structure will likely include intangibles (such as improved college experience for students) but that will not be needed to solve this case.

Area the candidate should explore:

Sources of Revenue:

- Tickets
- Student Fees
- Concessions
- Apparel/Licensing
- TV/Radio Broadcasting Rights

Costs: could be broken down between capital and operating costs. Focus the candidate on operating costs for the first half of this case.

Cost categories could include:

- Coaching and Support Staff Salaries
- Stadium Costs (capex or rental)
- Equipment/Uniforms
- Travel
- Financial Aid/Scholarships

Information provided upon request

Student Fees: A combination of tuition and student fee increases will raise \$250/student/year.

Game Guarantees: They expect to be paid \$300K per away game. There are 6 away games.

Ticket Sales: \$25/home game. There are 6 home games. They expect an attendance of 7,000 per game in season 1 (excluding student attendance).

Alumni Support: They expect to receive alumni support of \$1,000,000/year

- **Financial Aid/Scholarships:** They will need to provide financial aid to 52 football players. Financial aid includes tuition/fees, books, room & board. Tuition/Fees is \$14K per student/year. Room & Board is \$12K/player/year. Books cost \$2K/year.
- The Head Coach will make \$500K/year. He will hire 8 assistants at an average of \$125K/year.
- The team will require support staff such as trainers, tutors, etc. The school estimates 25 new employees at an average cost of \$60K/year.
- Travel to away games will cost \$80K/game.
- Recruiting costs will be \$200K/year.
- It costs \$1,500/year/player for uniform and equipment costs. 80 total players.
- The school can rent a small stadium from the city for \$100K per game.

College Football Program (3 of 7)

RCC Original

Revenue Calculation

Student Fees

10,000 students x \$250 = \$2.5 Million

Game Gurarantees

\$300K/game x 6 away games = \$1.8 Million

Ticket Sales

\$25/game ticket x 6 games x 7,000 attendees = \$1.05 Million

Alumni Support

\$1 Million/Year

Total Revenue in Year 1: \$6.35 Million

Cost Calculation

Financial Aid

52 scholarship players x (\$14K + \$12K + \$2K) = \$1.456 Million
(round to \$1.5 Million if they ask)

Total Salaries: \$500K (HC) + 8 x \$125K (Assistants) + 25 x \$60K (staff) = \$3 Million

Travel: \$80K x 6 = \$480K (round to \$500K)

Recruiting Costs: \$200K/year

Equipment Costs: 80 players x \$1,500 = \$120K (not all players get financial aid, hence the difference in # of players)

Stadium Rental: 6 home games x \$100K = \$600K

Total Costs in Year 1: \$5.9 Million

The candidate should recognize that the program can break even with the given set of assumptions. To make more difficult, reduce attendance or alumni support during first year and provide attendance growth figures to make math more difficult.

College Football Program (4 of 7)

RCC Original

Question 2 For Candidate (if time allows)

Now, let's assume that our client went ahead with implementing the football program. The team has had surprising success and has gained the attention of a more powerful athletic conference (league). Gaining membership into this conference would drastically raise the profile of the school and lead to increased revenue streams.

However, in order to gain acceptance into the conference, the school needs a bigger stadium. Your client wants to build a 25,000 seat stadium on-site. Is this a good idea?

Guidance for interviewer and information provided upon request

***If short on time, skip to Question 3 and give student time to wrap-up with conclusion.

The candidate will need to evaluate the financial impact of building a new stadium and will likely have a number of follow-up questions.

Before giving cost information, encourage the candidate to brainstorm the drivers of stadium construction costs. Also, ask them how they might determine this.

Potential Cost Drivers:

- Site selection
- Local labor availability and costs
- Size of stadium
- Features such as press box, luxury box seats, playing surface, etc.
- Overall quality

Potential ways to estimate costs:

- Investigate what other schools have done
- Speak with contractors
- If building a large stadium, talk to professional teams

College Football Program (5 of 7)

RCC Original

Stadium financial data provided upon request

- They are considering building a 25,000 seat stadium.
- Estimated construction costs are \$40 million.
- Assume the school is not capital constrained.
- Ticket prices for the new stadium will be \$35/person
- Assume 50% of student population attends the game.
- Students don't pay for tickets (because of student fee).
- They expect stadium to be 80% full on average.
- 6 home games per year.
- Assume no other uses have been explored.
- Stadium will be paid for over 20 years with no interest due to government subsidy (\$2million/year).
- Ticket prices will be raised to \$35 (\$10 increase)
- Operating costs will increase \$100K/game
- Alumni support, student fees, and game guarantees are unchanged

Guidance for interviewer and information provided upon request

Incremental Revenue:

80% full stadium x 25,000 capacity = 20,000 attendance/game

50% of students x 10,000 students = 5,000 students/game

Paid attendance = 20,000 – 5,000 = 15,000/game

Annual Attendance = 15,000 x 6 = 90,000

New ticket revenue = 90,000 x \$35 = \$3.15 million

Old ticket revenue = \$1.05 million

Incremental revenue = \$2.1 million

Incremental costs:

\$2 million (loan repayment)+ 100,000 x 6 (operating expenses) = \$2.6 million

Incremental Loss: \$500K/year without an additional source of revenue such as a guarantee payment from the new conference. The school needs a guaranteed increase in revenue of at least \$500K/year.

College Football Program (6 of 7)

RCC Original

Question 3 For Candidate

Can you think of additional ways to make the football program more profitable?

Guidance for interviewer and information provided upon request

This is a brainstorming question. Some answers could include:

- Work with uniform/apparel companies to secure free uniforms
- Add advertising to the stadium
- Concessions
- Using an external marketing firm to increase demand
- Television/Radio broadcasting rights
- Indirectly, football may lead to increased student enrollment
- Negotiate for higher guarantees for away games
- Reduce number of support staff
- Structure coaching compensation to make it performance-based
- Apparel licensing and sales
- If they build a stadium, they can rent it out for other events

This is a not a comprehensive list. To increase pressure, push the candidate to give more than 2-3 ideas. Even if they give a good list, ask if they can think of anything else.

College Football Program (7 of 7)

RCC Original

If the math is done correctly, the candidate will see that adding a football team breaks even (barely) which satisfies the client's financial criteria. Here is a sample recommendation. Other good recommendations are possible.

Recommendation

Our client should proceed with starting a football team . They should be cautious about building a football stadium on-campus if an opportunity to join a more prestigious conference arises unless they receive reasonable assurances of substantial increased revenue. While the direct financial rewards of adding a football program don't appear to be great initially, the program can break-even and increase the visibility of the university and enhance the collegiate experience of its students which are two goals of our client.

Risks and Mitigation

- Attendance may be lower than expected
- Cost of stadium could be too high.

- Sell season ticket packages before starting team
- Continue to rent or partner with city to build multi-purpose stadium.

Next Steps

- Verify assumptions and assign roles
- Begin recruiting head football coach
- Publicize plans with prominent alumni to being getting donations
- Being process of increasing student fees
- Start talks with city to arrange use of rented stadium.

Self Check-Out (1 of 4)

RCC Original

Problem statement narrative

Our client is a large retailer. They would like to add self check-out stations to their stores. They have asked us to help them determine if this is a good idea. If it is, they want to know how much it will cost and what the expected savings will be.

Guidance for interviewer and information provided upon request

- Their primary objective is to reduce costs and improve profit.
- They do not want to lose customers due to this initiative.
- Ignore potential revenue benefits such as increased store traffic.
- The client will only invest if there is a 2 year payback (undiscounted)
- They have approximately 900 stores nationwide.
- Annual revenue is \$20 Billion.
- Cost structure data is available on the next slide.
- They have almost no experience with self check-out stations.
- Assume no capital constraints.

Self Check-Out (2 of 4)

RCC Original

The candidate will need to explore costs and savings associated with the new program in order to determine if the program can break-even. A good structure should include customer tastes. A great structure will also include efficiency of self check-out systems.

Area the candidate should explore:

1

Impact on Costs:

- Current Cost Structure
- Required Investment
- Expected Savings

Information provided upon request

- The average store has 16 cashiers per shift.
- They make \$10.00/hour. Assume they work 8 hours per day.
- It is okay to ignore overtime, benefits, etc.
- Total cost of each machine is \$50K. This includes installation.
- Assume annual maintenance is negligible. It can be ignored for this case.
- One employee can oversee four (4) self check-out machines.
- The store operates on 2 shifts: 8 am- 4 pm and 4 pm to midnight.
- Assume constant flow of customers. No peak.
- Assume 350 days/year.

2

Utilization of New Machines

- Customer Preferences/Tastes/Ability
- Number of items to scan
- Size of items to scan
- Learning curve of customers

- 10% of customers surveyed stated they would not use the new machines and would prefer to shop elsewhere if forced to do so.
- Empirical research (with other retailers) suggests that when a customer has more than 15 items, they prefer a cashier to self check-out stations. This applies to 15% of check-outs.
- Assume no learning curve effects for this calculation (although candidate can bring it up in recommendation/next steps)

Self Check-Out (3 of 4)

RCC Original

Sample Calculations

Each machine saves $\frac{1}{4}$ of an employee per shift. Since there are two shifts per day, each machine saves $\frac{1}{2}$ an employee per day.

$350 \text{ days} \times 16 \text{ hours/day} \times \$10/\text{hour} = \$56,000$ in annual savings per machine.

You can not replace all cashiers because of some customer preferences and due to order size. 25% of current cashiers must be retained for these purposes. Each store will replace $\frac{3}{4}$ of its check-out lanes with these machines: $\frac{3}{4} \times 16 = 12$ machines per store.

$900 \text{ stores} \times 12 \text{ machines} = 10,800 \text{ machines}$

Total cost = $10,800 \times 50,000 = \$540$ Million total investment

Total expected annual savings = $56,000 \text{ per machine} \times 10,800 \text{ machines} = \604.8 Million

Self Check-Out (4 of 4)

RCC Original

At this point, ask the candidate to take a minute to wrap up their analysis and provide a recommendation. They should keep in mind the original question which is to determine if this is a good idea, how much it will cost, and what the expected savings will be.

Recommendation

The client should go ahead with implementing self check-out stations at its stores because each machine will save them \$56K per year. This represents a payback of slightly less than one year.

Risks and Mitigation

- Its an investment of nearly \$500 million so they may want to consider a trial run and may implement the machines in phases.
- The stations may not be as popular with customers as expected. Phasing in will reduce capital at risk and allow the company to modify plans accordingly.
- Employees may resist the change, especially with co-workers losing their job. The company will need to engage in a PR campaign and highlight that the company's survival depends on its profitability. If they don't do it their competitors will gain a cost advantage.

Next Steps

- Assign project manager and draft project plan.
- Conduct in-store testing.
- Engage PR firm to help with internal (employee) communications and guard against external backlash.

Oil Rig (1 of 3)

McKinsey, Round 2

Problem statement narrative

Oil Co is a holding company that manages a portfolio of companies related to oil exploration. The portfolio can be segmented as:

- An oil rig managed and operated by Oil Co.
- A group of companies (including Oil Co.) that have a proportional stake in an oil rig, with each company sharing costs and profits.

Oil Co. wants to increase its profitability and has come to McKinsey for ideas. What are the key areas you would look at to help the company?

Guidance for interviewer and information provided upon request(1)

- The company is not willing to divest any of its holdings.
- Its existing contracts with other companies (under segment 2) are iron clad and cannot be modified.
- Profitability is Oil Co.'s only concern.
- All oil rigs are operated offshore.
- The company does not know of any new areas to explore and set up an oil rig.
- Oil Co. is a British company.

The candidate should recognize this is a cost savings case, since there are no incremental revenue streams available.

Oil Rig (2 of 3)

McKinsey, Round 2

Cost cutting ideas

Additional questions for candidate

How would you cut costs on an oil rig?

These options are not available:

- Closing rigs
- Changing schedules to increase work time
- Exploring new areas to drill
- Increasing the width of the pipe to bring up more oil
- Changing contracts with partners

These are the only options available. Everything else should be “shot down”. Feel free to play a bad cop and push the candidate for more ideas:

- Reducing operating expenses.
- Reducing cost of transporting goods to and from the oil rig.

Oil Rig (3 of 3)

McKinsey, Round 2

Cost cutting ideas (cont.)

Additional questions for candidate

Transportation costs

- Currently 50MM GBP per year
- Can be reduced to \$100,000 per day

Question: What are the savings?

- When asked: FX rate is \$1.5/1 GBP
- When asked: Rig operates 365 days per year

Operating costs:

- Currently \$40MM
- Can be reduced by 30%
- Question: What are the savings?

What are the total savings? As a %?

Solution guide

Transportation costs:

- 50MM GBP = \$75MM (current cost)
- $\$0.1\text{MM} * 365 = \36.5MM
- Savings: \$38.5MM

Operating costs:

- $30\% * 40\text{MM} = \$12\text{MM}$

Total savings: \$50.5MM

Total % savings: 44% (50.5/115)

Bio-Product Growth (1 of 7)

BCG, Round 1

Problem statement narrative

Your client is a chemical company, ChemCo. Due to stagnant growth in the chemicals segment, they decided to create a high growth bio-products segment. This segment sells these products to universities and labs primarily for use in drug development. Revenue for the new segment has been growing at 3-5% per annum for the last few years. The CEO is unhappy with this and wants to achieve 10% growth in revenue in the next year. You have been hired to help bridge this gap and achieve this target.

A good structure will include:

Industry (growth and trends)

Client (growth and trends, limitations on growth, product mix)

Growth Strategies (geographies, channels, acquisitions, product mix, R&D)

Guidance for interviewer and information provided upon request(

1. Last year bio-products segment accounted for \$300 million in revenue
2. Bio-products industry has been growing at 10%, hence the CEO's target

Bio-Product Growth (2 of 7)

BCG, Round 1

Framework

Additional questions for candidate

After the structure, when the candidate asks for Industry/competitor information provide Exhibit 1.

Allow the candidate to make some insights, push them if necessary. Eventually get them to consider the use of R&D. What are the implications of R&D from that slide?

Give them Exhibit 2.

Solution guide

- Some implications of Exhibit 1 include:
 - ChemCo is “over-diversified”
 - Could have achieved diseconomies of scope
 - Scale operations could be more efficient
 - Inefficient use of resources:
 - Sales and Marketing
 - Research and Development
- Some implications of Exhibit 2 include:
 - ChemCo is below market trend
 - C7, C5 & C3 could be studied to understand efficient R&D
 - Inefficient use of R&D funds
 - Could eliminate inefficient R&D or spend more due to high correlation between R&D and revenue

Bio-Product Growth (3 of 7)

BCG, Round 1

Additional questions for candidate

Lets look further into R&D

We have:

- 5 Strategic Products
 - Revenue = \$200M
 - R&D = \$10M
- 15 Non-strategic Products
 - Revenue = \$100M
 - R&D = \$20M

So what should we do?

Answer: Reinvest R&D into strategic products

Then:

1. Revenue for non-strategic products will decrease to zero over 5 years
2. Revenue for strategic products will ramp-up over 3 years

Solution guide

Candidate SHOULD use Exhibit 2 to project revenues based on new R&D/category. If they don't, ask them for their assumptions. You can then choose to push them to use Exhibit 2 or continue with their methodology.

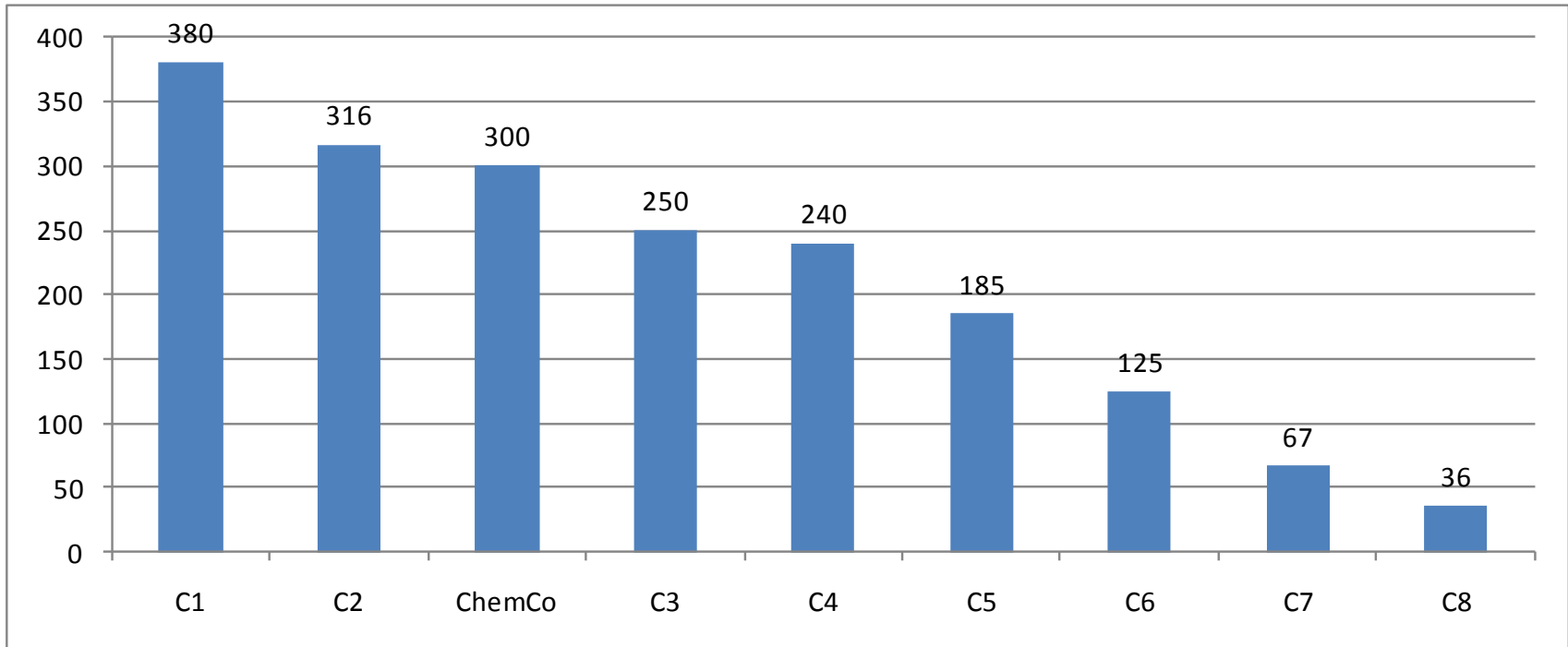
Slide 2 indicates that if we spend \$6 million in R&D per category (\$30 million for 5 strategic categories), then projected revenue per category is \$70 million.

See slide 6 of 7 for projected revenues using this forecast methodology.

Bio-Product Growth (4 of 7)

BCG, Round 1

Exhibit 1: Competitor Revenues and Product Mix

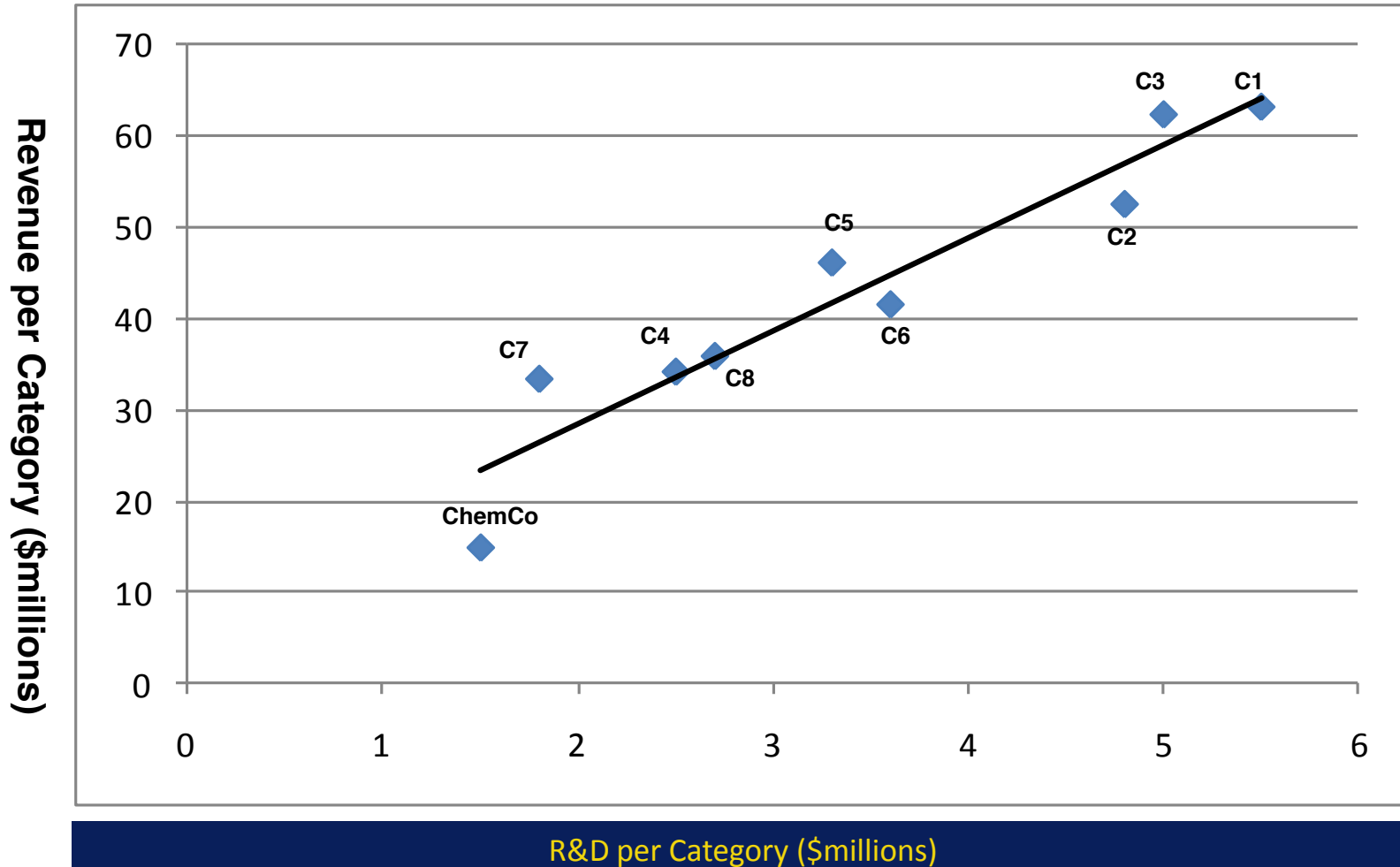


	C1	C2	ChemCo	C3	C4	C5	C6	C7	C8
Revenue (\$ millions)	380	316	300	250	240	185	125	67	36
# of Product Categories	6	6	20	4	7	4	3	2	1

Bio-Product Growth (5 of 7)

BCG, Round 1

Exhibit 2: Industry Revenue against R&D Spend



Bio-Product Growth (6 of 7)

BCG, Round 1

Since we are projecting \$70M in revenue per strategic category we will ramp up from \$200M to \$350M over 3 years and then stay constant.

For the non-strategic products the revenue will decrease from \$100M to \$0 evenly over 5 years.

REVENUE PROJECTIONS	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Strategic Categories	\$200	\$250	\$300	\$350	\$350	\$350
Non-Strategic Categories	\$100	\$80	\$60	\$40	\$20	\$0
TOTAL	\$300	\$330	\$360	\$390	\$370	\$350

Note:

This is the best method for projecting revenue, however the candidate may choose another method. There should at least be a logical reason for their methodology. Additional methods could include a linear increase - \$10M in R&D generated \$200M in Revenue, so \$30M in R&D will generate \$600M in Revenue.

Bio-Product Growth (7 of 7)

BCG, Round 1

Sample Recommendation

- Our client should reorganize their R&D efforts to focus on the 5 strategic products. This will achieve the 10% growth in year 1 from \$300M to \$330M. In the long run we should consider focusing our future R&D as well.

A solid interview will address other potential risks...

- We have only reviewed by strategic vs. non-strategic. We may be missing good products by not looking at the individual product categories.
- Assumption that R&D is the only factor that influences revenue. If we don't get \$70M per category, the growth target will not be achieved.

And suggest next steps...

- Look into revenue and R&D by product to get granular details.
- Consider sixth product for future growth possibilities, but beware of over-diversification again.
- Consider competitive analysis to understand what 4-7 product categories everyone else focuses on.

Li-Ion Battery Separators (1 of 7)

BCG, Round 1

Problem statement narrative

Your client is a U.S. Textile Manufacturer. They have recently developed a new technology for making Lithium Ion battery separators. Is this an attractive industry? And should your client enter the market?

A good structure will include:

- Industry analysis (five forces, profitability, competition, customers)
- Client (patents, experience, etc)
- How to Enter (JV, Greenfield, Acquisition, Licensing)
- Exit strategies

Guidance for interviewer and information provided upon request(1)

- Your client has no prior experience or knowledge of the battery separator market
- Battery separators are an integral part of the lithium ion batteries. They need to be thin and provide a medium for charged particles to pass between the cathode and anode (positive and negative terminals).
- We do not know if our technology is better than existing technology.
- Your client had \$250 million in sales last year.
- No current patent, but we can get a patent on our technology.
- Safety is a big issue in this industry and so there is a very expensive 1-year certification process

Li-Ion Battery Separators (2 of 7)

BCG, Round 1

Additional questions for candidate

After the structure, allow the candidate to ask for data. Feel free to push them on the definition of an attractive Industry – sustained profitability.

- Provide the exhibits when the candidate asks the appropriate questions.
- Pose the problem again after they have the exhibits - Is this an attractive industry?

Solution guide

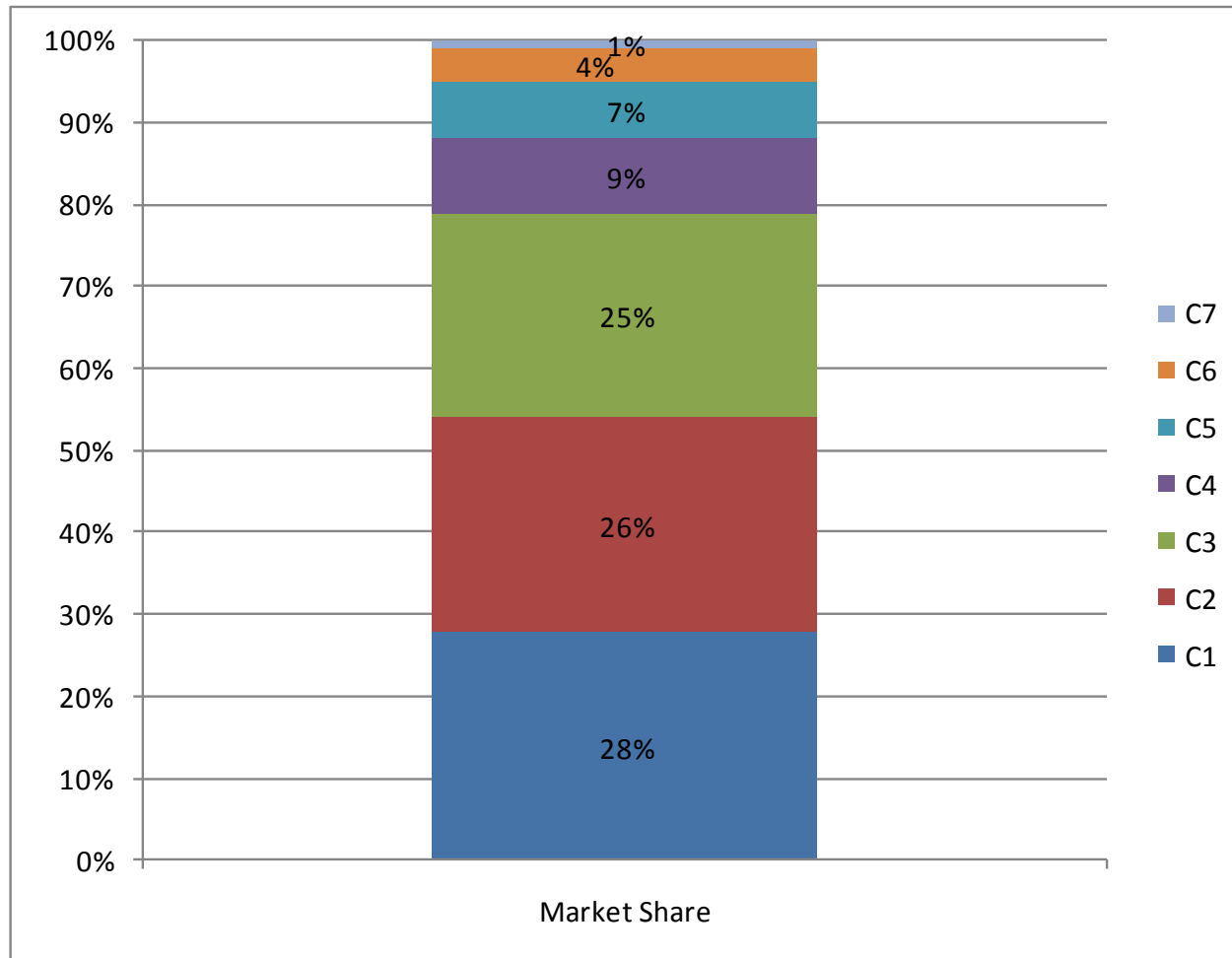
A good analysis will consider the following:

- Barriers to Entry (HIGH)
- High switching costs between suppliers
- Expensive certification process
- Existing customer relationships
- Supplier Power (HIGH)
- Can charge premium price for certified safe product
- Existing relationships
- Rivalry (LOW)
- Limited competition due to existing relationships
- Profitable
- Price drop in separators less than price drop for rest of battery components
- Because component costs have decreased at the same rate this indicates higher margins for separators

Li-Ion Battery Separators (3 of 7)

BCG, Round 1

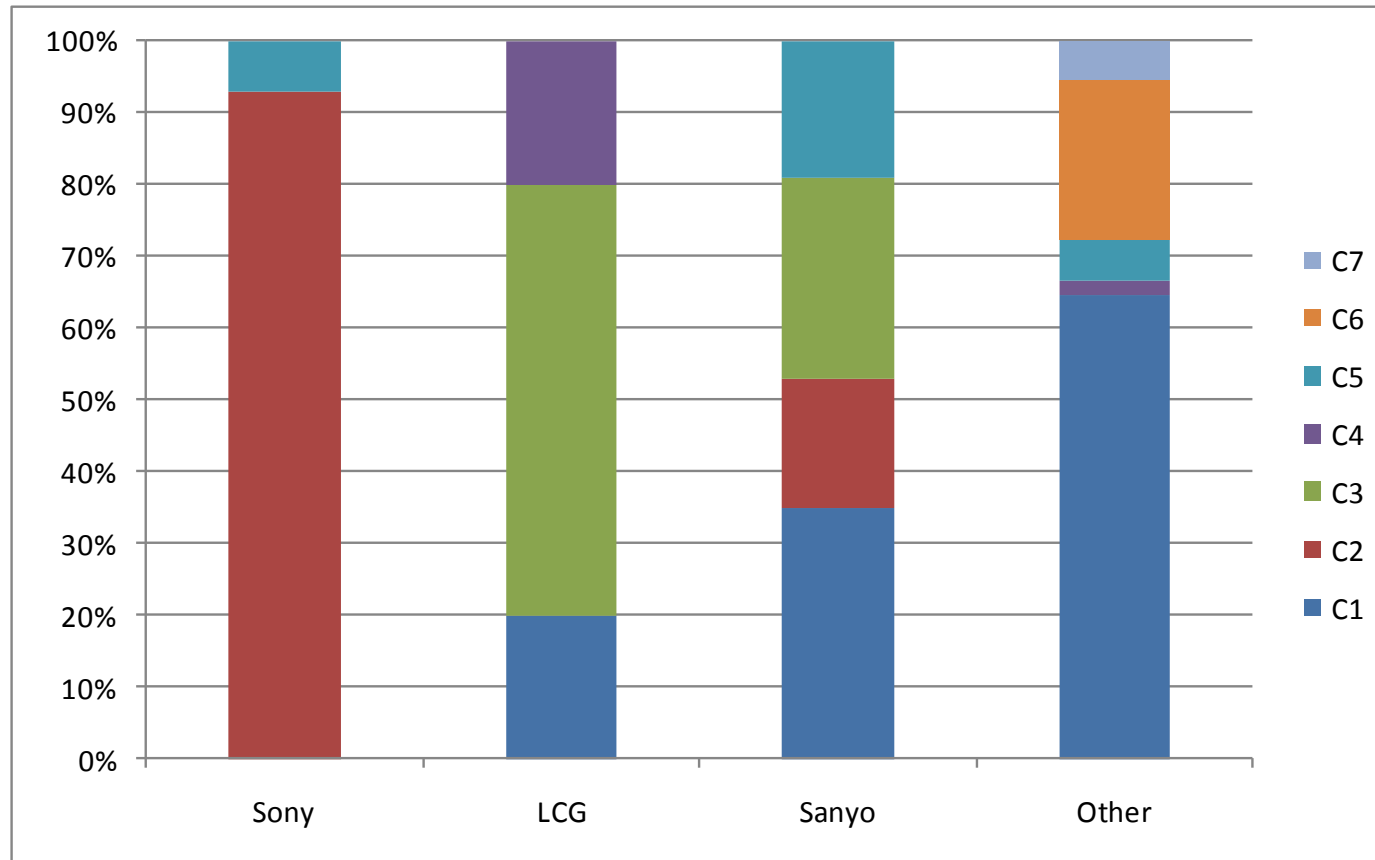
Li-Ion Battery Separator Manufacturers



Li-Ion Battery Separators (4 of 7)

BCG, Round 1

Customer Supply Base



- Customers generally have a primary supplier and a secondary supplier
- Industry characterized by strong supplier relationships given safety concerns

Li-Ion Battery Separators (5 of 7)

BCG, Round 1

Battery Component Prices

	2000	2010
Cathode	\$8	\$4
Anode	\$2	\$1
Separator	\$3	\$2
Other	\$7	\$3
TOTAL	\$20	\$10

Note: Costs have decreased at the same rate for all battery components.

Li-Ion Battery Separators (6 of 7)

BCG, Round 1

Additional questions for candidate

So, should we enter the Li-Ion Battery Separator Market? (The candidate must realize that this question must also cover “how should we enter”. If they do not go down this route, direct them with the additional questions.)

- What are the possible ways to enter?
- What are the pros and cons of each?

Solution guide

A good analysis will consider the following:

- Green Field:
 - Pros – Management Control
 - Cons – Expensive and timely
- Joint Venture:
 - Pros – Easier and quick
 - Cons – Limited control, finding partner
- Acquisition:
 - Pros – Quicker, Management Control
 - Cons – Culture clashes, buyer’s curse (overpaying)
- License/Sell
 - Pros – Easier, less commitment to new market (get your milk without the cow)
 - Cons – finding buyers

Li-Ion Battery Separators (7 of 7)

BCG, Round 1

Sample Recommendation

- Our client should License the technology due to a lack of knowledge and experience in the Li-Ion Battery Separator market, existing buyer-supplier relationships, and the expensive certification process inherent in the industry.

A solid interview will address other potential risks...

- No industry experience
- Existing manufacturers will not want to change technology
- No discussion on benefits of new technology

And suggest next steps...

- Understand technology and value proposition to manufacturers
- Patent technology and determine licensing fee
- Identify interested manufacturers and develop interest from customers (Sony, LCG, Sanyo, etc.)

VitaminCo (1 of 7)

Bain, Round 1

Problem statement narrative

Your client is VitaminCo, a producer of vitamins/pills. They sell their products primarily to healthstores and pharmacies. They are now considering entering the healthfoods and beverages market and are wondering if this is a good idea. What should they do?

A good structure will include:

- Industry Analysis (growth, profitability, competition)
- Method of entry (JV, Acquisition, Greenfield)
- Other (Initial investment, Synergies, competitive response)

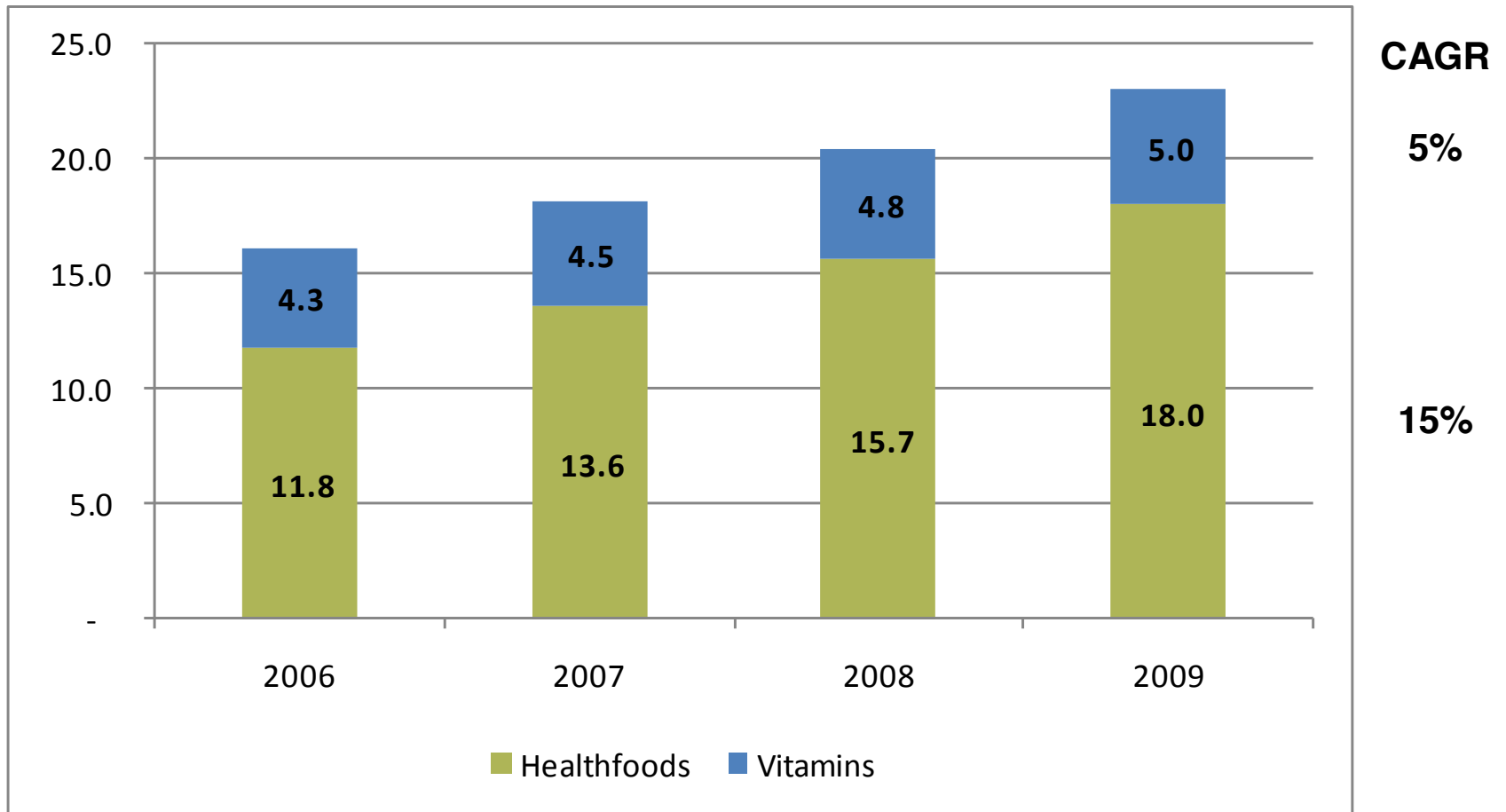
Guidance for interviewer and information provided upon request(1)

- Healthfoods and beverages include granola/protein bars, gatorade, etc.
- Client operates in the US.
- VitaminCo has 10% share of vitamin market
- Provide Exhibit 1 in response to any questions on growth or market size
- Provide Exhibit 2 in response to any questions on market share or competition
- Provide Exhibit 3 in response to questions on VitaminCo's sales or operations
- Assume the healthfoods and beverages industry is profitable
- No expected synergies – current vitamin facilities cannot produce the health bars and drinks that we would want to sell
- If interviewee asks, VitaminCo has access to a large amount of capital.

VitaminCo (2 of 7)

Bain, Round 1

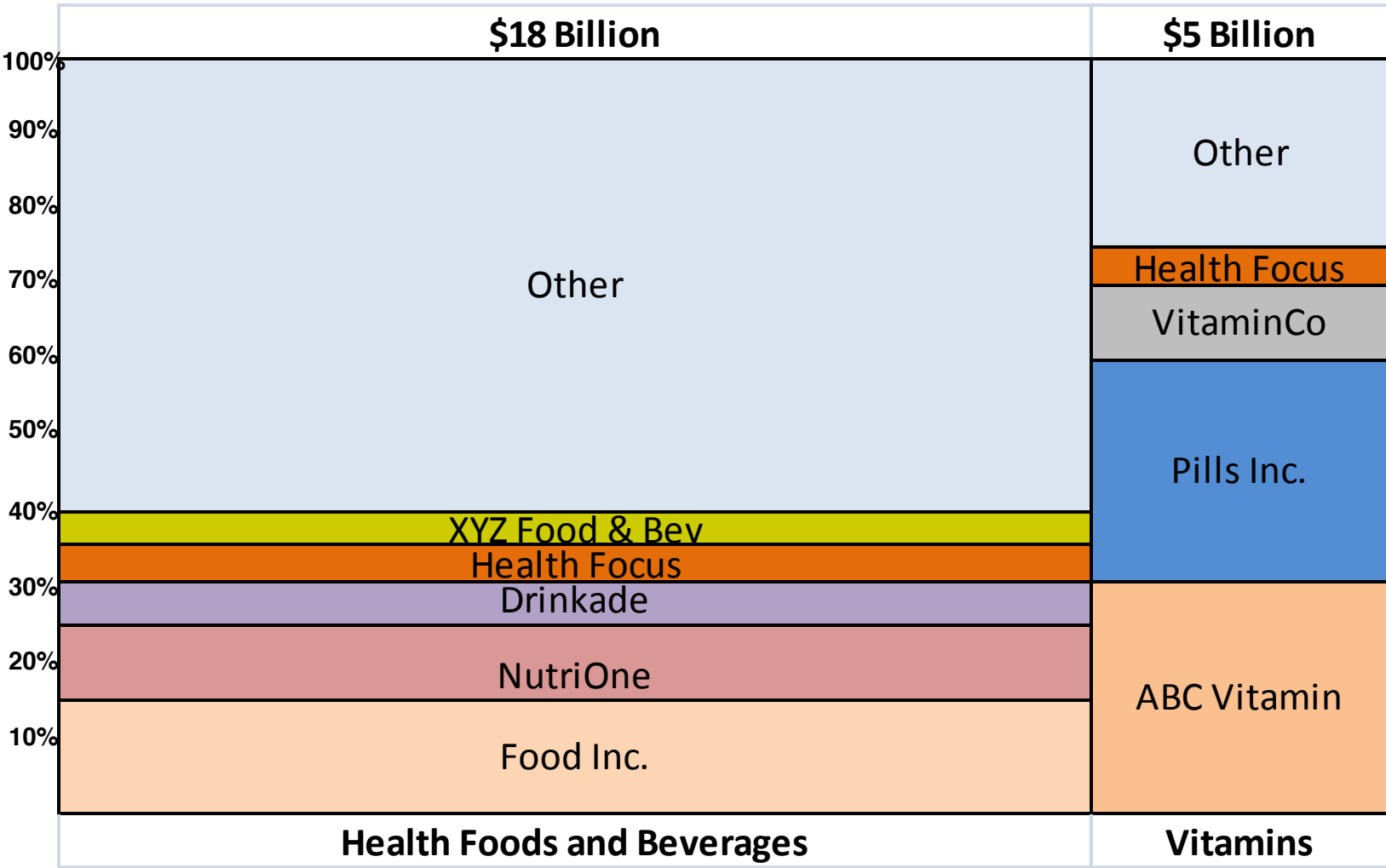
Exhibit 1: Market Size (\$B)



VitaminCo (3 of 7)

Bain, Round 1

Exhibit 2: Competition and Market Share



VitaminCo (4 of 7)

Bain, Round 1

Exhibit 3: VitaminCo's Operating Statements (\$ millions)

Year	2005	2006	2007	2008	2009
Revenue	\$ 470	\$ 470	\$ 480	\$ 490	\$ 500
COGS	\$ 230	\$ 239	\$ 231	\$ 226	\$ 222
SG&A	\$ 70	\$ 68	\$ 72	\$ 78	\$ 75
Sales & Mkting	\$ 105	\$ 100	\$ 110	\$ 145	\$ 190
Net Income	\$ 65	\$ 63	\$ 67	\$ 41	\$ 14
Margin	13.8%	13.5%	13.9%	8.4%	2.7%

VitaminCo (5 of 7)

Bain, Round 1

Solution guide

Exhibit 1

- This shows us that the healthfoods and beverages market is significantly larger than the vitamins market.
- Furthermore, growth is much healthier in the healthfoods and beverages market.

Exhibit 2

- The healthfoods and beverages market is highly fragmented.
- Largest player has 15% share of market
- Health Focus is only player in both industries. Sets a precedent for operating in both markets.
- Consider discussion on how Health Focus entered the markets. Which segment they entered first. How quickly they grew and captured market share.

Exhibit 3

- Sales and Marketing have increased without driving an increase in revenue.
- Vitamin Co's revenue growth has been less than industry-wide level of 5%.

VitaminCo (6 of 7)

Bain, Round 1

Additional questions for candidate

So should we enter?

And, how should VitaminCo Enter?

Who would you recommend they acquire?

Solution guide

VitaminCo should enter because:

- Stagnant revenue for VitaminCo
- Low growth in vitamin market
- Assumed profitability of Healthfoods segment
- Highly fragmented nature of health food industry

VitaminCo should enter by acquisition because:

- Fastest and easiest
- No synergies in current facilities

VitaminCo should acquire HealthFocus

- Small enough that they could potentially afford
- Will drive growth in Vitamins since that is area of stagnation
- Other options are “small” players in “Other” category

VitaminCo (7 of 7)

Bain, Round 1

Sample Recommendation

- VitaminCo should enter the healthfoods and beverages market through an acquisition of HealthFocus. This will drive growth in both Vitamin and health food segments.

A solid interview will address other potential risks...

- In any acquisition there is a risk of overpaying. We could look at other players to try identify a low performer with high potential.
- May start a bidding war from other competitors in Vitamin industry looking to diversify into the health foods segment.

And suggest next steps...

- Look into access to capital – HealthFocus's total revenues are higher than VitaminCo's total revenues and so may be difficult to get capital
- Consider line of products that are most profitable to finalize the acquisition target
- Look into Vitamin operations to see why VitaminCo's growth is lower than industry standard and find methods for growing the business.



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