

# **CONSULTING CASE INTERVIEW PREPARATION GUIDE**

**2005- 2006 Recruiting Season**

**September 14, 2005**



# **MICHIGAN**

**BUSINESS SCHOOL**

**CONSULTING CLUB**

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## **Editor's Note**

**Dear RSB Consulting Club Member,**

**If you are reading this, then it is likely you are interested in pursuing a consulting career upon graduation from business school. In order to increase your familiarity with the consulting interview format, the RSB Consulting Club has established a multilateral training program focusing on the different parts of the recruiting and interviewing process. This book focuses on the 'case-interview' portion of the consulting interview and is to be used in conjunction with other case-oriented club training materials.**

**The elements tested in a case interview are core to firms' hiring decisions. These cases, or mini-business problems, are a glimpse into a consultant's (and often the interviewer's) life as they are frequently taken from real client experiences. Given practice and experience, cases become a natural way of thinking about how you would structure approaches and solutions to nearly any type of problem. Along the way, we hope you will find you enjoy solving problems in this manner, and would enjoy performing this type of work for a living.**

**In order to facilitate your preparation, your fellow club members have recorded their real-life case interview experiences and their customized frameworks and solution elements. These cases act as a strong reference point for what to expect during a consulting interview, but are in no way all encompassing. Since each case comes down to a conversation between the interviewer and the candidate, it is very plausible that one candidate could receive the same case from two different interviewers and have two very different conversations about the business problem. In fact, we encourage this.**

**Finally, you may have noticed that you are reading this compilation in landscape format. This is intentional. Consultants think in terms of PowerPoint slides much more often than essay-style documents. They also constantly work to devise the most succinct way to illustrate and frame-out a problem, necessary action steps, and a solution. This said, the '05-'06 preparation guide has broken from the tradition of book-based cases by adopting PowerPoint deck-based cases. You will find this format dovetails well with how you write your notes in cases, and how you will convey information as a consultant.**

**Good luck, and remember your fellow club members are here to help,**

**Rip Martin '06**

**RSB Consulting Club**

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# Administering Cases

Great case experiences are not solely determined by strong candidates cranking out amazing issue and financial-based analyses. The interviewer's interaction with the candidate and ability to convey information will very easily change the style of a case. Given the interviewer's position of power in the discussion, there are several things to keep in mind prior to, during, and after a case interview.

Preparing for interview	During interview	After interview
<ul style="list-style-type: none"> <li>• Read the case over 2-3 times</li> <li>• Familiarize yourself with the relevant numbers and details</li> <li>• Determine your 'character'               <ul style="list-style-type: none"> <li>• Rushed partner or disinterested client representative?</li> </ul> </li> <li>• Prepare for how you will address irrelevant questions or requests for data you do not have               <ul style="list-style-type: none"> <li>• Make up fake data and let candidate go fishing, or let them know it is irrelevant?</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Track time (about 25 minutes is average)- balance finishing case and letting candidate struggle</li> <li>• Prepare for candidate 'curve-balls'               <ul style="list-style-type: none"> <li>• Candidates can often think of very different approaches to cases. Before discounting questions as wrong, ask the candidate for their thinking... if it makes sense, go with it</li> </ul> </li> <li>• Consider what a consultant would be looking for in the candidate               <ul style="list-style-type: none"> <li>• Presentation: can I put this person in front of a client?</li> <li>• Aptitude: Can this person accurately do the work?</li> <li>• Interest: Does this person like what they are doing?</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Provide feedback               <ul style="list-style-type: none"> <li>• This is possibly the most critical step of the case interview process</li> <li>• Honestly let the candidate know strengths, but more importantly areas for improvement</li> <li>• Without honest feedback and constructive criticism, it is very difficult to improve</li> </ul> </li> </ul>

With these steps in mind, you should be able to conduct a concise and rewarding case interview.

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## Receiving Cases

You will have a lot of instruction about general conduct and how to receive specific types of cases during the Consulting Club's training program, however there are several things to always keep in mind to maximize the value of each case you receive.

Because receiving cases is essentially the complimentary puzzle piece to administering cases, the same framework is used below:

Preparing for interview	During interview	After interview
<ul style="list-style-type: none"> <li>• Arrive on-time and prepared               <ul style="list-style-type: none"> <li>• Graph paper or blank paper</li> <li>• Pen or pencil (bolder is better)</li> <li>• Brain</li> </ul> </li> <li>• Confident business etiquette and presentation do not go unnoticed</li> <li>• It is beneficial to practice cases with a variety of interviewers (MBA1's and 2's), not limiting your practice group to your closest friends.               <ul style="list-style-type: none"> <li>• This dynamic change will help you prepare for the variety of interviewers you will encounter</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Track time (about 25 minutes is average)- maintaining pace, not diving too deep too early</li> <li>• Set up paper and thoughts in a familiar way each time               <ul style="list-style-type: none"> <li>• Many candidates use the 2 landscape page setup introduced in training materials</li> </ul> </li> <li>• Don't hesitate to clarify issues</li> <li>• Jot down important case facts for reference</li> <li>• Take your time with math- a slow right answer is better than a fast wrong one</li> <li>• Be polite and do not loose your cool, even when in a difficult situation</li> </ul>	<ul style="list-style-type: none"> <li>• Accept feedback graciously               <ul style="list-style-type: none"> <li>• The interviewer, no matter how harsh, is trying to help you</li> </ul> </li> <li>• Go over case on your own later on, replaying where you could have improved your approach               <ul style="list-style-type: none"> <li>• Preparation is not in the quantity of cases prepared, but in the quality of each case attacked</li> </ul> </li> <li>• If practicing with a fellow student, offer to give the interviewer a case!</li> </ul>

**Good luck, and remember to have fun!**

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## The Case List

***Note: Do not read all of these cases as soon as you receive this guide. While reworking 'completed' cases both alone and within groups is highly encouraged, pre-reading cases removes the element of surprise which stems from addressing a case for the first time, this sensation is very difficult to replicate.***

1. Car tires	11	16. Sheep auction	43
2. Super pens	12	17. Security systems	49
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## Format Introduction

In this case preparation guide you will find four types of slides. The type of each slide is noted in the upper left corner.

<b><i>Establishing the Case</i></b>	This is where the initial business problem is posed and the interviewer is provided with any additional information they can provide to the candidate upon request. These slides are to be kept by the interviewer.
<b><i>Candidate Handout / Assignment</i></b>	This handout will eventually make its way to the candidate's hands. However, when this handoff occurs is at the discretion of the interviewer. Some interviewers may choose to overwhelm their candidate with a large amount of information early on to see them struggle, others may be reluctant to provide information unless asked specifically. Assignments for the candidate are exactly that, and should be expressly completed under the eye of the interviewer.
<b><i>Additional Questions/ Information for Candidate</i></b>	These slides are a continuation of the 'Establishing the Case' slides, either adding more information to provide the candidate (upon request or due to timing), or taking the case in a new direction. These slides are to be kept by the interviewer.
<b><i>Sample Solution Elements</i></b>	These slides suggest where the case could/should go based on the initial case information and backup data. These frameworks are by no means the only possible solution, but should provide the interviewer some structure for where the candidate should be heading. These slides are to be kept by the interviewer, but information can be shared as the interviewer sees fit.

**As evidenced by the loose framework in each case, you are encouraged to establish variants on these cases for additional practice**

## Case 1: Car Tires (I of I)

### McKinsey & Company, Round II

Problem Statement Narrative	Additional Information to Provide Upon Request	Sample Solution Methodology
Please estimate the number of passenger car tires sold in the United States each year.	<ul style="list-style-type: none"><li>• About 10M new cars are sold each year</li><li>• Cars last about 7 years before needing replacement</li><li>• Tires last 45K miles</li><li>• People drive 15K miles/ yr</li><li>• Assume people purchase new tires when needed</li><li>• Assume no growth in 'installed cars'</li><li>• BONUS: New cars get 5 tires (includes spare), old cars get 4 new tires</li></ul>	<ul style="list-style-type: none"><li>• There are 70M cars on the road<ul style="list-style-type: none"><li>• 60M old cars</li><li>• 10M new cars</li></ul></li><li>• Tires last three years</li><li>• 60M installed cars / 3yrs<ul style="list-style-type: none"><li>• 20M cars need new tires each year</li><li>• 20M x 4 tires: 80M tires</li></ul></li><li>• 10M new cars<ul style="list-style-type: none"><li>• @4 tires / car: 40M tires</li><li>• @5 tires / car: 50M tires</li></ul></li><li>• Total tires sold each year<ul style="list-style-type: none"><li>• 120M tires (no spare)</li><li>• 130M tires (w/ spare)</li></ul></li></ul>

## Case 2: Super Pens (I of II)

### A.T. Kearney, Round I

#### Problem statement narrative

Your client is a manufacturer of bank vaults, mostly the large walk-in types. It's a very mature business and they are the largest supplier in the industry. In order to diversify their business and provide growth, the client has bought a company that specializes in high technology security devices. One of its biggest and most promising products was a pen that has the ability to distinguish if the person signing anything is in fact the owner of the pen.

The client would like you to define the following:

- Who would the customers of this technology be?
- How do we market to them?
- What is our value proposition?

#### Guidance for interviewer and information provided upon request<sup>(1)</sup>

##### *Information to provide upon request*

- Pens cost \$20 to manufacture at capacity
- The technology is very compact, very thin, very reliable, and incredibly secure; essentially fraudulent-proof.

##### *Things to think about during case*

- How did the candidate arrive at a list of potential clients and industries
  - Did the candidate use a specific framework for vetting target customers, etc.?
- How did the candidate construct a value proposition?
  - Asking questions around current customer costs/revenues and how the pen would improve this
- Who is the actual customer vs who may be buying?
  - i.e.: credit card companies, or individuals

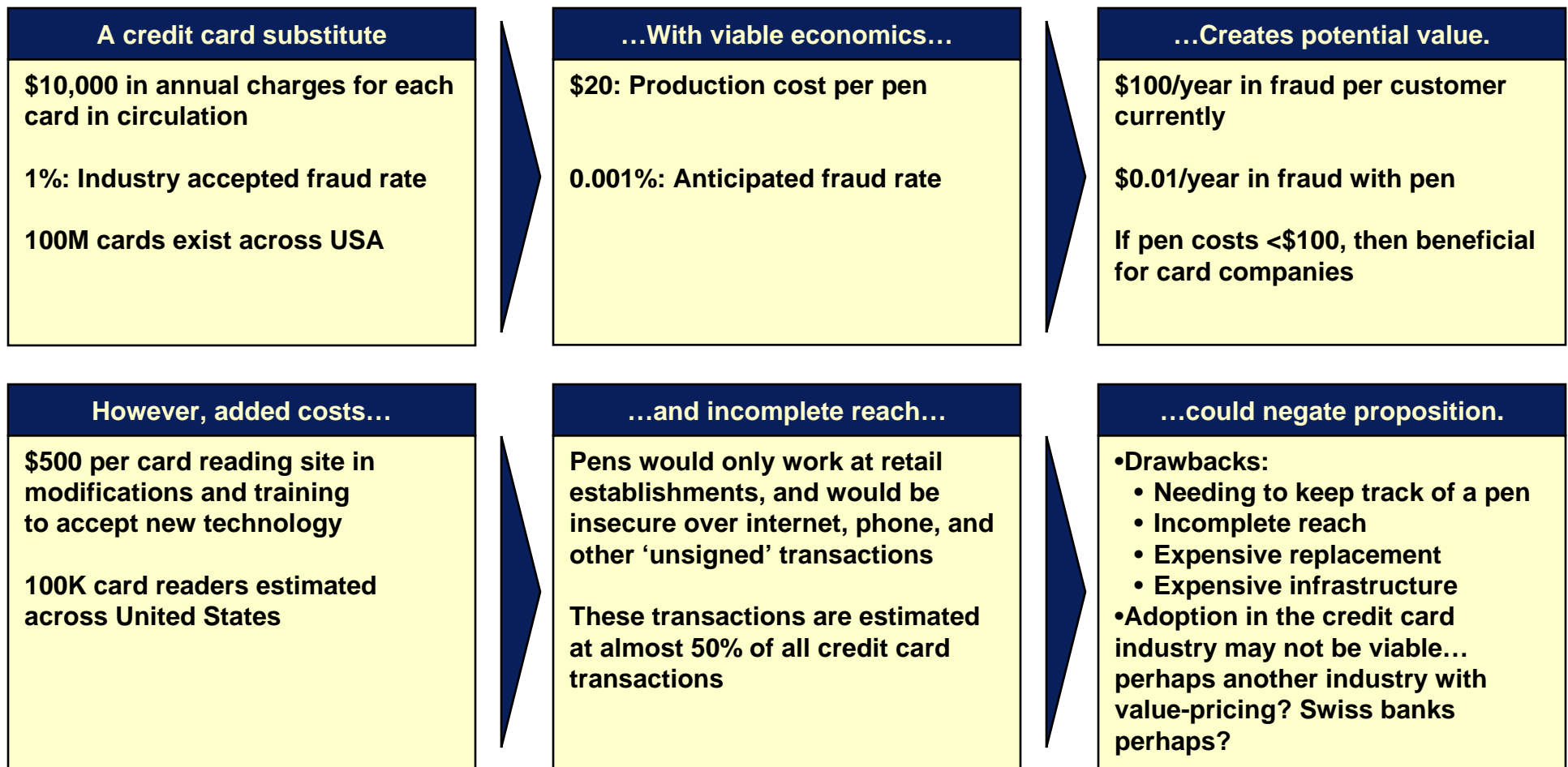
(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 2: Super Pens (II of II)

### A.T. Kearney, Round I

This is a potential customer solution, the case could (and should) be adapted for Banks, Government, Corporations, High Net Worth Individuals, Exclusivity/Loyalty programs, etc.

*Interviewer should feel free to allow full market estimation scenario in all cases to allow for more robust mathematical analysis*



## Case 3: HVAC Service Provider (I of II)

### The Boston Consulting Group, Round I

#### Problem statement narrative

Your client is an energy firm that has a lot of extra cash and wants to know if they should consolidate HVAC (heating, ventilation and cooling) service firms in the Atlanta area.

The client would like to know if this is a viable investment they should consider.

#### Guidance for interviewer and information provided upon request

- *Only provide additional information after being specifically asked by candidate.*
- Atlanta market consists of 500 firms
  - Average annual revenue: \$10M
  - Revenue growth: 3%
  - Acquisition cost: Perpetuity cost of profits
  - Cost of capital: 13%
- Cost structure (% of revenues)
  - Labor: 50%, *Technicians are 100% utilized*
  - Equipment: 25%
  - Administrative: 20%
  - Profit: remaining 5%
- Savings areas:
  - Labor dispatching efficiency: 5% decrease in labor
  - Equipment 5% decrease through bargaining power
  - Admin: 1% net decrease after IT and advertising investments
- Client's finance department requires a 3-yr break-even
- Assume all cost savings occur immediately
- Assume revenues will remain stable for each target

## Case 3: HVAC Service Provider (II of II)

### The Boston Consulting Group, Round I

Candidate should calculate implications of changing cost structure...	Cost Center	Cost (% rev)	Cost (\$)	Savings (% cost)	Savings \$	New Cost (\$)
	Labor	50%	\$5M	5%	\$250K	\$4.75M
	Equipment	25%	\$2.5M	5%	\$125K	\$2.375M
	Administrative	20%	\$2M	1%	\$20K	\$1.98M
	Profits	5%	\$500K			\$895K PROFIT

Then want to conduct a break-even analysis.	Current profit	Interest rate	Cost of firm	Expected profit	Undiscounted Break-even
	\$500M	10% (CoC – growth)	\$5M	\$895M	5.58 years (stating: over 5 yrs is fine) TOO LONG = NO GO



A solid interview will address other potential risks...	<ul style="list-style-type: none"> <li>• No industry experience</li> <li>• Cultural issues (small operations purchased by large company)</li> <li>• National entrants overpowering effort</li> </ul>
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And suggest improvements for break-even.	<p>Reducing purchase price</p> <p>Seek further cost improvements (IT systems, warranty costs, etc)</p> <p>Improve revenues through advertising efficiency, brand name, referrals, etc.</p>
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## Case 4: Multi-Purpose Tool (I of II)

### The Boston Consulting Group, Round I

#### Problem statement narrative

Your client is a diversified hardware manufacturer who produces a multi-purpose hand tool. For several decades, your client was the only company to make the tool. Over the past 2 years, the company has seen a decline in revenue.

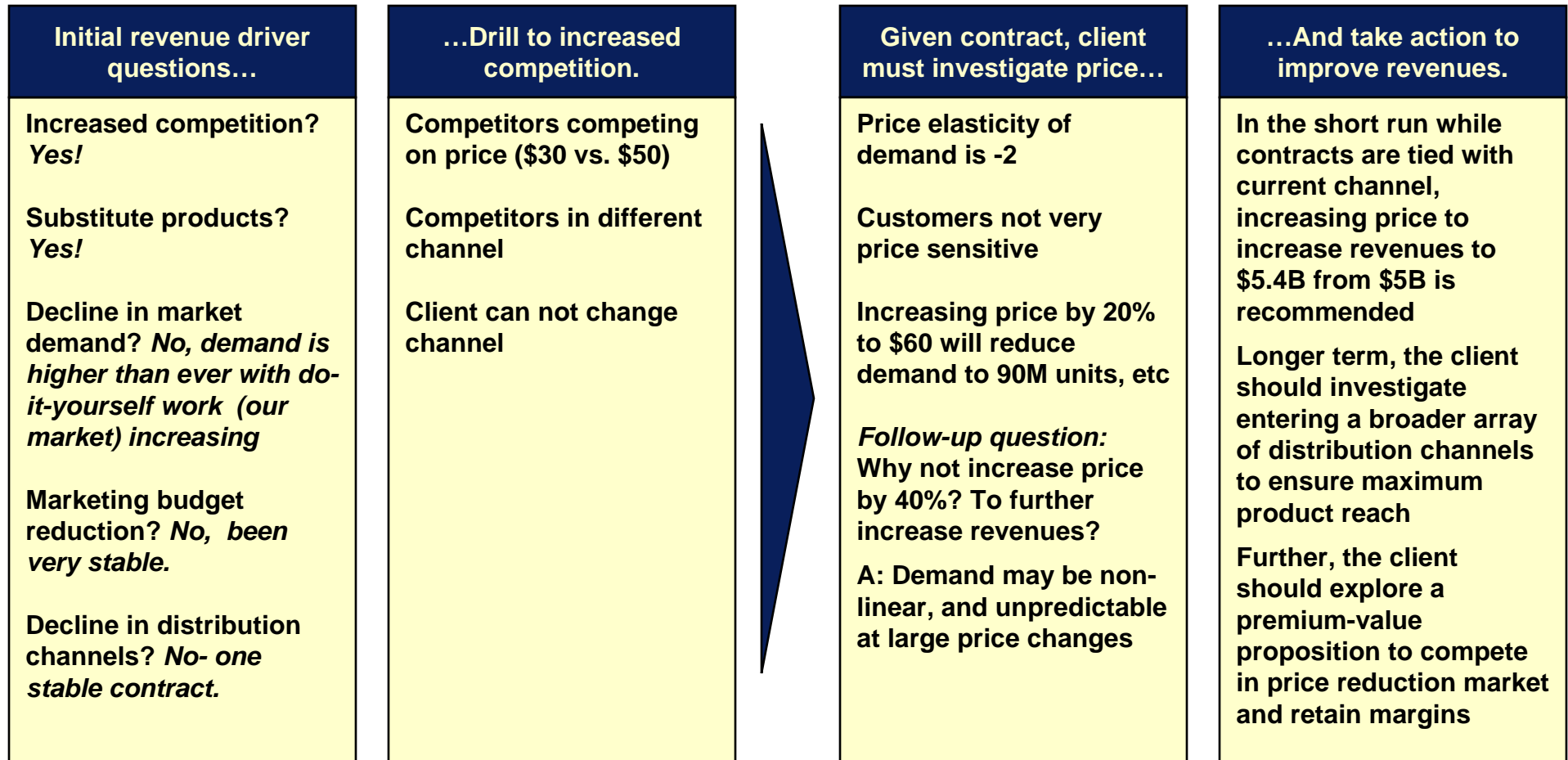
What is driving the decline, and what can you recommend as a solution?

#### Guidance for interviewer and information provided upon request

- *Only provide additional information after being specifically asked by candidate.*
- Price: \$50, constant over time
- Current volume: 100M units/yr
- Channel: Hardware retailer- can not break contract
- Price elasticity of demand: -2 (20% reduction in price will raise demand 10% & visa versa)
- Several new competitors in past 2 years
  - Selling similar product for \$30
  - Channel: Discount retailers (Wal-Mart, Target)

## Case 4: Multi-Purpose Tool (II of II)

### The Boston Consulting Group, Round I



## Case 5: United States Healthcare (I of II)

### McKinsey & Company, Round II

#### Problem Statement Narrative

I have just had a discussion with Rick Wagoner, GM's CEO, about GM's skyrocketing health care costs. GM pays for the health care of about 1.1M families, which equates to about \$8-9B or \$1500 per car sold. From there, he began discussing the healthcare problem on a national level.

The US spends 15% of its GDP on health care while Japan spends 7-8% and Germany spends 10%. However, he says there is no evidence that health care is better in the US: average life expectancy is actually decreasing and 45M people are uninsured.

He wanted me to explore possible causes and solutions for the increasing cost trend with decreasing effectiveness/quality. He made a point of saying he didn't want to discuss politics, and shied away from fancy frameworks in our discussion

Might you help me think about what to tell him?

#### Guidance for interviewer and information provided upon request

- *There is no additional information to provide. The purpose of this case is to test poise and pressured thought. If the candidate makes an assertion, play 'devil's advocate' and try to get the candidate to reverse him or herself. Some examples may include:*
  - *Privatized vs. socialized medicine*
  - *Subsidized medicine development/sales vs. unsubsidized*
  - *Healthcare availability for all*
  - *Boutique hospitals vs. full service hospitals*
  - *Preventative vs. reactionary medicine*

## Case 5: United States Healthcare (II of II)

### McKinsey & Company, Round II

There are any number of responses to this open-ended case, therefore the interviewer is encouraged to allow the candidate to drive the case. Some common elements may include:

#### Supply

##### Higher drug costs in USA

The US is essentially subsidizing word drug consumption by paying higher prices. US expenditure pays for the majority of R&D and risk-premium costs for the pharma industry. Possible solutions are to persuade drug companies to charge the same prices everywhere, or threaten re-importation. *Discuss long-term implications on R&D and curing diseases.*

##### Emerging modular Care

There is a growing trend of wealthy citizens seeking out specialized care from private centers with providers accommodating by opening specialized clinics that only offer high-margin procedures (heart surgery), but are not burdened by low margin, but necessary, ER's, etc. This takes needed funds out of full-service facilities. *Discuss regulations or risks.*

##### Profit motive

Healthcare providers need to make lots of money. They have invested in careers, R&D, capital, etc, and need a return. This creates a motive of wanting to MANAGE disease rather than CURE disease to maximize return. All healthcare players make more money from a longer-term cash flow than onetime treatment. *Discuss socialization vs. current model.*

#### Demand

##### No proactive pre-symptom care

Nutritional planning, exercise, no-smoking, etc. are much cheaper to promote rather than having to deal with complications (heart disease, diabetes) down the line. Possible solution: government (or employer) sponsored programs promoting prevention activities. *Discuss healthcare incentive to do this... where is the financial return?*

##### Doctors' ability to induce demand

If a large number of doctors choose to live in a particular area (a large city, for instance), and there are not enough patients to sustain a normal practice, the doctors could order additional (and possibly unnecessary) tests to generate additional revenue. Possible solution: fees per patient rather than fees per service performed. *Challenge on practicality*

##### Lack of health care for lower class

The US treats every patient in the ER regardless of insurance. However, it is much more expensive to handle something in the ER rather than when the problem first occurs (regular doctor visits, etc) Possible solution: Provide adequate health care for lower class before problems become emergencies. *Possible free-rider and socialization discussions*

## **Case 6: Software Product (I of IV)**

### **The Boston Consulting Group, Mock Interview**

#### **Problem statement narrative**

**Your client is a software maker that has one product.**

**The CEO would like to know whether the company should offer multiple products instead of one.**

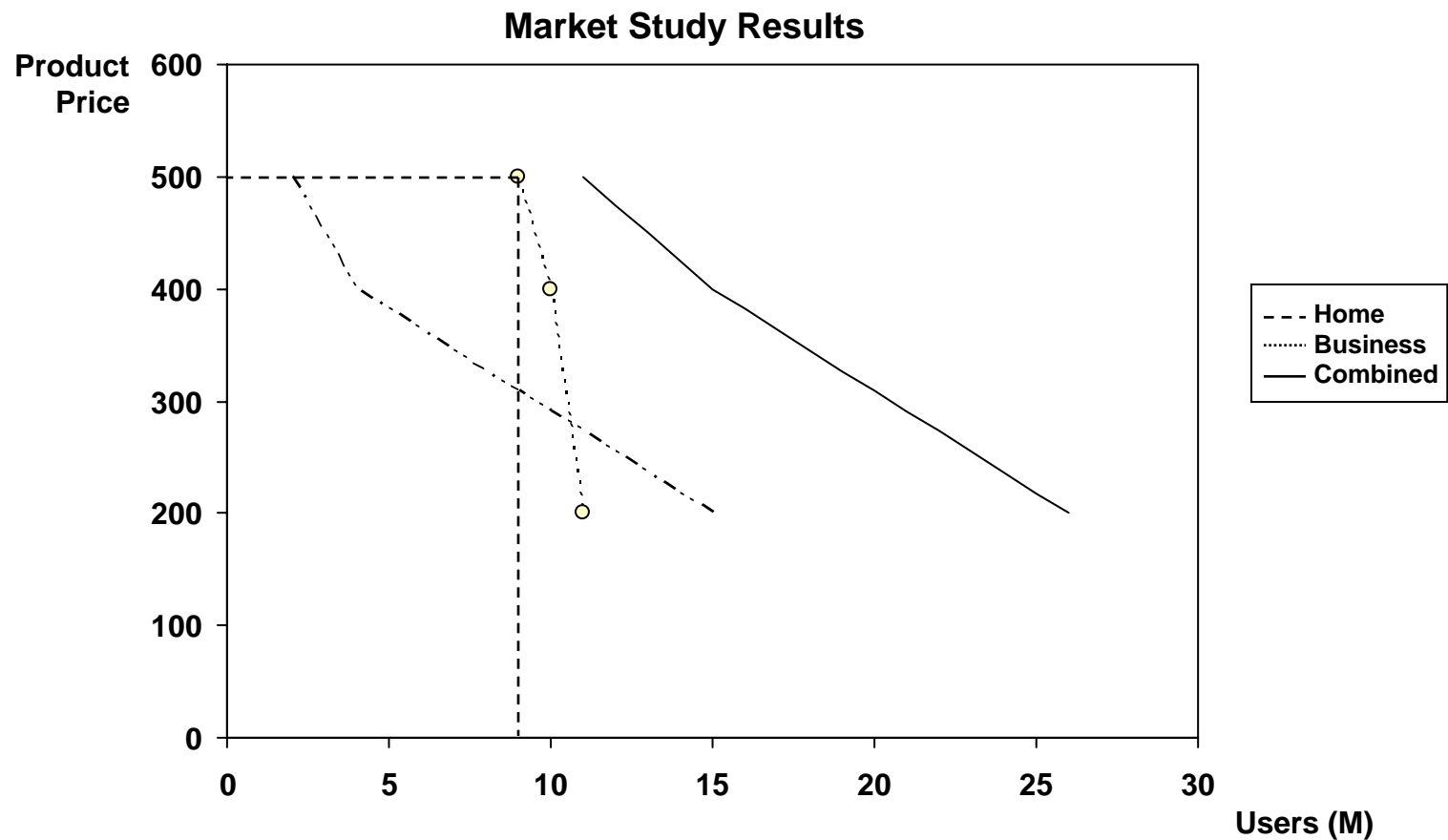
#### **Information provided upon request<sup>(1)</sup>**

- **Client goal: grow revenues**
- **Product: Document authoring software (MS Word, etc)**
- **Possible product segmentation considered: business vs. home products**
- **Company recently completed market study: *see next page for results***
- **Currently only offer product to business market (business curve on chart)**

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 6: Software Product (II of IV)

### The Boston Consulting Group, Mock Interview



Price	Business	Home	Combined
200	11 M	15 M	26 M
400	10 M	5 M	15 M
500	9 M	2 M	11 M

## Case 6: Software Product (III of IV)

### The Boston Consulting Group, Mock Interview

Use this slide as 'interviewer's guide' after providing graph to candidate

#### Additional questions for candidate

- If we are currently selling to businesses for \$500, what is our total revenue?
- If we segment our demand and sell separate products to separate markets, what do our revenues look like?
- Is there anything else to think about?

#### Solution guide

- $9\text{M units} \times \$500 = \$4.5\text{B revenues}$

Price	Home	Business	Combined
200	$200 \times 15\text{M} = \$3\text{B}$	$200 \times 11\text{M} = \$2.2\text{B}$	\$5.2B
400	\$2B	\$4B	\$6B
500	\$1B	\$4.5B	\$5.5B

- Segmentation shows the revenue max price is \$400 (w/ revenue of \$6B) if price discrimination is impossible
- If price discrimination is possible, charge \$500 to business, and \$200 to home users

## **Case 6: Software Product (IV of IV)**

### **The Boston Consulting Group, Mock Interview**

#### **Incremental Costs**

- The candidate may discuss elements needed to create two versions of the product- these may include:
  - Programming
  - Testing/ QA
  - Packaging
  - Sales/marketing
  - Distribution
- The interview can go in this direction, asking the candidate to outline a viable cost structure per segment

#### **Product Differentiation/ Cannibalization**

- Little/no ability to create different products for different markets could lead to price-led cross-segment product cannibalization
- Creating switching barriers would allow company to differentiate between product lines without concern for cannibalization

#### **Licensing**

- Related to the product/market differentiation issue, the firm could gain incremental revenue by either:
  - Establishing separate product sales/licensing costs for business/ home users (\$200 for 1-3 licenses, and \$550 for additional, etc)
  - Approaching other vendors for bundling deals to attach product with other products

#### **Complimentary Products**

- Rather than separating current product into two separate products-
- Client could offer a series of complimentary products to their core product, adding incremental revenue and segmenting their customers based on how many additional features they wanted (i.e.: adding interrelated programs at a price)



## **Case 7: Frozen Dough (I of II)**

### **A.T. Kearney, Round I**

#### **Problem statement narrative**

**Your client is a Consumer Packaged Goods company. More specifically, they produce frozen dough for uses in making bread loaves, pizza crusts, cookies, bagels, etc. This is a family-owned company with \$2 billion in annual sales with two primary distribution channels.**

**You have been hired to assess a problem the company is experiencing with spoilage. The client is experiencing a significantly higher spoilage rate than that of competitors.**

**Competitors' spoilage rates average about 2.5%, however, the client's rate last year was 10%. They succeeded in reducing the spoilage rate to 7.5% by implementing a strict First-In-First-Out inventory management system at its warehouses and by instituting a program that carefully tracks the number of days left in the shelf life of the dough and once it gets close the inventory is donated to a charity for a tax break.**

**Despite all the effort, they are still significantly higher than competitors. What can be done to further reduce the spoilage rate?**

#### **Information provided upon request**

- **Distribution Channels:**
  - Wholesale restaurant suppliers
  - Supermarket chain bakeries
- **Dough is not branded- no customer differentiation**
- **Shelf life is 180 days, with customers requiring 60 days**
- **Very similar recipes across industry**
  - High recipe switching costs
- **Spoilage occurring at client distribution centers, not customer locations**

## Case 7: Frozen Dough (II of II)

### A.T. Kearney, Round I

**Candidate should want to investigate along value chain for weaknesses/ benchmark differences**

	Demand Forecasting	Purchasing/ Materials sourcing	Manufacturing	Sales & Distribution	Customers
Indications (only provide to candidate upon request)	Rather old forecasting tool has tended to generate overly cautious production numbers, but does not account for all spoilage cost	Materials come from similar vendors as all other manufacturers  Materials do not spoil, spoilage only occurs after product has been manufactured	Old production equipment  Foreman told us in interview that he tends to hedge against forecasting by overproducing- it is a pain to retool the machines all the time	3 Distribution centers (DCs): West, Midwest, East  US sales only  Will sell dough for any use- regardless of sales volume  Some products have very low customer-turn	Same customers as competitors
Potential recommended actions	Improve forecasting tool to better reflect demand		Long term: invest in updated machinery with expedited retooling times	Customer-level SKU rationalization, eliminating low-volume SKUs	

**Overall Recommendation: Overproduction and low volume SKUs are leading to spoilage, improving forecasting and equipment while rationalizing SKUs will dramatically improve situation**

## **Case 8: Fertilizer Innovation (I of II)**

### **McKinsey & Company, Quick on Your Feet**

#### **Problem statement narrative**

Your client is an agricultural products manufacturer. They invented a product called “Green Nutrient”. This is going to help the farmers by allowing a variable fertilizer rate.

The company is interested in a pricing strategy and go-to-market options.

#### **Guidance for interviewer and information provided upon request**

- “Green Nutrient” measures the amount of fertilizer required, allowing for a “variable fertilizer rate”
- Two main benefits: Reduces overuse (reduce costs) and increase under-use (increase yield)
- Benefit #1: 20% reduction in fertilizer cost per acre
  - 1 bag / acre @\$15/ bag
- Benefit #2: Improve yield 2%
  - Current average yield: 100 bundles/ acre @\$ 2.5/ bu
- No competition
- Farms average about 400 acres
  - 1000 Large farms: 1000 acres
  - 3000 Medium farms: 400 acres
  - 6000 Small farms: 200 acres
- Currently an acre yields about \$100 worth of crop
  - Yield with product would grow to ~\$108/ acre
- Product lasts 10 years
- Product production cost: \$10K
- Discount rate: 0%

## Case 8: Fertilizer Innovation (II of II)

### McKinsey & Company, Quick on Your Feet

#### Requisite Math

**\$3.00 fertilizer savings per acre ( $0.30 * \$15$ )**

**\$5.00 yield increase ( $\$2.5 * 100 * 0.02$ )**

**WTP per acre: \$8.00 or \$3.2K per average farm per year**

#### Second-Best Answers

1. **Large: If we price the product at \$80k we sell 1000 profit \$70M**
2. **Large & Medium: If we price the product at \$32k we sell 4000; profit \$88M – BEST OPTION**
3. **All farms: If we price the product at \$16k we sell 1000 profit \$60M**

#### First-Best Answers

1. **Skimming: start by pricing at \$80k and then \$32k and then \$16k;**
2. **Offer a service to the farms at up to \$8/acre that will achieve a price discrimination based on acreage.**

## **Case 9: School Buses (I of II)**

### **A.T. Kearney, Round I**

#### **Problem statement narrative**

**Your client is a school bus manufacturing company that has just been purchased by a leading truck manufacturing company.**

**The CEO of the truck company has asked the president of the newly acquired school bus company to improve his organization's profits. The president of the school bus company has asked us to help determine what areas will provide the best results.**

#### **Guidance for interviewer and information provided upon request<sup>(1)</sup>**

##### ***Information to provide upon request***

- **Company is open to any and all ideas**
- **Bus market is growing with population**
- **Customers: Schools, counties, local governments**
- **3 players (including client) with 33% share each**
- **Prices have been historically high given concentrated market, not likely to change**
- **1 plant in 'renaissance zone' with low taxes**
- **All production equipment fully depreciated**
- **Comparatively low labor costs**
- **Material costs are high but comparable with others**
- **One competitor struggling financially, one unknown**

##### ***Tips for interviewer***

- **This is not a numbers case- pay attention to how candidate frames problem and tackles solutions**
- **Take liberty with story, allowing candidate to drive direction and pace; fill in details as you see appropriate**

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 9: School Buses (II of II)

### A.T. Kearney, Round I

#### Improving internal operations

<b>Offshore/ Near-shore</b>	<p>High domestic raw material costs raise the question: can we do better elsewhere?</p> <p>Sourcing parts globally may reduce raw material costs and increase profitability</p>
<b>Compete on Price</b>	<p>This is a dangerous ploy. Leveraging low cost labor and low tax production may lead to increased short term sales (and potentially higher profits)</p> <p>However if a competitor is able to follow, customers may see all benefit and there is no going back if it is a mistake</p>
<b>Seek new markets</b>	<p>Our low cost of production position may lend to a favorable position in a complementary industry. Luxury, and other custom bus production requires high labor element, where we have advantage. Further, higher margins make for attractive target</p>

#### Exploring synergies with new parent company

<b>Sourcing</b>	<p>If trucks and buses purchase parts from similar original equipment manufacturers (OEMs), then consolidating purchasing operations may add buyer power and eliminate purchasing duplication</p>
<b>Modularity</b>	<p>Buses and trucks are built on similar platforms. Scale may exist in R&amp;D for any new products as well as stocking duplicative components, when eliminated would reduce inventory and handling costs</p>
<b>Act as supplier</b>	<p>If the bus plant is not operating at full capacity, it may take advantage of tax situation and low labor to cheaply supply parts to truck company</p>
<b>Co-leverage sales &amp; distribution</b>	<p>Selling buses to those who purchase trucks and visa versa adds to the potential client list of both companies, potentially allowing for steal-share growth in a stagnant industry</p>
<b>Bundling</b>	<p>How many other bus manufacturers can offer bundled goods to governments and schools requiring trucks as well? By bundling pricing, the group can become a central supplier for transportation equipment</p>

## Case 10: Pharmaceutical Distribution (I of II)

### A.T. Kearney, Round I

#### Background information to read to candidate

Your client is a large pharmaceutical distributor in a market primarily consisting of three main players. The three firms have a combined market share of 96%. The client has been growing via acquisitions, and it operates in four business segments which are all operated independently:

Drug Distribution is the core business representing 85% of sales. Our client buys drugs from pharmaceutical firms and distributes them to hospitals, etc. They typically buy and sell both brand name and generic drugs, and this area has historically low margins.

Manufacturing and distribution of medical products, includes instruments, ER kits, supplies, etc.

Pharmacy Services is the “other” category comprised mostly of acquisition targets with no other logical home. Services include temporary staffing and owning and operating retail pharmacies.

The drug vending machines segment supplies machines to hospitals that distribute high frequency drugs to aide nurse productivity.

<CONTINUED IN NEXT BOX>

#### Questions to ask candidate after providing background information

The client has a long history of profits, but for the past four quarters, profits, the company's stock and employee morale have all been down.

The CEO has called you in to provide an assessment of how to improve profits.

How would you approach this meeting?

What areas would you look at to improve profits?

*Interviewer Note:*

*This is a structuring and thought case- a solid performance would establish how the divisional structure's silos can be eradicated for tremendous cost savings*

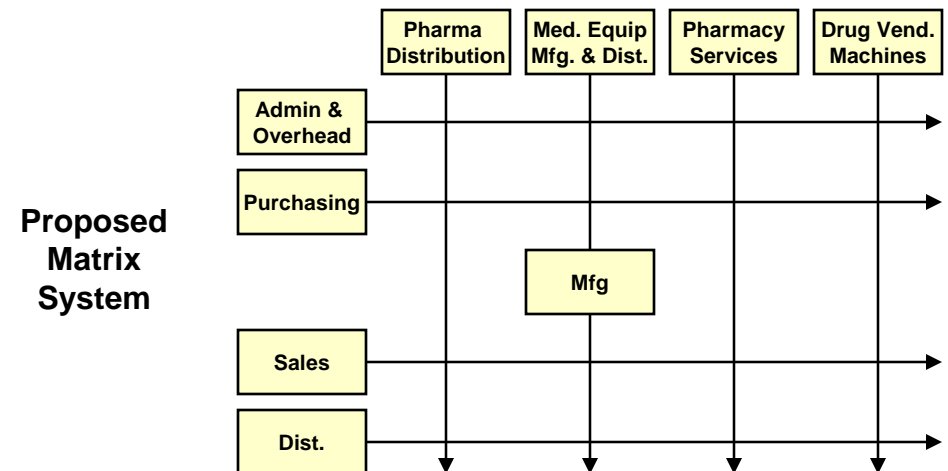
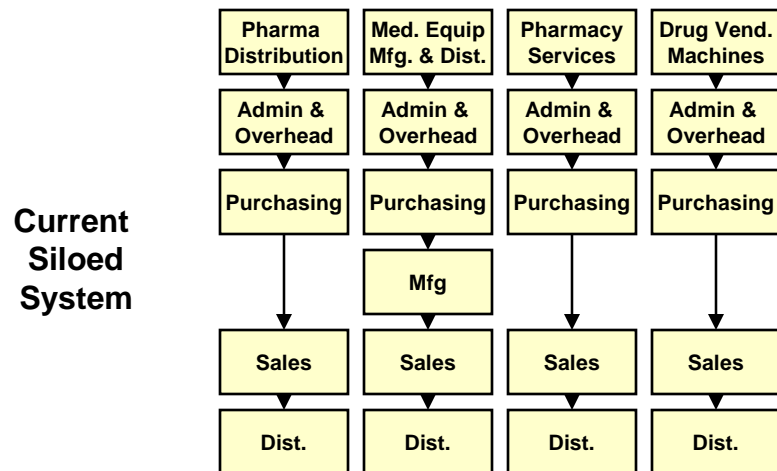
*Allow candidate to walk through profitability framework, but guide the discussion toward reducing costs among business units*

*Ask candidate (if not already doing so) to outline what they would imagine the primary corporate-level cost buckets to be)*

## Case 10: Pharmaceutical Distribution (II of II)

### A.T. Kearney, Round I

	Admin. / Overhead	Purchasing	Manufacturing	Sales	Distribution
Interviewer guidance for each area (do not read verbatim)	Separately run between divisions, but not very scalable	Scale appears to exist in maintenance, repair and operations purchasing	Only one division- medical products - uses manufacturing and it is not a core competence, perhaps outsourcing?	Run as separate organizations between divisions, selling to the same clients- large benefit in combining	Run as separate facilities across country for each division, all running at about 50% capacity
Possible candidate recommendation	This client exhibits the textbook case for 'de-silo-ing' and creating a matrix organization. By operating under consolidated cross-division groups, the organization will be able to run with a much more efficient cost structure and leverage its cross-divisional strengths to increase revenues				





## Case 11: Tissue Paper (I of II)

### A.T. Kearney, Round II

#### Problem statement narrative

Your client is manufacturer of tissue paper. This includes facial tissue, napkins and toilette paper. The client has a consumer business and a commercial business.

The CEO of the firm is facing pressure to improve the firm's profitability. To improve profitability, the CEO is considering increasing the average price on commercial products by 10% and wants to know whether he should do it.

You have two weeks to conduct the assessment.

#### Guidance for interviewer and information provided upon request

- *Only provide each piece of information after being asked for it specifically by the candidate*
- An assessment of historical price vs. quantity data showed that the price elasticity of demand for the product is -2
- Piloting the price change is not possible given timeframe
- Product Price: \$100/ton
- Product sales volume: 1000 tons
- Fixed Costs: \$20K
- Variable Costs: \$70/ton
- Current market share: 40%
- 3 players control 90% of market

## Case 11: Tissue Paper (II of II)

### A.T. Kearney, Round II

Base profit scenario	10% price increase profit scenario
<b>Revenue</b> \$100/ton x 1000 tons = \$100K	<b>Revenue</b> \$110/ton x 800 tons = \$88K
<b>Costs</b> <b>Fixed:</b> \$20K <b>Variable:</b> \$70/ton x 1000 tons = \$70K	<b>Costs</b> <b>Fixed:</b> \$20K <b>Variable:</b> \$70/ton x 800 tons = \$56K
<b>Profits</b> \$100K - \$70K - \$20K = \$10K profit	<b>Profits</b> \$88K - \$56K - \$20K = \$12K profit <i>Increases profits by 20%</i>

#### Areas candidate should be concerned about...

- **Competitors stealing share**
  - Industry is operating at capacity, and it would take a long time for competitors to add production ability to steal our market share
  - This is a long-term concern
- **Decrease in volume will lead to overall revenue reduction, however increased price offsets and leads to increased profits**

## **Case 12: Charcuterie Processor (I of III)**

### **A.T. Kearney, Round I**

#### **Problem statement narrative**

**Our client is a consumer goods company. We are consulting to the food division.**

**They sell processed pork products like sausages. The product is a retail branded product available in retailers such as Kroger.**

**The client's profitability has been declining. They would like to know why has this been happening and what your recommendation for correcting the situation is.**

#### **Guidance for interviewer and information provided upon request<sup>(1)</sup>**

##### ***Information to provide upon request***

- **The client's value chain is available on the next page as a handout to the candidate**
- **The market is mature and stable**
- **Market Share:**
  - **Client: 30%; major competitor: 30%; new entrants (primarily forward integrating packers and growers): 40%**
- **Packers process hogs – only 8% of material applicable to our market**
- **Costs: 50% material (rising) / 50% other (stable)**
- **New entrants approaching retail with very low prices**
- **Client revenues are down with stable prices, can not currently compete on price**

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 12: Charcuterie Processor (II of III)

### A.T. Kearney, Round I

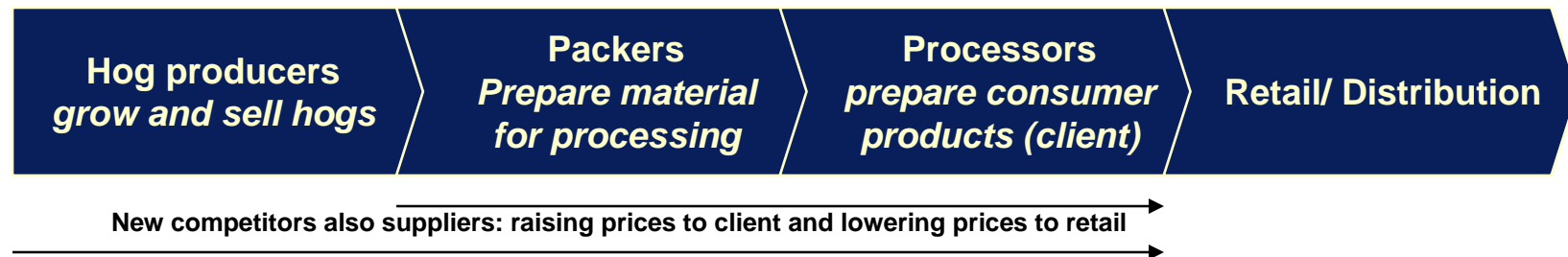
#### Client Value Chain



## Case 12: Charcuterie Processor (III of III)

### A.T. Kearney, Round I

#### Client Value Chain: What the candidate may see



#### Areas the candidate may chose to focus for solutions

Backward-integrating	<ul style="list-style-type: none"> <li>The client may choose to backward integrate to Packing and/or Producing in order to beat the packers at their own game</li> <li><b>SOLUTION:</b> This does not make strategic sense, as sausage material is only ~8% of the packing business</li> </ul>
Partnering	<ul style="list-style-type: none"> <li>The client may choose to approach packers who have not yet forward-integrated into processing and establish exclusive purchasing deals</li> <li><b>SOLUTION:</b> Two major packers have not yet forward integrated, and would likely be very interested in a deal</li> </ul>
Acquiring	<ul style="list-style-type: none"> <li>By consolidating the sausage manufacturing business, the client would have increased buyer power over suppliers and would be better positioned to combat rising material prices</li> <li><b>SOLUTION:</b> If the packers do not lower material prices, they will still steal all price-conscious customers</li> </ul>
Branding	<ul style="list-style-type: none"> <li>Position the client product as a premium brand. A long history of production and 'secret spices' may convince customers that value may not be something you are looking for in a sausage</li> <li><b>SOLUTION:</b> This would effectively segment the market by premium/value- addressing profitability via higher margins</li> </ul>

## Case 13: Music Retailer Loyalty (I of II)

### DiamondCluster, Round I

#### Problem Statement Narrative

Your client is a music retailer that has grown through acquisitions, acquiring 45 retailers in the past 5 years. They operate 750 stores nationally. They have already decreased costs through operational improvements, but the firm now has 15 brands, which has left customers confused, so the client is undergoing a re-branding effort.

They are concerned that they have no information on their customers, only sales data, and therefore cannot segment customers across product lines or genres.

The client wants to implement a loyalty program to identify and understand their customers. They want you help the figure out how to construct the loyalty plan. How would you develop the business case for this initiative, quantify the benefits, and determine the cost?

#### Guidance for interviewer and information provided upon request

- *This is a qualitative case covering a quantitative subject. Walk the candidate through HOW they would establish the program, not actually establishing it.*
- Products offered are media-specific:
  - CD's
  - DVD's
  - Posters
  - Accessories
  - All genres

## Case 13: Music Retailer Loyalty (II of II)

### DiamondCluster, Round I

Acquisition / Program Type		Revenue/ Efficacy Measurement	Cost Measurement
<b>Monetary</b>	Rewards such as free CDs or DVDs, or even cash, after a certain dollar value of purchases is reached	<b>Pilot Program</b> Conduct pilot in one region and compare it with another (this is what they actually did), essentially setting an experiment and control population using statistical analysis to compare the two populations.	<b>Startup Costs</b> <ul style="list-style-type: none"> <li>• Purchase: <ul style="list-style-type: none"> <li>• In-store equipment</li> <li>• Data mining software</li> <li>• Advertising</li> </ul> </li> </ul>
<b>Informational</b>	Provide 'members' with proprietary artist or concert information such as a fan club.		
<b>Promotional</b>	Provide customers with promotional material that the client receives for free from record labels, such as concert tickets, t-shirts, stickers, etc.	<b>Requirement for Deals</b> Have customers enroll in the program system-wide by only allowing members access to special reduced prices (similar to grocery stores).	<b>Continuing Operations</b> <ul style="list-style-type: none"> <li>•Major cost: <ul style="list-style-type: none"> <li>• Cost of incentives (CD's, etc)</li> </ul> </li> <li>•Other costs: <ul style="list-style-type: none"> <li>• Tracking &amp; upgrading system</li> <li>• Marketing &amp; segmentation analysis</li> </ul> </li> </ul>

## Case 14: Retailer Discounting (I of II)

### A.T. Kearney, Round II

#### Problem statement narrative

Our client is a retailer in New York State. They have 120 stores across the state and they are constantly competing with other retailers for customers. They are NOT a low-cost retailer in the state but on certain days they give out heavy discounts on their products to attract customers. They create brochures for weekly deep discounts and deliver them to their customers by inserting them in newspapers in the morning.

The client's competitors are also doing the same and the problem is that this scheme is not generating enough return on investment for our client as compared to competitors. How would you analyze the situation to see where the problem could be and how would you compare the execution strategy of offering these discounts of our client with that of their competitors?

#### Guidance for interviewer and information provided upon request

- *Only provide each piece of information after being asked for it specifically by the candidate*
- Campaigns are run on the same day as competitors
- Stores are as accessible (if not more so) than competitors
- Store product-mix is similar to competitors
- Our discounts are similar to those of our competitors (in price and product)
- We are using the same newspapers as our competitors



## **Case 14: Retailer Discounting (II of II)**

### **A.T. Kearney, Round II**

#### **Getting customers into stores**

- On what days are we running these discounts compared to our competitors? Friday vs. Saturday?
- What newspapers are we using to deliver the brochures? Which is best for our customers: Times or Post?
- What is the layout of brochures compared to competitors?
- How accessible are the stores compared to our competitors?

#### **Servicing customers once inside store**

- Service levels on sales days- are customer service representatives readily available?
- Is inventory adjusted in accordance with sale days?
- Back-end logistics: are prices updated in-store and in computer systems? (THIS WAS THE PRIMARY ISSUE- systems were not updated and customers were highly confused by discrepancy)
- Generating additional revenue from each customer on non-discounted products?

#### **Follow-up series of questions for candidate**

- How do we figure out which items to put on sale, and which to feature in newspaper inserts?
- How do we sell non-discounted products to people entering the store purely for discounted items?
- How can we better manage our inventory around these sales periods without overstocking or stocking out?

#### **Planning & Analysis**

- Used electronic communication along supply chain to alert suppliers to anticipated dramatic demand shift for supply & restocking (at appropriate levels)
- Use retro-active demand analysis to determine which sales are the most effective for gross revenue purposes

#### **Bundling**

- By discounting one product (such as hamburger meat) and selling buns, ketchup, mustard, relish, tablecloths, paper plates, etc at full price nearby would dramatically increase revenues
- The same could be true with salad dressing, dessert toppings, etc.

## Case 15: Book Retailer (I of II)

### Booz Allen Hamilton, Round I

#### Problem statement narrative

Your client is a book publisher who deals in fiction, and wants to increase profitability. Sales for the company are as follows (*read this chart to the candidate- watch for notes organization*):

Category	Profit/ Unit	Annual Volume
Small Sellers	(\$3) to \$2	<500K
Breakout Potential	\$10	500K – 1M
Bestsellers	\$5	>1M

The client wants to understand why profits look the way they do, and what it can do to improve profitability.

#### Guidance for interviewer and information provided upon request

- *Only provide each piece of information after being asked for it specifically by the candidate*
- Book prices are \$15 regardless of category or size
- No difference in fixed costs across categories
- Material costs are the same for all books
- Bigger authors require higher royalties than smaller authors
- Author is the primary driver to determine a 'best-seller'
- There are huge economies of scale in printing
- Small sellers are primarily distributed via independent bookstores, requiring higher per-unit distribution costs
- 80% of space dedicated to small & breakout sellers
- Can not currently determine which books will become breakouts

## **Case 15: Book Retailer (II of II)**

### **Booz Allen Hamilton, Round I**

#### **Candidate may propose action in...**

##### **Interviewer possible follow-up**

- **What risks do you see in doing this?**
  - **Product Mix:** slow sellers are required to get people to purchase bestsellers
  - **Demand forecasting:** Getting the breakouts wrong would be very costly
  - **Logistics:**
  - **Little downside**

##### **Product mix in stores**

It appears 80% of stores are geared toward sales of products with an expected profit of (\$0.50), perhaps reallocating this mix to be more favorable to bestsellers and break-out books would increase profits

##### **Demand forecasting**

- **Forecasting which books may become breakouts would allow for massive headway on competition and big profits**
- **Suggested model inputs:**
  - **Media mentions**
  - **Fads**
  - **Pre-orders**
  - **Tie-ins**
  - **Online sales**
  - **Author's previous sales**
  - **Subject matter compared to recent hits**

##### **Back-end logistics**

- **Tying forecasting with book orders could reduce 'multiple small order' costs for small sellers that become breakouts**
- **Moving to a tiered model, selling small sellers online or in lower-overhead establishments (see risks to left)**

**Possible derivative case: Conduct analysis from publisher viewpoint**

## Case 16: Sheep Auction (I of VI)

### Bain & Co., Round I

#### Problem statement narrative

Your client is looking at investing a significant amount of money to create an online auction company that facilitates sheep sales from producers to large customers.

They will only do this if they could make roughly \$10 M annual profit in 5 years, and they have enlisted your help in determining the go/no-go decision.

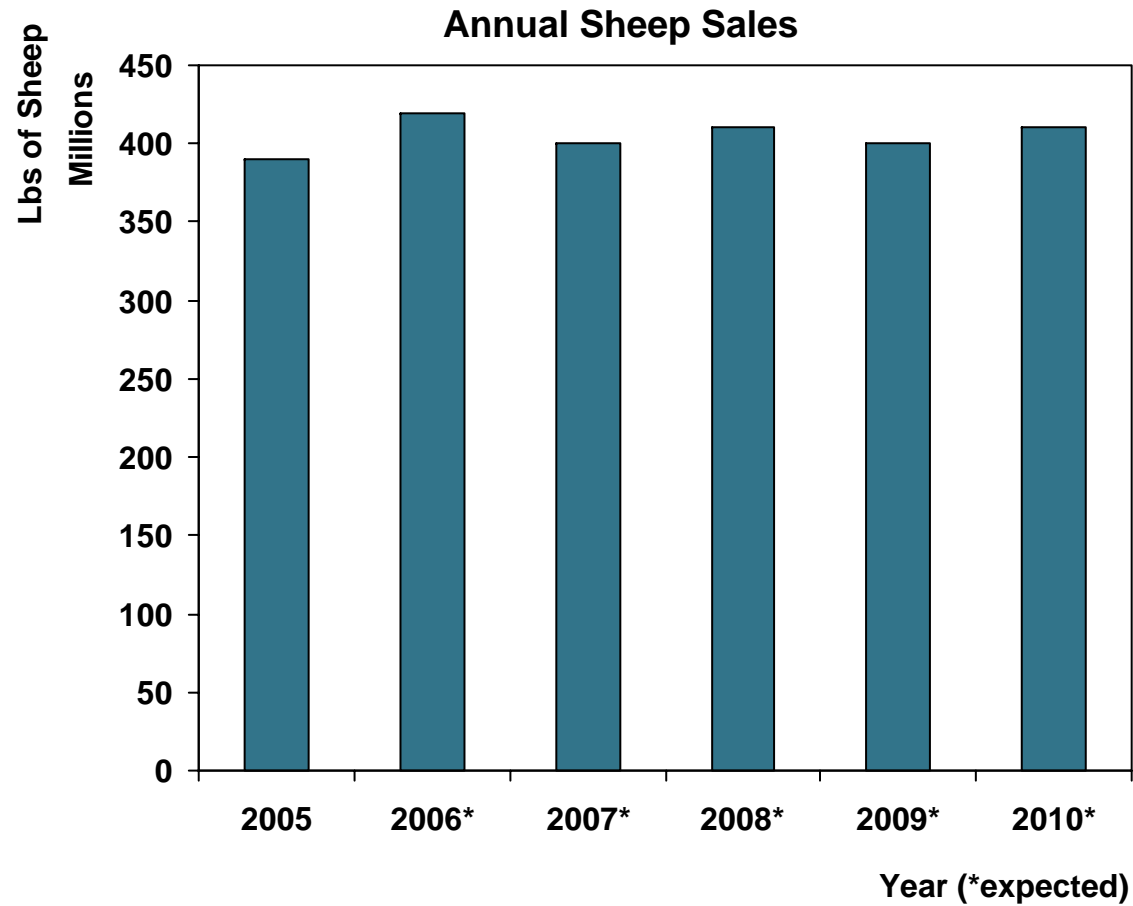
#### Guidance for interviewer and information provided upon request<sup>(1)</sup>

- *Only provide each support slide after being asked for the information by the candidate*
- **Slides:**
  - Overall market size (in lbs of sheep)
  - Sheep prices (in \$/lb)
  - Farmers (producers) who use computers
  - Sheep sold at auction vs. contract
- All large processors (buyers) use computers
- Sales via auction and contract will not migrate- there is no steal share between channels
- Follow up questions for candidate upon completion of the calculation (which should total far short of \$10M)
  - What would you do to achieve the \$10M level?
  - If launched, how would you market this product?

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 16: Sheep Auction (II of VI)

### Bain & Co., Round I

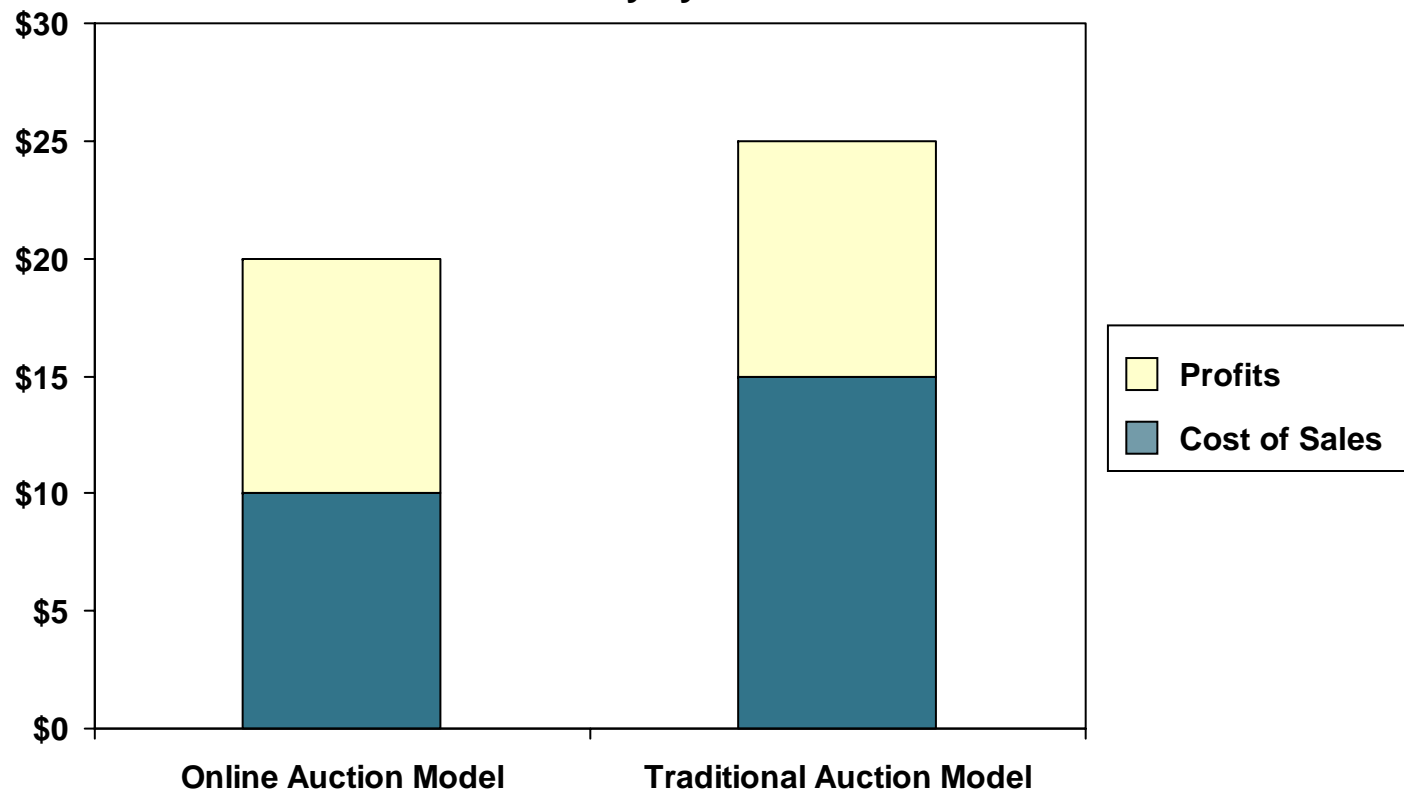


## Case 16: Sheep Auction (III of VI)

### Bain & Co., Round I

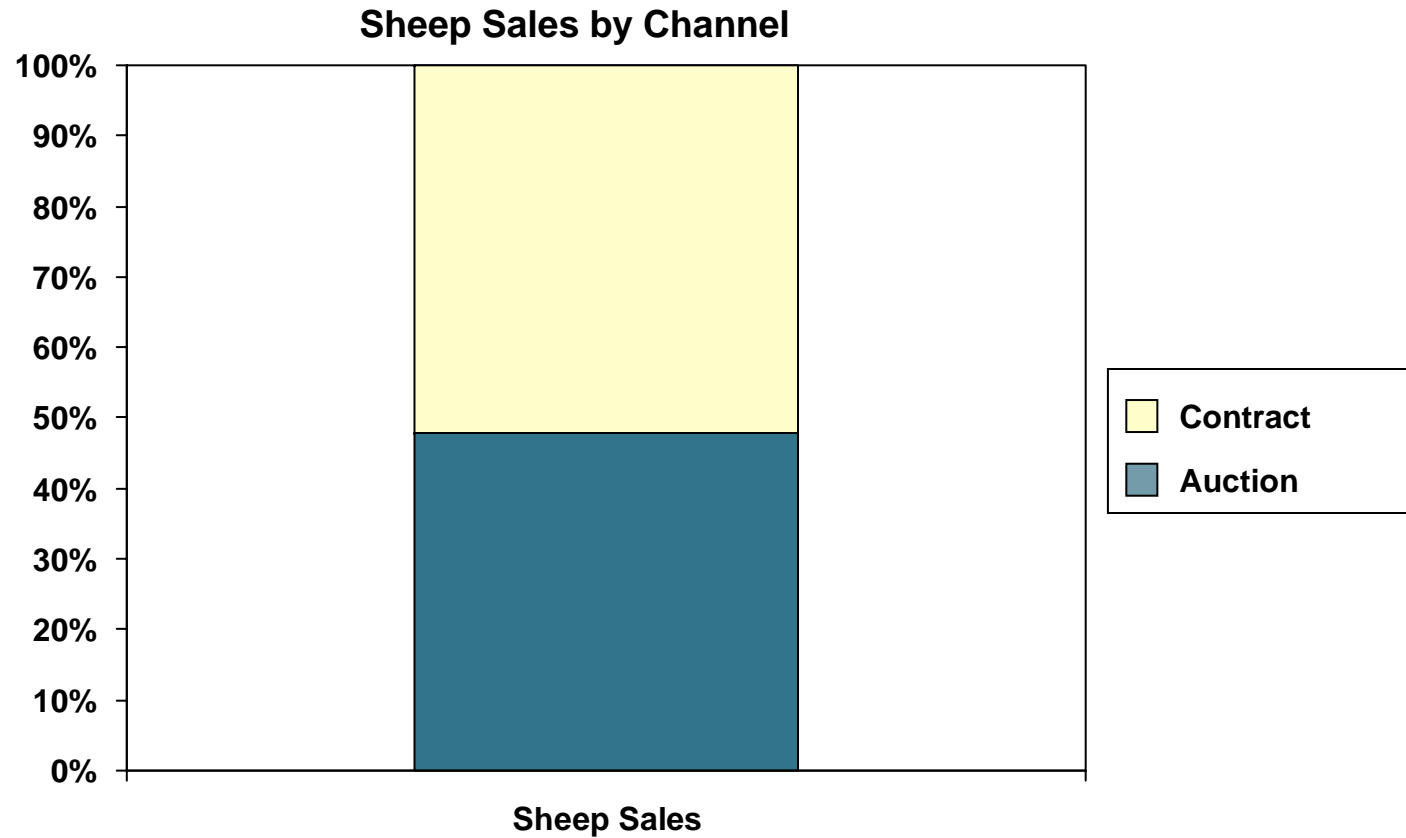
Sales Price/100lbs sheep

Auction Profitability by Channel

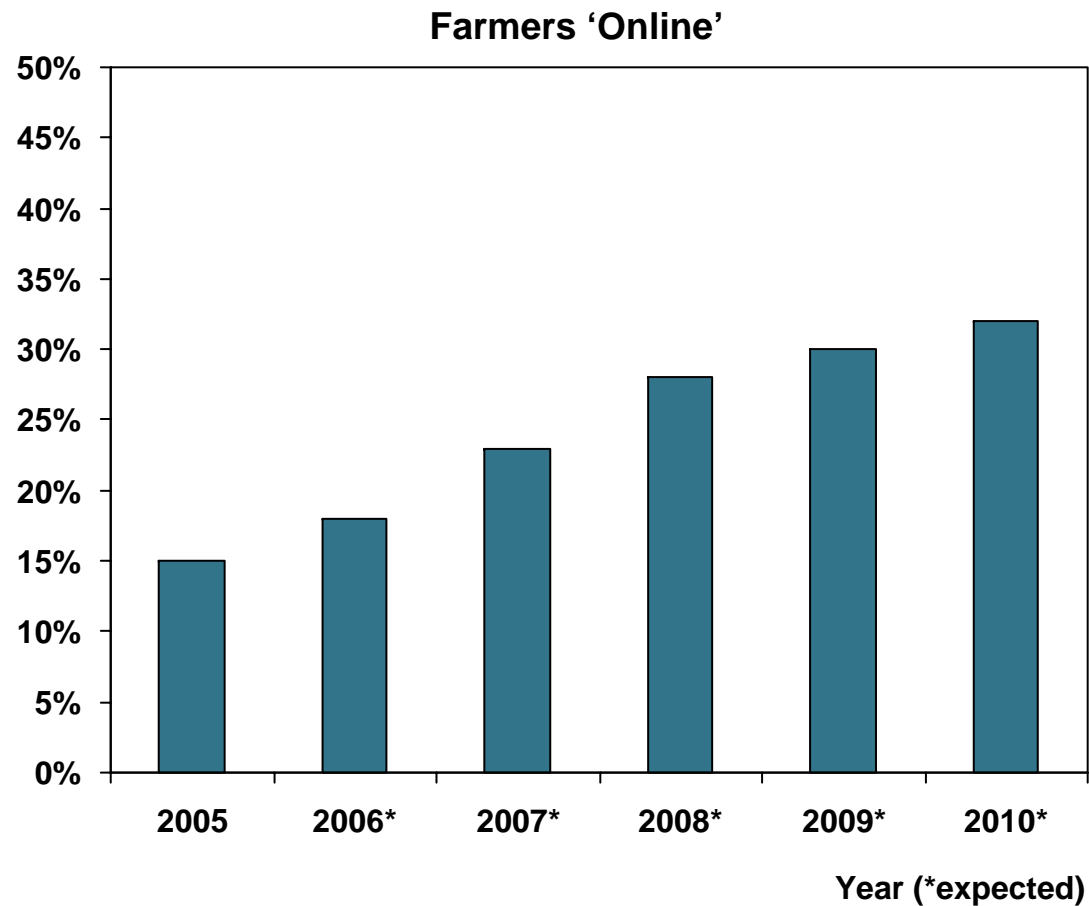


## Case 16: Sheep Auction (IV of VI)

### Bain & Co., Round I



## Case 16: Sheep Auction (V of VI) Bain & Co., Round I





## Case 16: Sheep Auction (VI of VI) Bain & Co., Round I

### Expected Calculation (Approximate)

***\*\*Use 2009 numbers to show 5-year 'maturity' and steady-state for profitability- this model assumes a 100% penetration- candidate should deduct that penetration is irrelevant given overall profitability\*\****

$$400\text{M lbs sheep} \times 50\% \text{ auctioned} \times 30\% \text{ 'online farmers'} \times \$10 \text{ per 100 lbs sold} = \$6.66\text{M Profit Less than \$10M}$$

### Time permitting follow-on questions...

- What would you do to reach the \$10M profit level from here?
- If this product were already launched, how would you choose to market it?

### ...And sample answers.

- Train farmers and sheep producers on computer use
- Provide central computer locations near farm sites to facilitate farmer interactions
- Expand the auction tool to other animals
- Trade magazine advertisements
- Door to door sales & training representatives
- Commissioned farmer representatives
- Relationships with sheep processors 'pull-driven'
- Value proposition: cost savings in moving heard to auction site: producers could pick heard up at farm

## Case 17: Security Systems (I of VI)

### Bain & Co., Round I

#### Problem statement narrative

Your client is a financial investor interested in investing in a start-up national security company

The security company sells and installs alarm systems and then provides monitoring service, patrolling the neighborhood and following up if the alarm goes off.

The client has hired you to size the market and recommend if this is a good investment or not.

#### Guidance for interviewer and information provided upon request<sup>(1)</sup>

- *Only provide each support slide after being asked for the information by the candidate*
- **Slides:**
  - Target company's current situation
  - Demographics and growth by income
  - Competitive landscape
  - Competitive estimated revenues and earnings
- 10M suburban households
- 1M new suburban households each year
- System is priced 'at-cost'
- 1-2 large local players per market
- Large local players are entering national market and competing with large national player

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 17: Security Systems (II of VI)

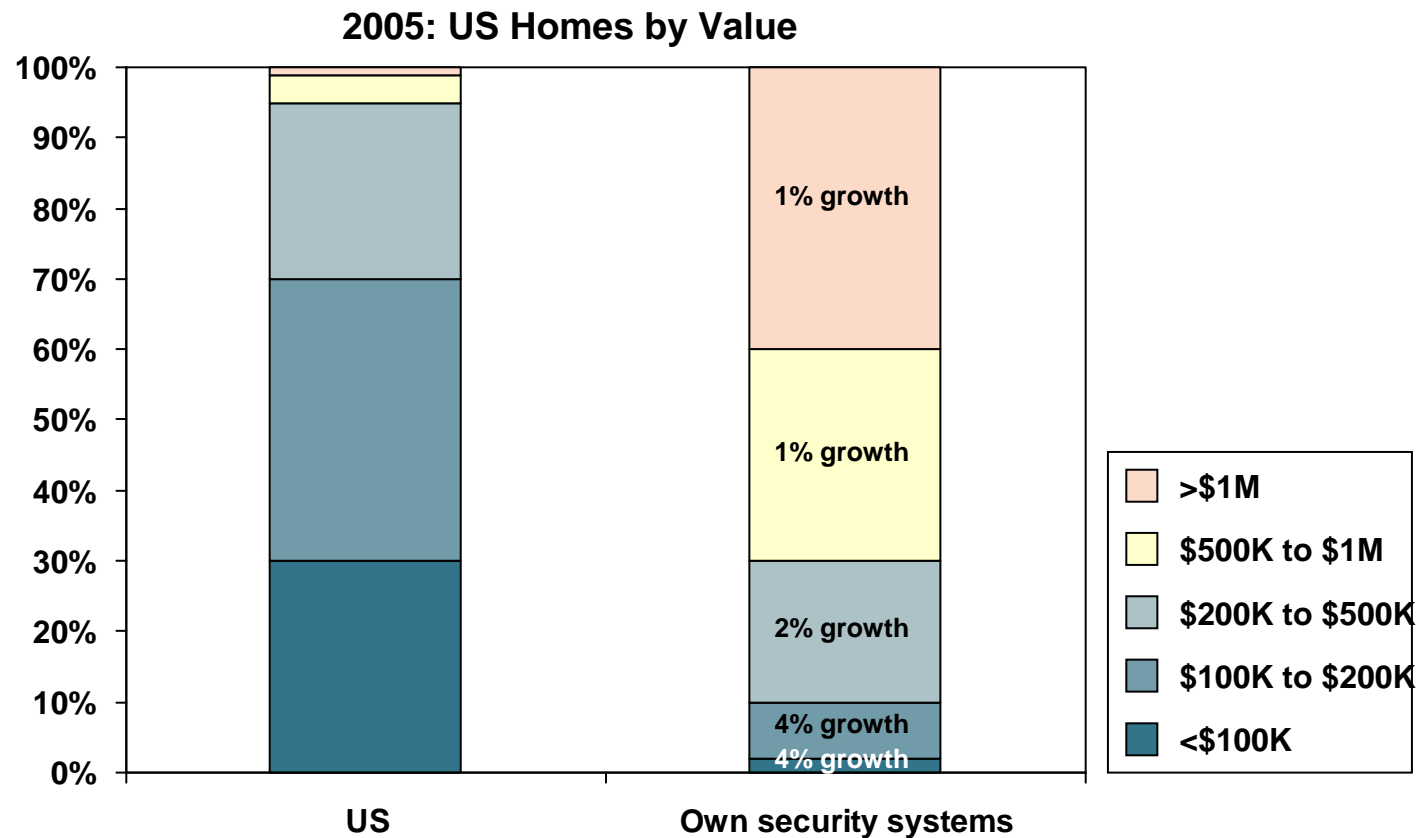
### Bain & Co., Round I

#### Client Market Situation

<b>Number of homes in market</b>	10 Million
<b>Home growth last year</b>	1 Million
<b>Competitors</b>	Largest national player appears to have financial difficulties
<b>System Price</b>	\$1,000 installed
<b>Service Price</b>	\$30 per month

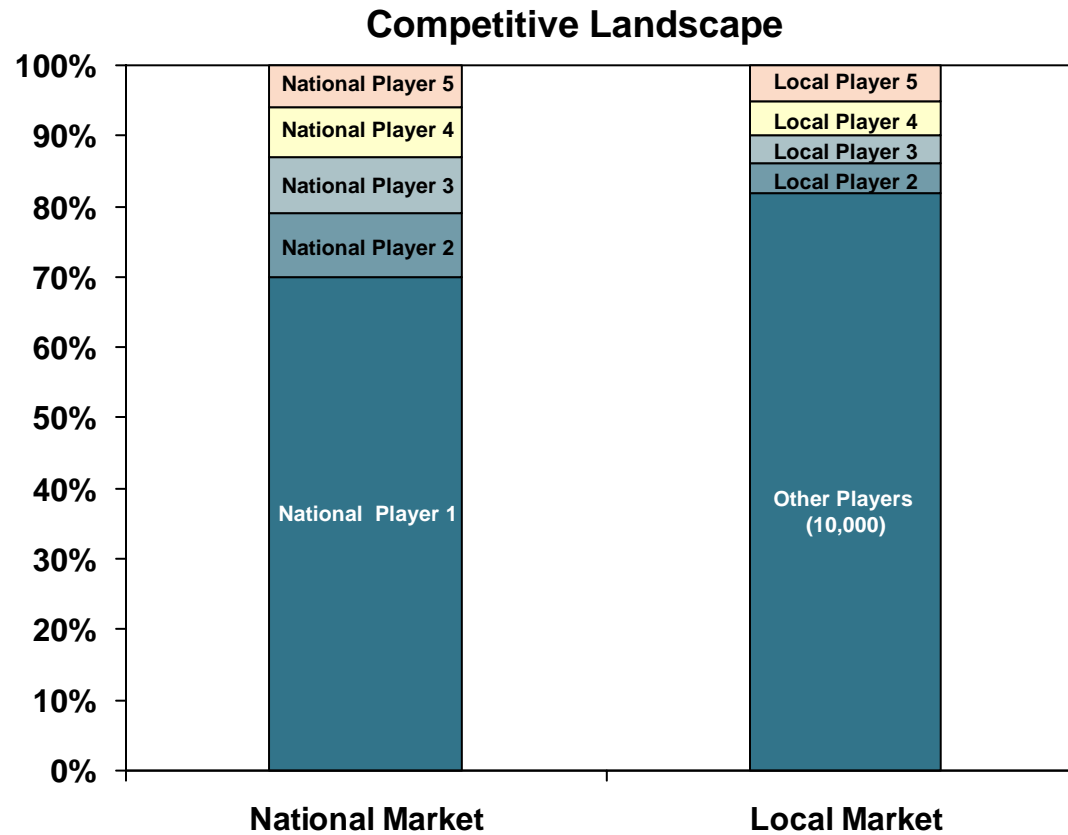
## Case 17: Security Systems (III of VI)

### Bain & Co., Round I



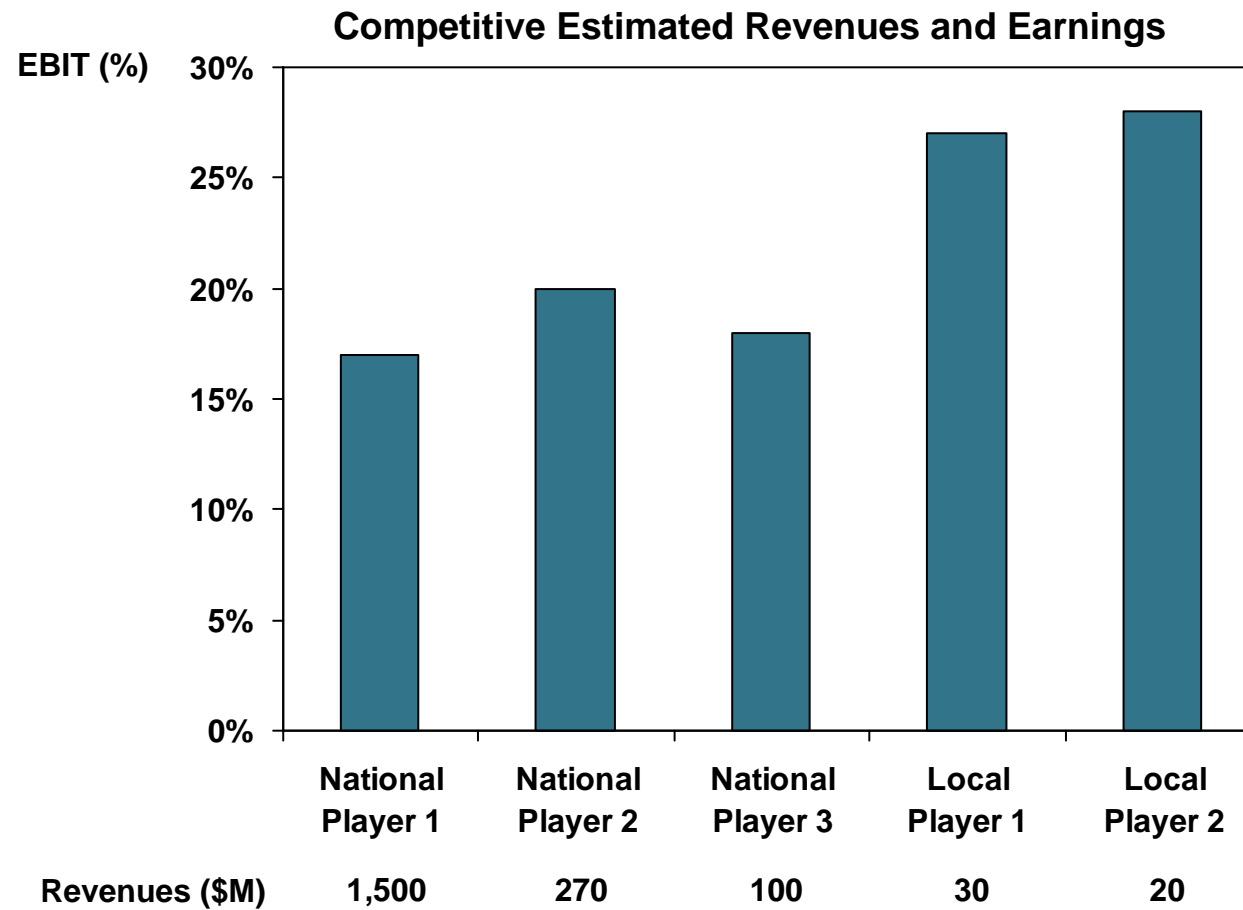
## Case 17: Security Systems (IV of VI)

### Bain & Co., Round I



## Case 17: Security Systems (V of VI)

### Bain & Co., Round I



## Case 17: Security Systems Company Market Entry (VI of VI)

### Bain & Co., Round I

<b>Market Sizing (Annual Revenue)</b>	$  \begin{array}{ccccccc}  \$1000 & \times & 1\text{M} & + & \$30/\text{mo} & \times & 12 & \times & 10\text{M} & = & \$4.6\text{B} \\  \text{System} & & \text{New Homes} & & \text{Service} & & \text{Months} & & \text{Existing Homes} & & \text{Annual Revenue}  \end{array}  $
<b>Market Growth</b>	<p>70% of alarm buying market is growing at 1% per year, with the overall alarm buying market growing at or less than population growth</p> <p>This makes market growth unattractive</p>
<b>Competition Reach</b>	<p>The national market is dominated by one player with several other strong players making entry very difficult</p> <p>The local market is highly fragmented with apparently 1-2 major players in each market, making entry in this space equally difficult with local de-facto monopolies</p>
<b>Competitive Environment</b>	<p>Large national players appear to be operating with rather low EBIT numbers – this may be due to spread out infrastructure and inefficient utilization of resources</p> <p>Smaller local players have stronger EBITs, however this leaves them in a strong position to compete, and entry will be difficult</p>

**Market does not appear to be attractive at this time**

## Case 18: Termite Control (I of V) The Boston Consulting Group, Round I

### Problem statement narrative

Your client is a termite control company that provides solutions for eliminating termites from homes. Their current solution involves setting up baiting systems (a similar concept to mouse traps) – the baiting system consists of stations that are set-up around the house to attract and kill termites.

A competitor has come up with a new solution that involves liquid sprays for killing termites. They have just started selling this treatment. How should the client respond?

### Guidance for interviewer and information provided upon request<sup>(1)</sup>

- *Only provide information and each support slide after being asked for the information by the candidate*
- Client has 20% share with 100K new installations/yr
- Some customers perceive spray as health risk – some new customers will switch, others won't (%'s unknown)
- Assume existing customers will not switch
- Client has capability to produce spray
- Systems are equally effective
- Slides for candidate to review:
  - Client and competitor pricing
  - Client and competitor cost structure
  - Customer retention rates

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)



## Case 18: Termite Control (II of V) The Boston Consulting Group, Round I

### Pricing By Channel

	Baiting System	Spray System
Initial Installation	\$1500	\$1000
Annual Renewal & Prevention	\$300	\$200

## Case 18: Termite Control (III of V) The Boston Consulting Group, Round I

### Fully-Loaded Cost By Channel

	Baiting System	Spray System
Initial Installation	\$1100	\$750
Annual Renewal & Prevention	\$250	\$100

## Case 18: Termite Control (IV of V)

### The Boston Consulting Group, Round I

#### Client Historical Retention Rates

*Percentage of customers in year 0 that renew their subscription in subsequent years*

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>	<u>Year 7</u>	<u>Year 8</u>	<u>Year 9</u>	<u>Year 10</u>
90%	80%	70%	60%	50%	40%	30%	20%	10%	0%

## Case 18: Termite Control (V of V) The Boston Consulting Group, Round I

Candidate should look at the profitability of each option...	<table><tr><td></td><td colspan="6">Baiting System</td><td colspan="4">Spray System</td></tr><tr><td>Initial Installation</td><td colspan="6">\$400</td><td colspan="4">\$250</td></tr><tr><td>Annual Renewal &amp; Prevention</td><td colspan="6">\$50</td><td colspan="4">\$100</td></tr></table>												Baiting System						Spray System				Initial Installation	\$400						\$250				Annual Renewal & Prevention	\$50						\$100																									
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Initial Installation	\$400						\$250																																																											
Annual Renewal & Prevention	\$50						\$100																																																											
... And realize declining expected annual renewals negate majority of profit differences.	<table><tr><td>Expected profit per customer:</td><td>Year 0</td><td>Year 1</td><td>Year 2</td><td>Year 3</td><td>Year 4</td><td>Year 5</td><td>Year 6</td><td>Year 7</td><td>Year 8</td><td>Year 9</td></tr><tr><td>Bait system profit</td><td>400</td><td>45</td><td>40</td><td>35</td><td>30</td><td>25</td><td>20</td><td>15</td><td>10</td><td>5</td></tr><tr><td>Spray system profit</td><td>250</td><td>90</td><td>80</td><td>70</td><td>60</td><td>50</td><td>40</td><td>30</td><td>20</td><td>10</td></tr><tr><td>Summed Baiting Profits</td><td>400</td><td>445</td><td>485</td><td>520</td><td>550</td><td>575</td><td>595</td><td>610</td><td>620</td><td>625</td></tr><tr><td>Summed Spray Profits</td><td>250</td><td>340</td><td>420</td><td>490</td><td>550</td><td>600</td><td>640</td><td>670</td><td>690</td><td>700</td></tr></table>											Expected profit per customer:	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Bait system profit	400	45	40	35	30	25	20	15	10	5	Spray system profit	250	90	80	70	60	50	40	30	20	10	Summed Baiting Profits	400	445	485	520	550	575	595	610	620	625	Summed Spray Profits	250	340	420	490	550	600	640	670	690	700
Expected profit per customer:	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9																																																								
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Summed Spray Profits	250	340	420	490	550	600	640	670	690	700																																																								
<div></div>																																																																		
Aggregating indications between systems...	<ul style="list-style-type: none"><li>Discounting would virtually eliminate profit difference between products (all spray profit over bait is 5 yrs out)</li><li>Incumbent client can leverage built-in fear for customers (toxicity) of new, cheaper, product</li><li>If there is a low/no startup cost for new product, there is little/no downside risk of entry</li></ul>																																																																	
...Allows for a concise client-tailored recommendation.	<p>Allowing the spray market to cannibalize baiting sales will lead to drawn out per-customer profit, and will increase profit-reliance on renewals.</p> <p>Given entrant and startup costs, client should equip fleet for spray application, but should advertise benefits of baiting over spray (time tested, safer for kids &amp; food, etc), along with ability to accommodate both applications such as: ‘Your full service termite eradication expert since 1925.’</p>																																																																	

## Case 19: Telecom Service Provider (I of II)

### The Boston Consulting Group, Round I

#### Problem statement narrative

Your client is a telecom service provider. They have 2 products – long distance and wireless. Their customers are businesses, and they use a sales force to sell products.

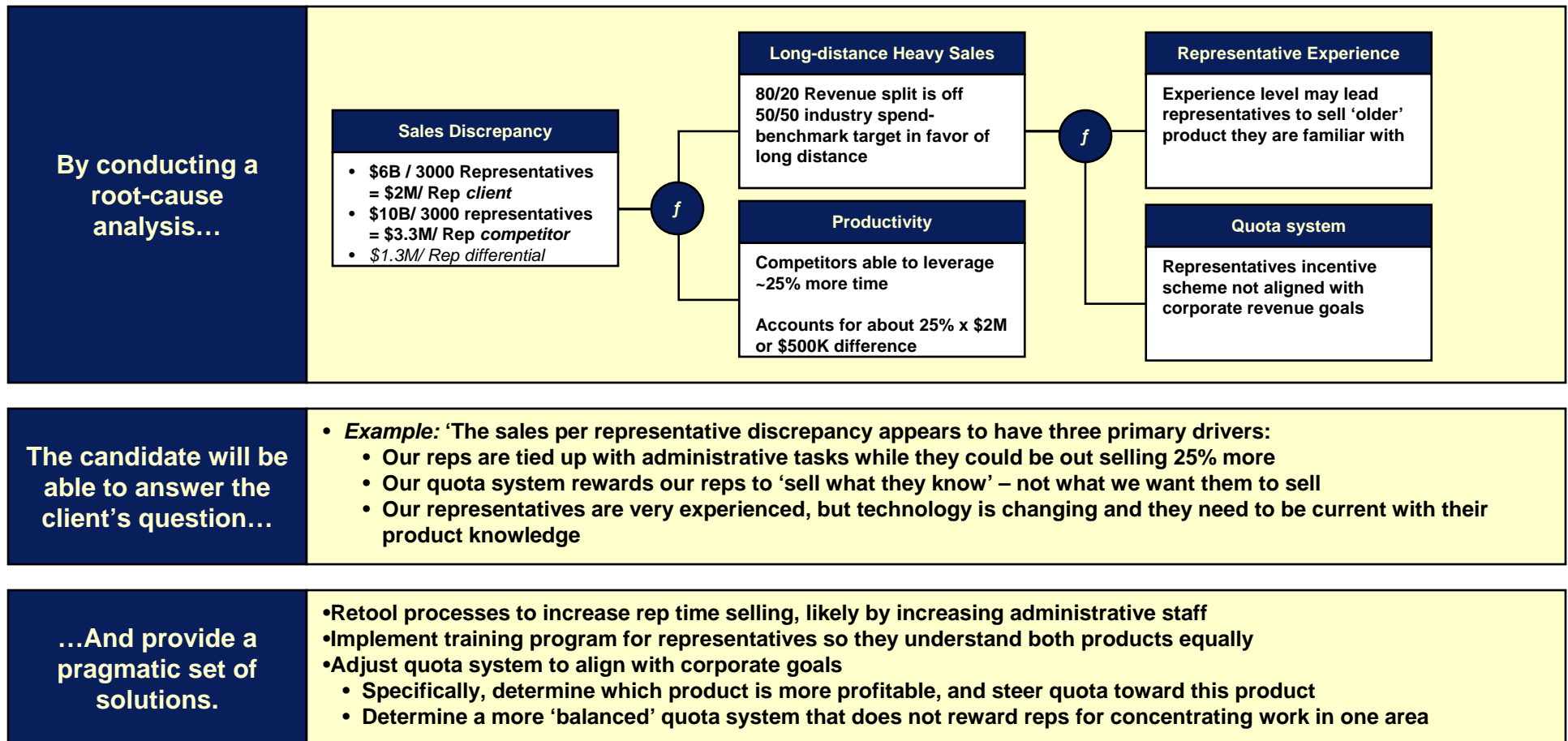
The only competitors' sales force has higher \$ sales per sales person and the client has hired you to determine why...

#### Guidance for interviewer and information provided upon request

- *Only provide information after being asked specifically by the candidate*
- Client and competitor are only players in market
- Sales of \$6B for client; \$10B for competitor
- Client customers spend equally on both products
- Client revenues are 80% long distance, 20% wireless with a target of 50/50 split
- Sales force of 3000 representatives each company
  - Our representatives have 10yrs more experience
- 3-5 clients per representative for each company
- Client representatives spend 45% of time selling; competitor representatives spend 55%
  - Difference is spent on administrative tasks
- As opposed to competitor, client has quota system established on a per-product basis
  - Sales greater than quota generate higher commissions

## Case 19: Telecom Service Provider (II of II)

### The Boston Consulting Group, Round I



## Case 20: Smart Card Manufacturer (I of III)

### The Boston Consulting Group, Round II

#### Problem statement narrative

**Circa-late 1990s:**

Your client is a global high tech company that is a diversified manufacturer (chips and cell phones for example). The company has decided to enter the Smartcard market and wants to know where in the value chain they should enter.

On Smartcards, there is a computer chip that provides a broad array of functionality. It can process transactions locally, provides a higher level of security. The technology is currently used in Europe and a little in Asia, however it is not currently used in the U.S. It can be used for loyalty programs, transit, credit cards, ATM, etc.

#### Guidance for interviewer and information provided upon request<sup>(1)</sup>

- *Only provide information after being asked for the information by the candidate*
- **ADDITIONAL INFORMATION ON NEXT PAGE**
- Client has already determined to enter- only want to know where and why
- Market is currently growing at 25%-30% annually
- *Ask candidate to draw their thoughts about value chain before telling them what the value chain elements are*
  - *Do tell candidate elements of value chain*
  - *Let candidate ask about specifics within value chain*

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 20: Smart Card Manufacturer (II of III)

### The Boston Consulting Group, Round II

	Card Development	Terminals/ Local Processing	System Implementation	Continuing Operations
<b>Concentration</b>	4 players with equal share	10 players with equal share	12 players with equal share	Highly fragmented
<b>Competitive Tactic</b>	Patented technologies	Products are mfg based w/ little intellectual property	Major IT consulting firms	Geographically based
<b>Profit Margins</b>	15%	10%	20%	10%
<b>Other</b>	All products are in performance	Natural extension of current products (ATMs & Disk drives)	Track records are highly important	Requires workers with electrician skills
<b>Share of \$1 spent in industry</b>	25%	25%	20%	30%



## Case 20: Smart Card Manufacturer (III of III)

### The Boston Consulting Group, Round II

	Expected Profits/ \$ Industry Revenue	Corporate Alignment	Competition	Entry Strategy
<b>Card Development</b>	$\$1 \times 25\% \times 15\% = 3.75\text{¢}$	Medium/ High	Low	Acquisition
<b>Terminals/ Local Processing</b>	$\$1 \times 25\% \times 10\% = 2.5\text{¢}$	High	Medium	Internal Development
<b>System Implementation</b>	$\$1 \times 20\% \times 20\% = 4.0\text{¢}$	Low	Medium	Partnership/ Acquisition
<b>Continuing Operations</b>	$\$1 \times 30\% \times 10\% = 3.0\text{¢}$	Low	High	Acquisition

**While system implementation is more profitable, card development is more aligned with client and has less competition- recommend acquiring one of four firms in market**

## **Case 21: Insurance Provider (I of IV)**

### **The Boston Consulting Group, Round II**

#### **Problem statement narrative**

**Your client is a car insurance company. Their claims processing department is under pressure to reduce costs. How might you help them?**

***If the candidate asks what is driving their cost reduction pressure, add....***

**Apparently the CEO believes her competitors' processing cost is less. Nor necessarily the competitors' overall payout, but the actual processing itself is cheaper.**

#### **Guidance for interviewer and information provided upon request<sup>(1)</sup>**

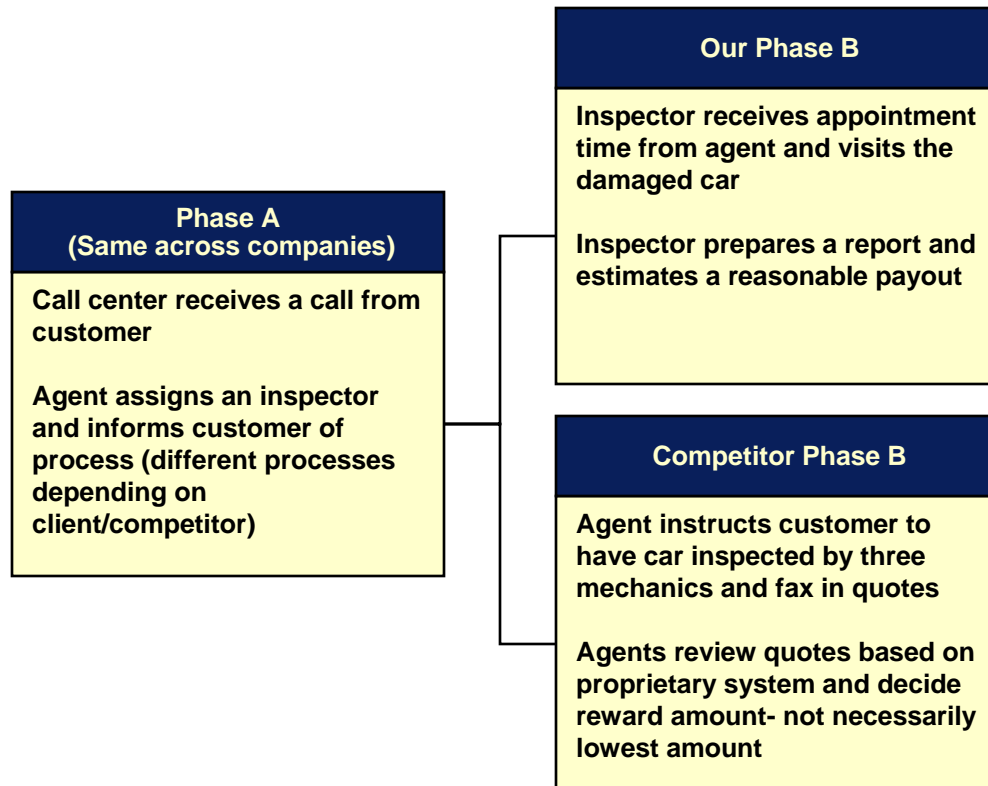
- **SEE CLIENT AND COMPETITOR PROCESSES ON NEXT PAGE TO ADDRESS QUESTIONS IN THIS AREA**
- **Let the candidate draw assumptions whenever possible to develop time spent on each task**
- **Customers purchase insurance on price, not claims processing convenience**

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 21: Insurance Provider (II of IV)

### The Boston Consulting Group, Round II

#### Process Differences



#### Guideline for interviewer

- Candidate should want to calculate how efficient each operation is:
  - i.e.: how many claims can an inspector process in a day?
- Things they should include:
  - Travel time
  - Inspection time
  - Time spent to review quotes
  - Report writing time
  - Total time worked each day
- Candidate should find travel time is making our process more time-intensive, and changing process may save in short term...
  - However, is there any risk associated with this?

## **Case 21: Insurance Provider (III of IV)**

### **The Boston Consulting Group, Round II**

	<u>Previous Costs</u>	<u>Proposed Costs</u>
<b>Revenues</b>	<b>100</b>	
<b>Phase A</b>	<b>10</b>	
<b>Phase B</b>	<b>20</b>	
<b>Payouts</b>	<b>60</b>	
<b>Profits</b>	<b>10</b>	

**Candidate: Please complete and explain the 2<sup>nd</sup> column**

## Case 21: Insurance Provider (IV of IV) The Boston Consulting Group, Round II

Completing the Cost Diagram...	Previous Costs		Proposed Costs	
	Revenues	100	100	
	Phase A	10	10 (same)	
	Phase B	20	10 (something less)	
	Payouts	60	70 (variable)	
	Profits	10	10 (variable)	

...and voicing concerns about risk...	<ul style="list-style-type: none"> <li>Implementing the new structure already used by competitors may cause payouts to drift in unexpected directions (either up or down)</li> <li>Potential for fraud must be addressed prior to full system wide rollout</li> <li>Some customers may prefer the ease of a scheduled visit rather than having to undergo footwork on their own (especially if serious accident)</li> </ul>
---	---

...Leads to a client-tailored recommendation.	Survey selection of client base (and potential client base) anonymously to determine acceptance of model
	Institute pilot program in a select area to determine effect on payout and client morale- if positive in both regards, rollout system wide

## Case 22: Appliance Insurance (I of II)

### The Boston Consulting Group, Round II

#### Problem statement narrative

Your client is an insurance company that sells home appliance insurance. They have hired you to help efficiently increase product sales, what would you do?

*IF THE CANDIDATE ASKS FOR SPECIFICS, ADD...*

The client covers all appliances in the home for \$400/year. Therefore any problems with the washer, dryer, air conditioning, refrigerator, range, etc, all get complete repair or replacement

#### Guidance for interviewer and information provided upon request

- Client sells to all households in US via two channels
  - Direct Mail Channel:
    - Target 60M non-moving households each year
    - 50M mailers sent
    - \$0.50 per mailer to send
    - 0.5% sales conversion ratio
  - Sales Team Channel
    - Target 40M moving households each year
    - 80% coverage
    - 5% conversion ratio
    - 1000 members of sales team
    - \$100K annual salary
    - Coverage is highly concentrated in specific regions- little coverage in northeast

## Case 22: Appliance Insurance (II of II)

### The Boston Consulting Group, Round II

#### Candidate should want to calculate acquisition cost per customer for direct mail...

	Direct Mail
Target market	60M
Mailers sent	50M
Cost per mailer	\$0.50
Total mail cost	25M
Conversion ratio	0.5%
New customers	250K
Cost per customer	\$100

#### ...And then for the sales team.

	Sales Team
Target market	40M
Coverage (%)	80%
Coverage (homes)	32M
Conversion ratio	5%
New customers	1.6M
Team size	1000
Individual salary	\$100K
Total team cost	\$100M
Cost per customer	\$63

#### Candidate should drive to a set of conclusions & recommendations

- Sales team coverage is less costly , therefore firm should concentrate on building capability in this area
  - Specifically: build capability in northeast
- Appears mailers are sent indiscriminately, by sending targeted mailers to high-potential candidates
  - This would likely lead to higher conversion ratios

#### Additional conversations given time...

- How might our sales channels affect the insurance industry's problems with 'adverse selection' (how those who most need insurance tend to purchase more than those who do not)
  - Example: door-to-door sales may allow for specific selection of areas & homes rather than indiscriminate mailing

## Case 23: Automobile Parts Manufacturer (I of II)

### A.T. Kearney, Round I

#### Problem statement narrative

Your client is an automobile interior plastic product manufacturing company. The client's market share is 20% and the industry's growth rate is nominal.

Over the past two quarters, their profits have stagnated and the CEO is concerned.

The company has only one customer and the customer continuously forces the client to price down. The company has one factory outside of Detroit and the factory is running at 70% utilization. The company manufactures 42% of the product on that factory and outsources the remaining 58%.

The CEO would like to improve factory utilization as well as improve profitability... could you help develop some recommendations?

#### Guidance for interviewer and information provided upon request

- The customer has no plans to increase order quantity
- Two products with particulars below

	Internal Production		Outsourced Production	
	Plastic Rugs	Small Parts	Plastic Rugs	Small Parts
Quantity (tons)	100	40	180	80
Full Cost	\$6	\$4.7	\$8	\$4.7
Price	\$7	\$5	\$7	\$5

- Small parts are more labor intensive to produce than mats
- Mats lend more 'brand recognition' to products than small parts
- Parts produced internally have a higher quality than outsourced parts
- Outsourced work has lower labor cost than internal



## Case 23: Automobile Parts Manufacturer (II of II)

### A.T. Kearney, Round I

Candidate should want to calculate current profitability...

Internal Production				Outsourced Production										
\$1	x	100	+	\$0.30	x	40	+	-\$1	x	180	+	\$0.30	x	80
Rug (P)		Rug (Q)		Equip. (P)		Equip. (Q)		Rug (P)		Rug (Q)		Equip. (P)		Equip. (Q)
100		+	12		+	-180		+	24					
= -\$44														

If the candidate determines the proper internal/ external mix, then they should recalculate profitability as...

Internal capacity:  $140 / 0.7 = 200$  tons ; max out internal mats mfg!

Internal Production				Outsourced Production										
\$1	x	200	+	\$0.30	x	0	+	-\$1	x	80	+	\$0.30	x	120
Rug (P)		Rug (Q)		Equip. (P)		Equip. (Q)		Rug (P)		Rug (Q)		Equip. (P)		Equip. (Q)
\$200		+	0		+	-\$80		+	\$36					
= \$156 : Improvement of \$200!														

The standout candidate will address other concerns of the sourcing decision, such as...

- Future client demand
- Effect on brand name and positioning
- Labor relations
- Undiversified client base
- Quality control

## Case 24: Electronics Retailer (I of III)

### The Boston Consulting Group, Round I

#### Problem statement narrative

Your client, Circuit Co., is a national consumer electronics retailer similar to Best Buy. For the past five years, Circuit Co. has grown its revenues and earnings primarily through new store openings. However, Circuit Co. knows that this type of growth can not be maintained forever. For the past year, the company has focused on several initiatives aimed at improving same-store sales and earnings. One of these initiatives has fallen by the wayside and you have been hired to analyze the situation.

Specifically, in the third quarter of 2003, Circuit Co. ran a pilot program in the digital camera departments of its Southwest Region stores. The CEO wants to know:

1. Was the program a success?
2. What improvements can be made to the program?
3. Should Circuit Co. roll the program out to the rest of the country?

#### Guidance for interviewer and information provided upon request<sup>(1)</sup>

- **ADDITIONAL INFORMATION ON FOLLOWING PAGE**
- **Details about the pilot program (*Read verbatim*)**
  - Traditionally, all of Circuit Co.'s ground-level employees were "generalists" in the sense that every one of them did all of the jobs that needed to be done: stocking the shelves, answering customer questions, running the cash register, etc. The pilot program involved setting up a group of "specialists" in the digital camera area who were solely responsible for answering customer questions and selling digital cameras. The remaining employees remained "generalists." Generalists maintained their previous wages. Specialists were paid a small draw plus commissions based on digital camera revenues.
- **Trial success criteria:**
  - Incremental revenues exceeded incremental costs
  - Program did not create significant problems for general store operations

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## **Case 24: Electronics Retailer (II of III)**

### **The Boston Consulting Group, Round I**

#### **Pilot Program Financials**

- Only provide each item when asked
- Note: Company still growing by adding stores

	3Q 2002	3Q 2003
Digital Camera Rev. (\$M)	502	899
Total Store Rev (\$M)	7.75	12
# of stores	199	296
Digital Camera COGS (\$M)	251	674

#### **Additional Points**

- SKU portfolio did not change
- Pilot had no effect on other operations
- Q3 runs June- September
- Generalist wage changes insignificant

## **Case 24: Electronics Retailer (III of III)**

### **The Boston Consulting Group, Round I**

#### **Analysis of financial performance...**

- Digital camera revenues increased by about 80%
- Stores increased by ~50%, therefore camera revenue per store increased about 30%
- However, COGS increased about 170% or 120% after normalizing for store openings
- This means digital camera profits actually declined during the pilot program, even though revenues increased dramatically

#### **...Leads to clients' answers.**

- It appears specialists were focusing on selling low margin cameras in order to earn revenue-driven commissions
- In terms of revenues, the program was a success, however the client suffered in terms of profits.
- Recommendation: re-run the program after determining a profit-driven commission plan, based on results, determine rollout possibility for system

## **Case 25: Trucking (I of III)**

### **DiamondCluster, Round I**

#### **Problem statement narrative**

Your client is a trucking company. The company has grown through acquiring regional trucking companies, which are currently each managed as separate businesses.

The CEO, who is new and is an outsider to the company, has asked you to help prioritize some short term investments, as well as advise on where the company should go in the long term.

In terms of the short term investments, the CEO is particularly interested in a Route Optimization software that has been developed by one of the regional divisions and has significantly improved profitability within that division. So, first the CEO wants to know what the impact to the firms profitability will be...

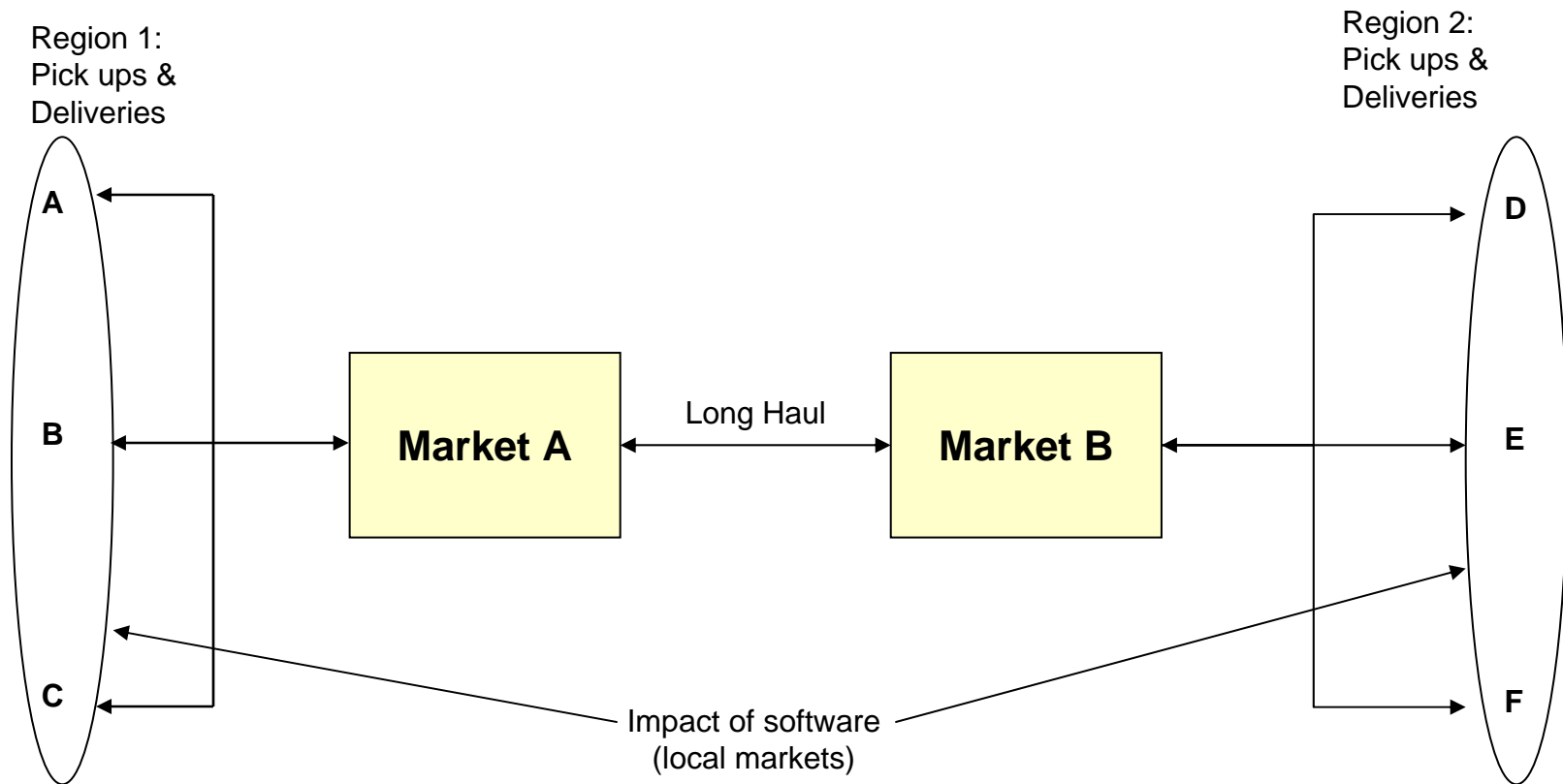
#### **Guidance for interviewer and information provided upon request<sup>(1)</sup>**

- **CANDIDATE HANDOUT EXPLAINING SOFTWARE IMPACT ON FOLLOWING PAGE**
- If prompted, have the candidate focus on costs – state demand is very stable, and expensive to increase
- Current pickups or drop-offs/ hr: 2
- Pickups or drop-offs/ hr w/ software: 2.5
- Hourly rate \$100
- Annual system wide pickups: 4M
- Drop-offs: 4M
- Tax rate: 40%
- No depreciation
- Labor is 1/3 of total costs
- Labor is 50% pickups & 50% deliveries
- *Ask candidate to outline their idea of the cost buckets*
  - *Fuel*
  - *Drivers*
  - *Warehousing*
  - *Trucks, other equipment*

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 25: Trucking (II of III)

### DiamondCluster, Round I



**Candidate  
Handout  
(upon request  
about  
software  
function)**

## Case 25: Trucking (III of III)

### DiamondCluster, Round I

#### Candidate should calculate cost reduction:

$$2 \text{ pickups/ hr} * 8\text{M pickups \& drop-offs/ yr} * \$100/\text{hr} = \$400\text{M}$$

$$2.5 \text{ pickups/ hr} * 8\text{M pickups \& drop-offs/ yr} * \$100/\text{hr} = \$320\text{M}$$

---

Pretax Benefit    \$80M

- Taxes @ 40%    \$32M

---

Final Benefit    \$48M

This is the cost savings excluding a system wide rollout and system maintenance costs. Since the system already exists in one market, these costs can easily be modeled for whole system

#### Question: What should the CEO think about if he is looking to integrate the different businesses?

*Watch the candidate frame out what the CEO should think about... the structure and thought process is more important than the results*

#### What are the benefits?

Overhead consolidation

Access to markets

Centralized/ non-duplicative warehousing

Efficiencies in long-haul transfers

#### What are the costs?

Startup integration costs

Severance/ shut-down costs for duplicates

Advertising for increased capability

## **Case 26: Hong Kong Port (I of VII)**

### **McKinsey & Company, Round I**

#### **Problem statement narrative**

**Your client is Hong Kong port. The management is concerned about revenues going down and asks for your advice.**

***When asked to further elaborate on the business, add...***

**Let's assume that the only source of revenue for the client is container processing services related to shipment of containers. A manufacturer that wants to ship a container hires a shipping company. The shipping company tells him what ship the container should be loaded on. The manufacturer brings a container to the port and pays the port for taking care of everything (paper work, possible storing, loading on ship) to be done to load the container on the ship named by the manufacturer.**

#### **Guidance for interviewer and information provided upon request<sup>(1)</sup>**

- **CANDIDATE HANDOUTS ON FOLLOWING PAGES**
- **Revenues have been decreasing at 3% / yr for 4 yrs**
- **Current sales of \$200M/ yr**
- **Client has 50% market share**
- **Industry is growing at 7%/ yr**
- **Competitors (both modernized in last 5 yrs): two mainland China ports, Zhanjiang and Shenzhen.**
- **Customers: Guangdong (mainland China-based) manufacturers (typical route is China – USA)**
- **Customers are VERY cost sensitive**
- **No difference in shipping cost from HK or competitors**
- **Handouts:**
  - **Container Processing Costs**
  - **Port Cost Structure**
  - **Profit Margins (question what they want and why)**
  - **Customer transportation costs**
  - **Map of relevant area**

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)



## **Case 26: Hong Kong Port (II of VII)**

### **McKinsey & Company, Round I**

#### **Processing Cost**

<b>Port</b>	<b>Container Processing Cost</b>
<b>Hong Kong</b>	<b>\$320</b>
<b>Zhanjiang</b>	<b>\$300</b>
<b>Shenzhen</b>	<b>\$310</b>

**Cost differences are accepted due to differing quality**

## **Case 26: Hong Kong Port (III of VII)**

### **McKinsey & Company, Round I**

#### **Port Margins**

	<b>Hong Kong</b>	<b>Zhanjiang</b>	<b>Shenzhen</b>
<b>Gross margin</b>	<b>20%</b>	<b>17%</b>	<b>22%</b>
<b>Operating margin</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>

## Case 26: Hong Kong Port (IV of VII)

### McKinsey & Company, Round I

#### Port Cost Structures

	Hong Kong	Zhanjiang	Shenzhen
Fixed cost	60%	70%	65%
Direct labor cost	20%	15%	15%
Materials / fuel / variable	10%	8%	8%
SG&A	10%	7%	12%

## Case 26: Hong Kong Port (V of VII)

### McKinsey & Company, Round I

#### Map of Area



## Case 26: Hong Kong Port (VI of VII)

### McKinsey & Company, Round I

#### If the candidate does not drive to manufacturer transportation costs in 15 min., provide hints...

- What drives the customer decision in choosing which port to ship from?
- What costs does a manufacturer incur while shipping a container from his plant to end customers?
- How does the manufacturer get the container to port?
- How about manufacturer transportation costs?

#### Guidance for interviewer and information provided upon request

- Manufacturer transportation costs by port:

	Hong Kong	Zhanjiang	Shenzhen
Total Cost	\$300	\$210	\$180

- Hourly labor cost is the same for all trips
- There is an administrative border between HK and mainland China- trucks have to undergo customs clearances (and endure long waits)
  - 50% time waiting, 50% in customs
- Long lines in evenings, but no lines during day & night
- Customs communications are highly underdeveloped
- Need two drivers for HK, mainland drivers not allowed; also salaries much higher in HK
- HK government has a stake in the company and receives significant tax benefits

## **Case 26: Hong Kong Port (VII of VII)**

### **McKinsey & Company, Round I**

#### **Expected Recommendations**

- **Convince HK government to invest in building out the customs station at the border to increase throughput**
- **Invest in updating customs information and communication systems**
- **Lobby HK government to abolish regulation that prohibits Chinese commercial drivers to drive in Hong Kong**
- **These will all reduce manufacturer transportation costs**

#### **Creative Recommendations**

- **Orchestrate a single customs clearance (at HK border or at port) rather than a customs border at each**
- **Establish a separate trucking company to absorb border cost**
  - **This is a short-term solution**
- **Incentivize manufacturers to ship during the day or late at night to avoid evening rush**

## Case 27: Argentinean Bank (I of III)

### McKinsey & Company, Round I

#### Problem statement narrative (I)

Your client is a bank in Argentina who has historically served individuals or large corporations. There are only three other large banks in the market, with each having equal market share and cost structures. Last year, your client was the first bank to enter the small to medium business market and made some money. They did this primarily by offering the businesses the same services that they offered the small and large companies through their retail outlets. They would like to understand how they could become more profitable...

#### Information provided upon request

- Small to medium business market is growing
- Users are very price sensitive
- Client's cost structure is rather small
- Client's retail outlets can

#### Initial question solution elements

If the candidate has asked the appropriate questions about the profit equation, it is apparent that...

- Price can not be easily changed
- The cost structure is currently very good
- Quantity is the only thing to change
  - Choice 1: Increase sales to current clients
  - Choice 2: Increase sales to new clients

#### Initial question follow-up

- **ASK CANDIDATE:** Please give me four examples of products that you would offer to the small and medium sized businesses...
- Possible answers
  - Payroll management
  - Funds management services
  - Tax services
  - Business insurance

## Case 27: Argentinean Bank (II of III)

### McKinsey & Company, Round I

#### Problem statement narrative (II)

Lets do some calculations.

Right now, we make \$1000 Revenue/Product, Have \$160 Million in profit, and service 2 products per customer.

The current cost structure is 20% profit, 20% fixed, and 60% variable.

Given the services you have talked about we predict that customers will increase to 600,000 expected customers, 3 products per customer, the revenue per product stays the same, the variable cost per product stays the same, what is the expected profit?

#### Requisite math & solution

##### Current Structure

\$160 M Profit

\$160 M Fixed

\$480 M Variable

\$800 M total Revenue

\$800 M Revenue/ \$1000 Revenue/Product =  
800,000 Products

Variable Cost Per Product = \$600 per product

##### New Structure

Rev.→ 600,000 customers\*3 products/cust \*1000  
→\$1,800 M

Fixed Costs→ \$160 M

Variable→ 600,000 cust \* 3 products/cust \*600→  
\$1,080 M

Profit→ \$560 M



## **Case 27: Argentinean Bank (III of III)**

### **McKinsey & Company, Round I**

**Ask candidate:  
can you provide  
me a couple of  
ways to segment  
our small and  
medium sized  
business  
customers?**

- **Answers (which should be backed up by some rationale) could include:**
  - **Risk susceptibility**
  - **Size (revenues)**
  - **Size (employees)**
  - **Industry (service/ production)**
  - **Lender services**
  - **Borrower services**

**So, should we  
move forward  
with this?**

- **Given the potential return and connection to our current offerings, the benefits far outweigh the risks- looks like a go! (candidate should structure out thoughts)**

## Case 28: Sandwich Bags (I of VII)

### The Boston Consulting Group, Sample Case

#### Problem statement narrative

Your client is a very small consumer packaging company. One of their product lines, for which they have one dedicated machine, is plastic bags for food storage. They have 3 sizes of bags – 4” (sandwich bag) 8” quart bag and 12” (gallon bag). The bags are all the same width – the sizes refer to the length of the bag.

The client is facing more demand than they think that they have capacity to produce. They have called us in to figure out a 2 key questions:

How can they best utilize their current bag capacity?  
Should they invest in a new bag machine?

Let’s start with the capacity question. How would you want to start to think about this problem? What information would you want to have?

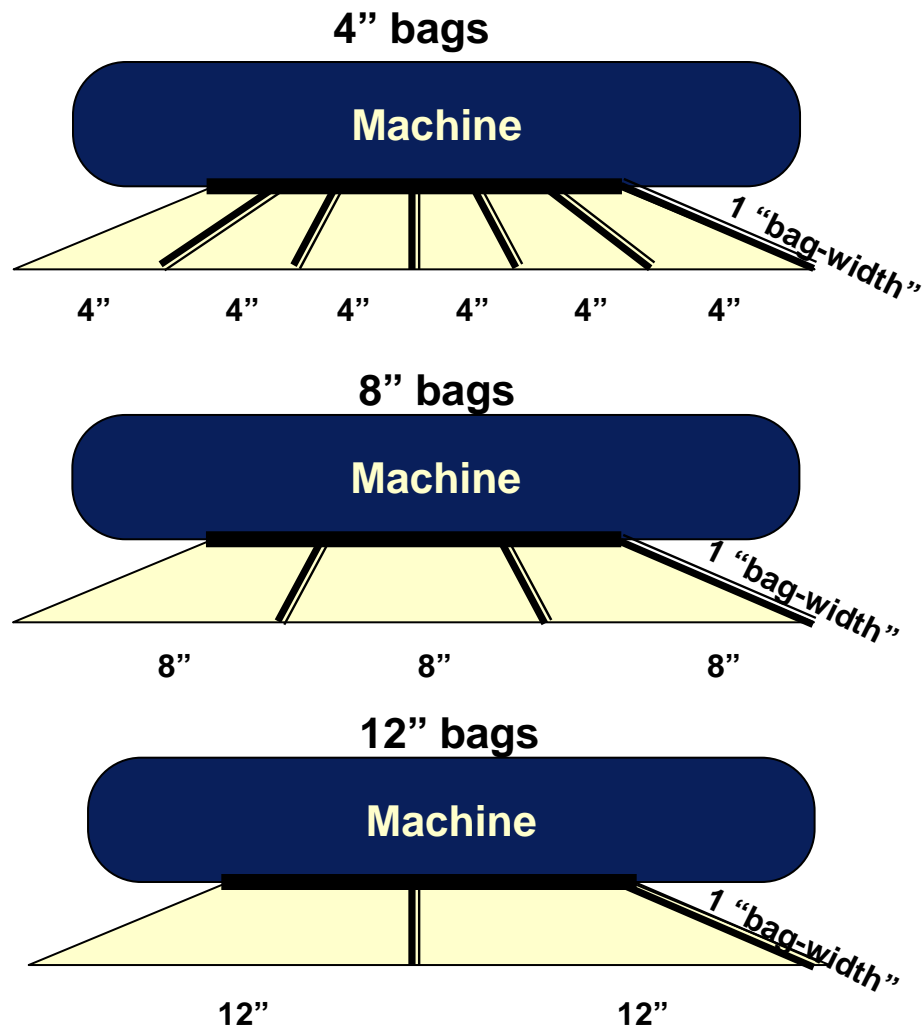
#### Interviewer guidance & key questions<sup>(1)</sup>

- Candidate should be interested in issues such as:
  - Capacity of the machine
  - Demand for each product
  - Revenue / costs for each product
  - Production time for each product
- Provide candidate with capacity and demand/ blank-profitability slides if they ask for that type of data
- Prompt with “So, based on this information, what would you recommend the company produces on its rollers and why?”
  - *Answer should be: 4” and 8” bags w/ 12” bags as overload*
- **PART II:** “So, the client has some extra demand they have not met, should they invest in another roller? What information would you like to know?”
  - *If asked:*
    - *Cost: \$750K*
    - *Payback: 5 years*
    - *Demand growing at population growth*
    - *Mature market, no dramatic changes*
    - *Throughput growing at 2% due to efficiency*

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 28: Sandwich Bags (II of VII)

### The Boston Consulting Group, Sample Case



#### Key Capacity Data

500 "bag-widths" produced per hour

Runs 20 hours / day

5 days / week

50 weeks per year

Total of 5000 hours of production per year

## **Case 28: Sandwich Bags (III of VII)**

### **The Boston Consulting Group, Sample Case**

#### **Profitability and Demand by Product Type**

	<b># bags / bag-width</b>	<b>Profit / bag (\$)</b>	<b>Annual Demand (# of bags)</b>
<b>4"</b>	<b>6</b>	<b>.02</b>	<b>9M</b>
<b>8"</b>	<b>3</b>	<b>.03</b>	<b>3M</b>
<b>12"</b>	<b>2</b>	<b>.04</b>	<b>3M</b>

## **Case 28: Sandwich Bags (IV of VII)**

### **The Boston Consulting Group, Sample Case**

#### **Completed Profits & Capacity**

	<b># bags / bag-width</b>	<b>produced per hour</b>	<b>Profit / bag (\$)</b>	<b>Demand (# bags)</b>	<b>Total Profit (\$)</b>	<b>Hours of capacity</b>
<b>4"</b>	<b>6</b>	<b>3000</b>	<b>.02</b>	<b>9M</b>	<b>180k</b>	<b>3k</b>
<b>8"</b>	<b>3</b>	<b>1500</b>	<b>.03</b>	<b>3M</b>	<b>90k</b>	<b>2k</b>
<b>12"</b>	<b>2</b>	<b>1000</b>	<b>.04</b>	<b>3M</b>	<b>120k</b>	<b>3k</b>

## Case 28: Sandwich Bags (V of VII)

### The Boston Consulting Group, Sample Case

#### Should we invest in a new machine?

- **Ask: What would you have to believe to say a new machine is a good idea? (suggestions)**
  - Demand would increase faster than 2%
  - A new product could be introduced
  - Capacity could be rented out
  - Prices will increase
- **A NEW PRODUCT...**
- **Tell candidate: "let's say the client's R&D team has just come out with a new bag. It is a 2-in-1 bag, one side holds your sandwich and the other side holds your chips or lettuce to keep things from getting soggy. This bag is a 6" bag. Assume that if we stated to produce this bag tomorrow it would be accepted, there would be no lag time for people to catch on to using it."**

**What annual profit per bag would we need to generate in order to make the new roller a good purchase...**

*Extra points for mentioning cannibalization  
Don't worry about discounting*

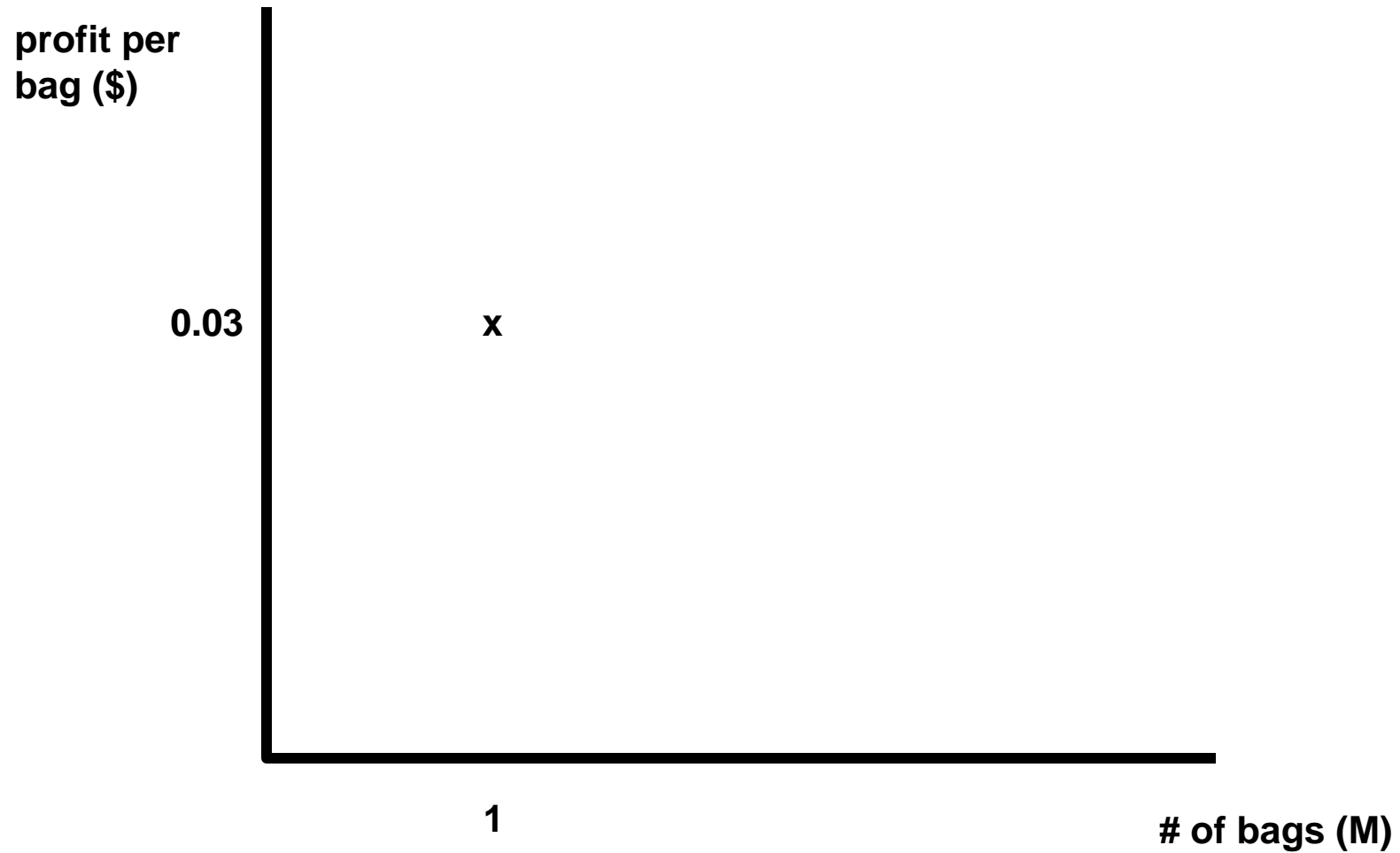
#### Getting the answer<sup>(1)</sup>

- **\$120K per year from 12" bags**
  - **\$600K profits over 5 years**
- **Need \$150K over 5 years for payback**
  - **\$30K per year**
  - **\$0.03 per bag at 1M bags**
  - **\$0.015 per bag at 2M bags**
  - **\$0.01 per bag at 3M bags**
- **To candidate: "So, if we could get \$0.03 per bag and produce 1M bags we would be happy. Using this graph (next page), please draw me the curve that represents all of the price/quantity combinations where we would be willing to make the investment in the roller."**
- **Does this curve have any endpoints for our client?**

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 28: Sandwich Bags (VI of VII)

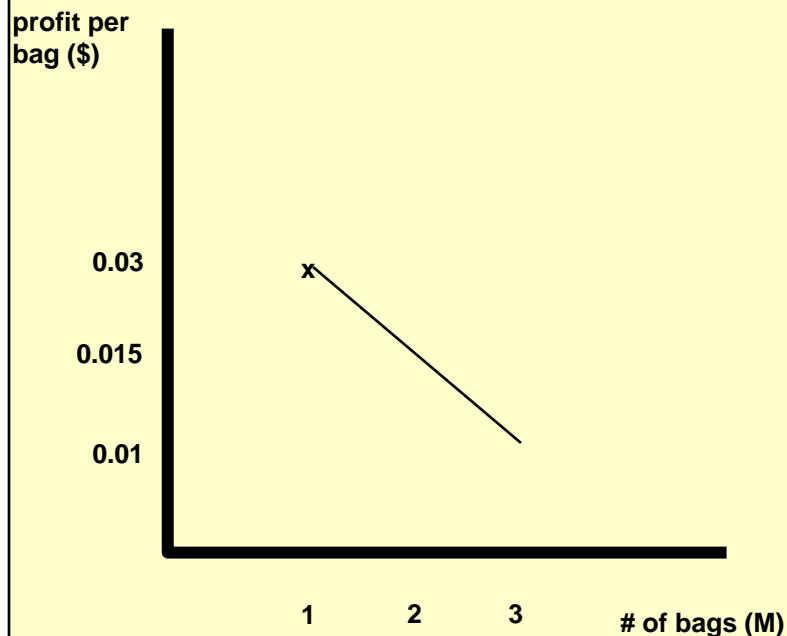
### The Boston Consulting Group, Sample Case



## Case 28: Sandwich Bags (VII of VII)

### The Boston Consulting Group, Sample Case

#### Getting the answer



*Endpoints? Lower limit depends on demand sensitivity. Getting \$1 profit per bag is probably out as product as production quantities wouldn't be worth it. Upper production limit depends on capacity: 4M bags / yr*

#### Bonus

Let's assume that we take the \$0.03 / 1 M bag combination. We can produce 4 bags per bag width, or 2000 bags per hour. Total production will take 500 hours so we still have 1500 hours of capacity on our new roller.

The client would like to come up with yet another innovation. They would like to find a use for more 12" bags, or perhaps a bigger bag. In the time that we have remaining, just brainstorm what applications you might investigate for a large storage bag. ...

*This is an open-ended question, follow how the candidate constructs thoughts and comes up with solutions.*



## Case 29: Gift Wrapping Paper (I of III)

### The Boston Consulting Group, Round I

#### Problem statement narrative

Your client is a gift wrapping paper manufacturer in the United States. They are considering a proposal to outsource their manufacturing to mainland China. You have been called in to assist in the go / no-go decision making process. They would like to know your thoughts and your recommendation...

**ASK CANDIDATE TO BEGIN BY ESTABLISHING COST BUCKETS**

**AFTER COST BUCKETS ESTABLISHED, ASK HOW THEY MAY DIFFER IN CHINA (A: LOWER LABOR COSTS?)**

**LET CANDIDATE STEER INTERVIEW FROM HERE...**

#### Interviewer guidance & key questions<sup>(1)</sup>

- **Cost comparison provided on candidate handout slide- do not provide until candidate outlines potential differences and asks for specifics between options**
- **Fixed costs include:**
  - Plant & machinery See diagram for costs
  - Employees See diagram for costs
- **Variable costs include:**
  - Raw paper material \$20 per ream (same for both)
  - Ink \$100 per ream US  
\$50 in China
  - Ink is special wrapping paper ink and an unavoidable cost

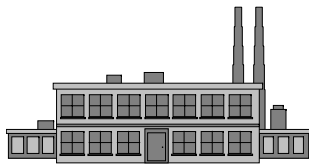
Shipping cost from China to US is \$150 per ream

(1) If detailed exhibits exist, they will be referenced in this box, and included in full on the following slide(s)

## Case 29: Gift Wrapping Paper (II of III) The Boston Consulting Group, Round I

### Gift Wrapping Paper Production Comparability Between Markets

#### United States



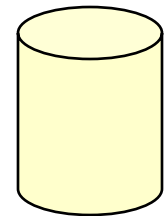
**1 Unit Parts & Machines**  
Cost: \$100 each

+



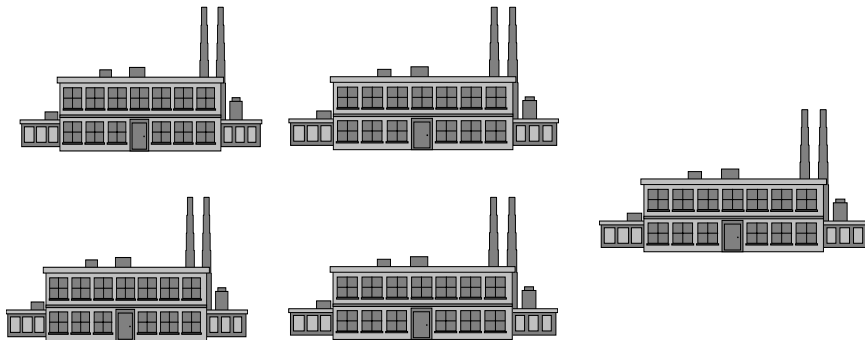
**1 Employee**  
Cost: \$100 each

=



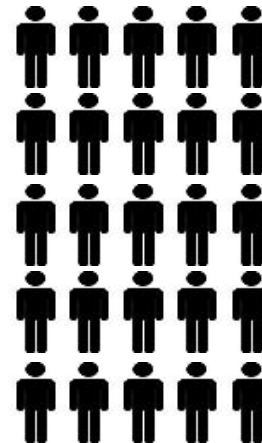
**1 Ream Paper**

#### China



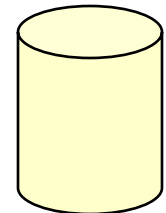
**5 Units Parts & Machines**  
Cost: \$20 each

+



**25 Employees**  
Cost: \$2 each

=



**1 Ream Paper**

## Case 29: Gift Wrapping Paper (III of III)

### The Boston Consulting Group, Round I

<b>Establish base US costs</b>	<p>\$100 Parts &amp; Machines \$100 Labor \$20 Paper \$100 Ink</p> <p>Expensive US based labor Commodity- difficult to lower Specialized product</p> <p style="text-align: right;"><b>\$320 TOTAL COST</b></p>
<b>Generate comparable China costs</b>	<p>\$100 Parts &amp; Machines \$50 Labor \$20 Paper \$50 Ink \$150 Shipping</p> <p>More equipment may increase repair cost Lower per employee, but hiring/firing costs may increase</p> <p>Closer to supplier, still expensive</p> <p style="text-align: right;"><b>\$370 TOTAL COST</b></p>
<b>Compare two fully loaded costs for options</b>	<ul style="list-style-type: none"> <li>• Shipping is the deal-breaker for China</li> <li>• Lower shipping costs would increase attractiveness <ul style="list-style-type: none"> <li>• What might some alternatives be? Bulk, sheets rather than rolls?</li> </ul> </li> <li>• More variables to manage in China, not very labor intensive product in US</li> </ul>
<b>Generate Recommendation</b>	<ul style="list-style-type: none"> <li>• Does not look viable at this time</li> <li>• Track ink, paper, employee costs in China to address long-term potential for move</li> <li>• Non-examined issues: US shutdown costs</li> </ul>

## Case 30: Automobile Manufacturer (I of II)

### Booz Allen Hamilton, Round II

#### Problem statement narrative

Your client is a leading auto manufacturer in the United States. There are three primary players in this market. Historically, the market leader had 30% share, our client and the other player both had 20% market share.

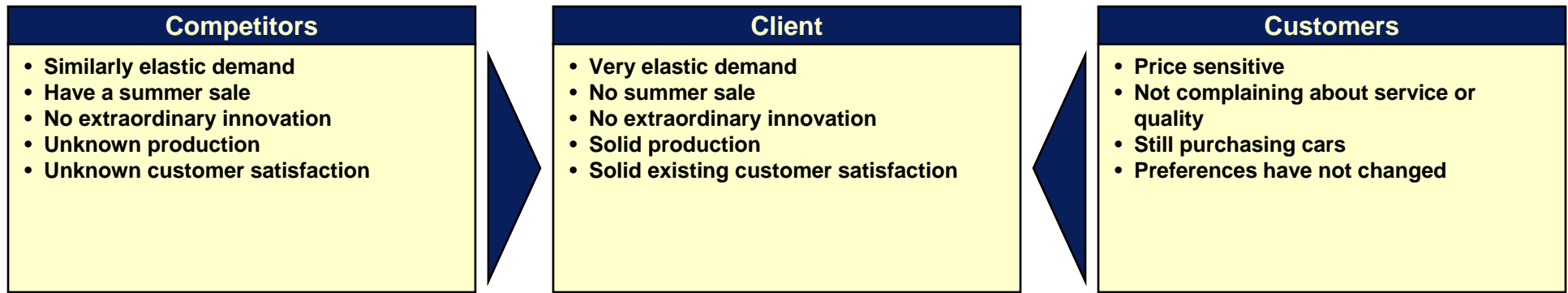
Over the past 2 years, your client's share has been falling, and it wants to know why.

#### Interviewer guidance & key questions

- *This is an 'understanding the market' case, not a profitability case. If prompted, refer to 'getting an understanding for the industry.' The candidate should not want to drive to the profit equation.*
- Elasticity of demand: 5
- Consumer preferences are the same and have not shifted
- There are no warranty, capacity, or supply chain issues
- Competitors price with a huge summer sale- we do not
  - No major product portfolio changes
- Client market share has fallen from 20% to 18% to 15%

## Case 30: Automobile Manufacturer (II of II)

### Booz Allen Hamilton, Round II



<b>Math to determine price change</b>	<ul style="list-style-type: none"> <li>• Need to regain 20% market share             <ul style="list-style-type: none"> <li>• This is a gain of about 35% (15% share increasing to 20%)</li> </ul> </li> <li>• With a elasticity of demand of 5, increasing share 35% will require a price drop of 7%</li> <li>• Is a straight price drop the best way to regain customers?</li> </ul>
<b>Recommended solutions</b>	<ul style="list-style-type: none"> <li>• In order to prevent competitors following a price reduction to regain share, there are several 'locked' methods the client can pursue:             <ul style="list-style-type: none"> <li>• Discounting higher-margin after-market products or add-on features</li> <li>• Increase loyalty or trade-in program incentives</li> <li>• Increase financing incentives ie: '90 days same as cash'</li> </ul> </li> </ul>

**Candidate should discuss benefits and risks of each- a final recommendation is not required**