MIT MANAGEMENT SLOAN SCHOOL

Management
Consulting
Club

2020-21 Recruiting Case Book

MIT SLOAN MCC

Fall 2020

Table of Contents

L.E.K.

MCKINSEY & COMPANY

ROLAND BERGER

OTHER

Chapter 1: Introduction to the Casebook

Congratulations on your decision to recruit for consulting. We hope that you'll find this to be a challenging and fulfilling chapter of your Sloan experience.

The Casebook

The casebook is organized into two parts:

1. **Part 1**
   (1) Consulting Overview (Chapters 2-4)
   (2) Behavioral Interview Prep (Chapter 5)
2. **Part 2**
   (1) Case Interview Prep and Practice (Chapters 6-14)
   (2) Cases (Chapters 15-18)

How to Begin

Part 1 (released first) provides a great introduction to the foundations of consulting and consulting interviews. It also provides guidance on how to best prepare for the behavioral portion of the interview. We recommend reading it and familiarizing yourself with the material.

Part 2 (released second) introduces the case portion of the interview. It provides guidance on case skill preparation and practice exercises as well as practice cases. **This section, Cases, should only be practiced after attending MCC Training and casing with your pilot.** Additionally, cases are most effectively practiced with a partner. Habits are formed early in the casing process and bad ones are difficult to break.

Chapter 2: The Recruiting and Interview Process

Recruiting Events

Recruiting events begin October 1 for first year students. These include: company presentations, cocktail hours, coffee chats, and small dinners. These events can be helpful for learning about a firm's culture and for meeting people at each company. Approach these with professionalism and poise. Keep the following in mind:

- **Follow through on your commitments:** Don't leave corporate presentations early or skip events (dinners or coffee chats) that you've signed up for. If you must cancel, let the firms' on-campus reps know in a timely manner.
- **Follow-up with contacts:** Be sure to email your thanks after coffee chats and if you had a particularly good conversation at a company event. Mention one or two relevant points from your conversation to remind them how much they enjoyed meeting you as well, but keep these thank-yous brief.
- **Don't monopolize time:** It's tempting to approach a senior partner and ask a list of exciting questions. Be polite to those around you and allow others to speak in turn. If you are part of a circle of people talking with a single company representative or partner and you notice a classmate behind you trying to join the conversation, make space for them.
- **Dress appropriately:** Recruiting events will include a dress code that will be helpful for you. Typically, err on the side of polished business casual.
- **Questions to explore through recruiting:**
  - Is the firm (office) structured by industry or functional group, or are most consultants generalists?
  - What is the firm's business focus? (Strategy, IT, PE due diligence?)
  - Who are the firm's typical clients? Fortune 100, Fortune 500, middle market, start-ups?
  - How does the firm fit into/affect my career goals in the short-term and the long-run?
  - What is the typical consultant lifestyle? How often does a consultant travel?
  - What percentage of summer hires get full-time offers? What percentage accepts?
  - How has the firm been growing over the last few years? What industries or functions are most exciting?
  - If I were to leave the firm, what sort of organization might I join?

Interview Basics

Consulting interviews typically have two rounds. Interviews in each round usually follow the same format: an introduction, 15 minutes of behavioral questions, 30 minutes of casing, and a brief Q&A.

- **Round One:** This round is a screening round. You typically interview with two consultants or managers. Shortly after this round, you'll receive a phone call letting you know if you've been passed to R2. Your phone call may also provide constructive feedback on your performance during the first round.
- **Round Two:** The final round has two to four interviews with senior managers or partners. Typically, this will be at your preferred office or with your preferred specialty. You may have to do a 45min-1hr written case. You'll receive a rejection or offer by phone shortly after R2.

Interview Etiquette

- **Be early:** Arrive to interviews at least fifteen minutes early. Interviews begin promptly at their scheduled time.

- **Be pleasant:** Be kind to the administrative assistant who helps you check in and to all recruiting support staff. When your interviewer meets you, shake their hand firmly, make eye contact, and make casual conversation as you walk down the hallway to the interview room.
- **Be prepared:** Bring a pad of paper (lined or graph), two pens or pencils, copies of your resume and business cards. A leather portfolio is a great way to carry these into and out of the interview. Some students also opt to bring pre-printed casing "slide" templates.
- **Be firm-focused:** Remember your conversations with on-campus representatives earlier in the fall. Explain how you fit with the firm's culture, industry focus, or long-term goals.
- **Be unflappable:** Your interviewers will all be different. Some may be friendly, some may stare out the window, and some may interrupt you with random questions to test your focus. Be patient, determined, and willing to switch directions. Take constructive feedback in stride. Stay humble and positive.
- **Follow up with interviewers:** Follow up with a short email of thanks promptly after your interview is finished.
- **Celebrate discreetly:** While you may be tempted to celebrate your job offer publicly, we urge discretion. Many of your friends are still interviewing.

Deep Dive into Round Two

In recent years, firms have been using different R2 models. Don't worry if you encounter a case style that you haven't done before; the basic skills built through casing are applicable in all of these models. Below are a few examples of alternative R2 styles that we have encountered.

- **Written Case Interview**
  - Candidates receive a packet of slides and forty-five minutes to complete a set of instructions. Typically, they must draw one summary slide, pull out 5-7 slides that tell a cohesive story, and complete simple math. The candidate will then meet with an interviewer to discuss their findings.
  - **Tips**: Keep track of time, prioritize analyses on the most important areas (keep the 80/20 rule in mind- you will be intentionally overloaded with data), lead with the recommendation when presenting your findings.
  - **Firms using this style last year:** Parthenon
- **Written Cases with Advance Preparation**
  - Candidates are given case material 48 hours in advance of the interview. When they arrive, candidates are presented with a list of questions and they are free to choose one or multiple questions to address. Candidates are then given 45 minutes to prepare slides.
  - **Tips:** Anticipate questions in advance and run through analyses needed ahead of time.
- **Group Case Interviews**
  - The group interview is similar to the individual, but packets of information are given to all (~4-5) group members and each group member is assigned a specific focus area (strategy, finance, operations)
  - **Tips**: Prioritize your analyses, act natural, and collaborate. You aren't competing with the people in your group and the interviewers can tell when you're trying to sell your leadership skills.
  - **Firms using this style last year:** Deloitte

Know MIT Sloan's Reputation
Below we have the results of a study conducted by the CDO about recruiters' opinions on Sloan students.

Positive Impressions of MIT Sloan Students:

- Sloanies are academically brilliant with outstanding quantitative skills
- Sloanies are approachable and friendly
- Sloanies are practical

Common Pitfalls for MIT Sloan Students:

- Sloanies historically have been weaker when answering behavioral questions (I.e., can sometimes be interviewing "robots")
- Sloanies were often unable to clearly articulate why they preferred a particular geography (i.e. reasons do not appear to be aligned well with their personal or professional aspirations and/or life context)
- Sloanies in the past have used generic rather than customized frameworks (i.e. too formulaic and not enough creative "out-of the box" ideas)

Now that you know these negative stereotypes, work to defy them. Show that in addition to being a smart, helpful, numbers person, you are also a creative, personable, and savvy business student ready to articulate to a client why your ideas will positively impact their bottom lines.

Chapter 3: Firm Profiles

The following profiles are meant to provide an introduction to the firms typically recruiting on campus.

Its contents are not exhaustive. Sources: company websites, Vault and our own recruiting experiences as of October 2020. We encourage you to do your own research for the most up-to-date and office-specific views!

A.T. KEARNEY

Firm overview

- 3,600 employees
- 57 offices in more than 40 countries
- HQ in Chicago
- Home-staffing model with global mobility

Marketing highlights

- "A.T. Kearney is committed to providing opportunities for global experience, whether as a self-initiated transfer to another country or an assignment to fill a temporary business need or staff a client project."
- Known for collaborative, personable, entrepreneurial culture
- One of only 100 global companies selected as a strategic partner of the World Economic Forum

Primary functional practices

- Analytics
- Digital
- Leadership, Change, & Organization
- M&A
- Operations & Performance
- Procurement
- Strategy & Top Line
- Transformation

Interview format

- Rd 1: 2 40-minute interviews
- Rd 2: 2 40-minute interviews

Career progression

- Associate
- Manager
- Principal
- Partner

BAIN & CO.

Firm overview

- 10,500 employees
- 58 offices in 36 countries
- HQ in Boston
- Home-staffing model

Marketing highlights

- "We are a generalist firm, and our first differentiator is our culture: collegial, jovial, and supportive"
- Home-staffing model builds lasting relationships, staffing cases with consultants from the same office. Still, Bainies enjoy a wide range of regional and global staffing opportunities and "50% of Bainies stamp their passports annually"
- Emphasizes generalist tool kit to build "C-Suite" leaders with diverse expertise
- Has worked with over 2/3 of the Global 500 and private equity funds representing 75% of global equity capital
- Known for results-driven approach. "Clients outperform S&P by four to one"

Primary functional practices

- Advanced Analytics & IT
- Customer Strategy & Marketing
- Digital (new), Digital Transformation
- M&A
- Operations/Organization
- Performance Improvement
- Private Equity (leader in this area)
- Strategy & Transformation
- Sustainability & Social Impact

Interview format

- Rd 1: 2 40-minute interviews
- Rd 2: 3 40-minute interviews
- Known for use of graphs and data and values answer-first responses

Career progression

- Consultant
- Manager
- Senior Manager
- Associate Partner
- Partner

BOSTON CONSULTING GROUP

Firm overview

- 21,000 employees
- 90 offices in 50 countries
- Regional staffing model
- HQ in Boston

Marketing highlights

- Customized, collaborative client approach
- Large focus on professional development and “the apprenticeship model”
- Known for experience curve
- PTO (Predictability, Teaming, and Open Communications) to drive work-life balance
- Diverse workforce
- Clients include many of the Fortune 500, but also mid-sized businesses and non-profits; highlights social impact in marketing

Primary functional practices

- Big data & advanced analytics
- Business portfolio management
- Customer and supplier relationship mgmt.
- IT infrastructure, technology, digital
- Growth strategy development and execution
- Marketing and pricing
- M&A, Post-merger integration
- People and organization
- Private Equity
- Supply chain management
- Sustainability
- Turnaround

Interview format

- Rd 1: 25-30 minutes online case
- Rd 2: 2 45-minute interviews; some offices utilize written case
- Values answer-first responses and for the candidate to drive the conversation

Career progression

- Consultant
- Project Leader
- Principal
- Partner

DELOITTE

Firm overview

- 33,000 employees (management consulting)
- ~100 offices in the U.S.
- Regional staffing model
- HQ in New York

Marketing highlights

- Scale and scope of Deloitte network: largest professional services firm in the world
- Global experience, local knowledge, deep bench of technical talent to support
- Large clients: serves 80% of Fortune 500
- Projects span both strategy and execution
- Industry leader in paid-family-leave policy; testified before Congress July 2018 about importance of policy and resulting decrease in employee turnover

Primary functional practices

- Practice areas:
  - Core Business Operations
  - Customer & Marketing
  - Enterprise Operations
  - Human Capital
  - Mergers & Acquisitions
  - Strategy & Analytics
- Market offerings:
  - Analytics
  - Business Transformation
  - Digital
  - Finance Transformation
  - Innovation
  - Service Delivery
  - Supply Chain

Interview format

- Rd 1: 2 30-minute interviews
- Rd 2: 1 team case interview, 2 individual case interviews

Career progression

- Senior Consultant
- Manager
- Senior Manager
- Partner

FIDELITY CONSULTING (FC)

Firm overview

- 50,000+ employees
- 90+ internal management consultants
- HQ in Boston

Marketing highlights

- Collaborative and entrepreneurial culture with large focus on work-life balance
- 50-hour work weeks and 0% travel
- Highly relationship driven; focus on longer term relationships with internal senior leaders
- Can serve as a pipeline for talent into Fidelity's business
- Fidelity invests ~20% of top line revenues back into technology each year and maintains a strong focus on investment in innovative technologies and ideas via Fidelity Labs (e.g. AI incubators, blockchain initiative, etc.)

Primary functional practices

- Asset Management (AM)
- Financial Institutions (FI)
- Operations
- Personal Investing (PI)
- Technology
- Workplace Solution (WS)

Interview format

- Rd 1: 1 40-minute case interview, 1 40-minute behavioral interview
- Rd 2: 2 case interviews, 1 behavioral interview, 1 group case

Career progression

- Consultant ("Director" level)
- Project Leader
- Principal
- Partner

LEK CONSULTING

Firm overview

- 1,600 employees
- 21 offices in 12 countries
- Home staffing model
- HQ in London (global) and Boston (U.S.)

Marketing highlights

- Known for analytical rigor
- Expectation to manage team early on as a consultant
- Clients range from Fortune 500 to small businesses
- Strong industrials and life sciences practices, among others
- 6-month office SWAP program

Primary functional practices

- Marketing & Sales
- M&A
- Organization & Performance
- Strategy

Interview format

- Rd 1: 2 30-minute interviews
- Rd 2: 3 30-minute interviews

Career progression

- Consultant
- Manager
- Senior Manager
- Principal
- Partner

MCKINSEY & CO.

Firm overview

- 30,000 employees
- 100+ offices in 60+ countries
- Global staffing model
- HQ in New York

Marketing highlights

- Strong emphasis on leadership development and culture
- Opportunity to work on global projects
- “Make your own McKinsey”
- Work-life flexibility through Take Time and Pace initiatives
- One firm partnership
- Serves ~90 of the top 100 companies worldwide
- 30,000+ member alumni network

Primary functional practices

- Analytics
- Business Technology
- Digital McKinsey
- Implementation
- Marketing & Sales
- Operations
- Organization
- Recovery & Transformation Services
- Risk
- Strategy & Corporate Finance
- Sustainability & Resource Productivity

Interview format

- Rd 1: 2 45-minute interviews
- Rd 2: 3 45-minute interviews
- Command and control casing style

Career progression

- Associate
- Engagement Manager
- Associate Principal
- Partner
- Director

EY-Parthenon

Firm overview

- 10,000 employees
- 40+ offices globally
- Home staffing model
- HQ in Boston

Marketing highlights

- Brings strategy expertise to EY’s global client base, operations, and implementation capabilities
- Two-case model enables quick ramp-up and industry exposure
- Cases typically tend to be shorter and involve less travel than other firms
- Analytical, unconventional, yet pragmatic approach to cases
- Boutique and entrepreneurial culture with “smart, nice, and driven” people
- Strong private equity and education practices
- Many opportunities to participate in internal initiatives

Primary functional practices

- Corporate Strategy
- Private Equity

Interview format

- Rd 1: 2 30-minute interviews + market sizing exercise
- Rd 2: 1 45-minute written case interview, 1 30-minute partner interview

Career progression

- Consultant
- Director
- Senior Director
- Partner

ROLAND BERGER

Firm overview

- 2,400 employees
- 51 offices in 35 countries
- Regional staffing model
- HQ in Munich

Marketing highlights

- Core values of entrepreneurship, excellence, and empathy
- Bulk of business in Europe and Asia
- Values end to end solutions

Primary competencies

- Digital
- IT Transformation
- Operations
- Restructuring, Performance, Transformation & Transaction
- Sales & Marketing

Primary industry verticals

- Chemicals
- Energy & Utilities
- Financial Services
- Industrial Products & Services
- Pharma
- Technology, Media & Telcos
- Transportation, Tourism & Logistics

Interview format

- Combination of fit and case interviews; sometimes a written case

Career progression

- Senior Consultant
- Project Manager
- Principle
- Partner

STRATEGY&

Firm overview

- 3,000+ employees
- 70+ offices in 35+ countries
- Regional staffing model
- HQ in New York

Marketing highlights

- Formed in 2014 when Booz & Co joined PwC
- Focus on strategy through execution, leveraging large PwC network
- Supportive and collaborative community with over 18,000 global Strategy& alumni
- Known for “Fit for Growth” approach to help companies manage their cost in a more strategic way
- Candidates asked to preference competency area and industry vertical

Primary competencies

- Corporate, Business, and Customer Strategy (CBCS)
- Deals Strategy
- Operations
- Organizational Strategy
- Technology Strategy

Primary industry verticals

- Consumer Markets
- Energy
- Financial Services
- Health Industries Advisory
- Industrial Products & Services
- Technology, Media & Telecom
- Private Equity Value Creation

Interview format

- 3 45-minute interviews (equivalent to Rd 1 and R2 combined in one round)

Career progression

- Senior Consultant
- Manager
- Director
- Partner

Chapter 4: Industry Overviews

The following overviews are meant to introduce the industries generally cased on.

They are not exhaustive! We encourage you to do your own research, and follow and understand trends and events.

CONSUMER / RETAIL

Sub-sectors
- Consumer staples
- Consumer discretionary

Major players
- Amazon
- Coca-Cola
- Nike
- P&G
- Unilever
- Walmart

Key issues
- Consumer preferences; matching supply with demand
- Product innovation
- Brand and customer loyalty
- Supply chain management
- Risk of a price war
- Risk of cannibalization
- Unit-level profitability

Industry trends
- Shifting consumer preferences
- Omni-channel sales approach
- Dominance of Amazon and e-commerce
- Preference for natural/organic
- Product personalization
- Digital and social media marketing

Revenue drivers
- Macro-economic health and disposable income
- New products
- New stores
- New customers; existing customers
- Average spend per customer
- New channels
- Pricing power

Cost drivers
- Input costs (e.g., fabrics, plastic)
- Production
- Marketing

FINANCIAL SERVICES

Sub-sectors
- Investment Banking & Capital Markets
- Corporate and Commercial Banking
- Custody and Fund Administration
- Asset Management
- Retail Banking
- Insurance

Major players
- Bank of America
- BlackRock
- Citi
- Fidelity
- Goldman Sachs
- J.P. Morgan
- Wells Fargo

Key issues
- Margin pressure
- Customer experience
- Compliance
- Globalization
- Balance sheet / leverage

Industry trends
- Increased regulation, in often disparate forms globally
- Shifting consumer demographics
- Digital future
- New technologies (e.g., blockchain, A.I.)
- Best and brightest taking jobs outside of finance

Revenue drivers
- New customers
- New locations
- Deepening spend and cross-sell with existing customers
- Fee vs. commission based product rates

Cost drivers
- Infrastructure
- People
- Physical locations
- Borrowing rate

TMT

Sub-sectors
- Computers
- Internet
- IT Services
- Semiconductors
- Software
- Media
- Telecom

Major players
- Apple
- AT&T
- Comcast
- Disney
- Facebook
- Google
- IBM
- Microsoft
- Netflix

Key issues
- IP (Intellectual Property)
- Growth / scale of new technologies
- New digital business models
- Cybersecurity
- Customer experience management
- Regulatory environment
- Competitive dynamics

Industry trends
- Convergence of TMT
- Rapid innovation
- Evolving customer demands
- Prevalence of digital content

Revenue drivers
- New customers – the “S” curve
- New products
- Positive network effects

Cost drivers
- High investment costs
- Cost to acquire new customers

OIL & GAS

Sub-sectors
- Oil markets
- Natural Gas
- Upstream
- Midstream
- Downstream
- Oilfield services

Major players
- BP
- ExxonMobil
- Marathon Petroleum
- Royal Dutch Shell
- Schlumberger

Key issues
- Market demand
- Competitive dynamics
- Capacity expansion
- Operational excellence

Industry trends
- Price volatility
- Technological innovation to unlock shale gas
- New market entry
- New sources of supply
- Heightened focus on sustainability

Revenue drivers
- Price
- Supply of oil & gas

Cost drivers
- High investment costs
- Refining
- Marketing
- Transportation Variable manufacturing costs
- Sales and marketing

HEALTHCARE

Client types
- Payers / Insurance
- Providers
- Pharma
- Medical Devices

Major players
- Aetna/CVS
- CIGNA/ Express Scripts
- Blue Cross Blue Shield
- Kaiser Permanente
- Johnson & Johnson
- Pfizer

Key issues
- Cost effectiveness of treatments
- FDA approval
- R&D productivity

Industry trends
- Aging population
- Payer consolidation
- Influence of technology on personalized medicine and prevention
- New R&D technologies driving specialization

Revenue drivers
- Number of patients (covered in target treatment population)
- Number of treatments (including frequency of use)
- Geographic expansion
- Pricing

Cost drivers
- High R&D costs
- Insurance reimbursement

AUTO & TRANSPORTATION

Sub-sectors
- Auto manufacturers
- Auto component suppliers
- Airlines

Major players
- FedEx
- Ford
- General Motors
- Goodyear
- Lufthansa
- Toyota
- UPS

Key issues
- Manufacturing and supply chain management
- Safety concerns and recalls
- Product innovation

Industry trends
- Digitalization across the value chain
- Disruptive competition and innovation
- Heightened focus on sustainability
- Ride sharing

Revenue drivers
- Number of vehicles sold; how often people purchase vehicles
- New customers
- Pricing
- Capacity (for airlines)

Cost drivers
- Manufacturing
- Marketing
- Maintenance

Chapter 5: The Behavioral Interview

A key part of your interview will be the "behavioral" or fit interview. We strongly recommend that you begin thinking about and practicing these stories early in the preparation process; **the behavioral interview is vital to your recruiting success**.

Overview of Behavioral

The behavioral interview will typically last fifteen minutes and consist of two to three questions about your past experiences if it is combined with a case interview; some firms conduct standalone behavioral interviews that can last up to thirty or forty five minutes. The interviewer wants to understand how you will fit with the firm's culture. The interviewer is not interested in just your accomplishments; rather, **they want to know how and why you took a particular action in a story.**

Your goal of the behavioral section is to tell a compelling story that demonstrates how you would be the ideal management consultant at the firm.

How to Tell a Successful Story:

Characteristics of any good story include:

- It answers the question that the interviewer asked
- You are the protagonist, and descriptions are phrased as "I did"
- It involves other people, whom you led, influenced, or convinced despite opposition
- There was a significant challenge for you – it really demonstrates your qualities and showcases a moment of personal growth
- It is succinct, structured, but does not sound rehearsed

We recommend following the STAR format: Situation, Task, Action and Result

- **Situation**: A brief, one- or two-sentence introduction to frame the setting of your story and give the high-level outcome
- **Task**: This part of the story sets up the conflict, or crisis of the story
- **Action**: The action is the most important part of the story and should take up the majority of your story-telling. Describe what you did, why you did it, and how you thought about your actions. Walk your interviewer through your thoughts at the time so that they fully understand how you are a thoroughly thoughtful, team-orientated, and impact-driven future consultant.
  - **Be prepared for the '*Why*'**: Always be prepared for your interviewer to stop you and ask why you did a particular action, how a conversation went, or what you were thinking. Make sure your story is true and has depth so that you can address these follow-up questions.
- **Result**: Wrap up your action with a brief line or two about the impact of your story, including lessons learned.

How to Prepare for the Behavioral Interview

- **Pre-Work**
  - **Anticipate Resume Questions:** Review your resume, and write down a list of natural questions that would arise. For example, why did you take your last job? Tell me more about that EM project?
  - **Critique Your Profile:** What are the areas of potential weakness that an interviewer might see in your background? Be sure that your behavioral responses proactively address these areas. If your resume seems light on teamwork, be sure that you have a few strong stories about working in teams.
  - **Prepare:** Now that you've reviewed your resume and thought of natural questions your interviewer might have, **think about how you can most compellingly tell your story**.

        - Fill out the Behavioral Interview Matrix and make sure that you have stories that cover all or most topics. Most students find that 6-9 strong stories are adequate for answering most questions.
        - Remember, you will have 2-3 interviewers (varies between R1 and R2). You should not repeat stories *within* each round. Interviewers will talk after your interview, and you want each one to have unique information.
        - Step back after you sketch out your stories and ask, "**Am I building a complete, compelling picture of a star consultant? Will my interviewer walk away and be able to easily summarize my strengths in one or two sentences?"** Make it easy for your interviewers to understand your story.
- **Teamwork**
    - **Sloanies:** Make sure that your casing sessions always include a behavioral question. When evaluating a peer's response, consider the **structure** (is the response easy to follow?), **substance** (does the story demonstrate consultant qualities?), and **style** (is the candidate smiling, confidence, and polished?).
        - In the beginning, it may be helpful to work on telling your story to your peers and asking for advice on framing and impact**. A story that feels important to us may not translate well to others** or may not have enough substance to be a compelling story.
        - By January, you should be focusing primarily on your peer's style. Do they continue to feel fresh, engaged, and interesting as they tell their story? **Practice makes natural, not perfect.**
    - **CDO:** The CDO offers mock interviews in December and January. **We highly recommend signing up for these**. It's a fantastic way to get outside perspective on your style and story.

Firm Specific Guidance – The McKinsey & Co. Personal Experience Interview

The behavioral portion of Mckinsey & Co. interviews is referred to as the Personal Experience Interview (PEI). Similar to other firms, you can expect the PEI to last approximately 15 minutes, however instead of responding to 2-3 unrelated questions from the interviewer that focus on multiple past experiences, the PEI is focused on a single story with a series of follow on questions designed to uncover a significant amount of detail about your experience and direct actions. Be prepared to reflect on not only on the specific actions you took, but also the actions, reactions, and feelings of others experiencing the event with you.

Sample Questions

Below is a list of commonly asked questions. We would recommend that you develop a 1 sentence ("newspaper headline"), 1-minute, and 3-minute version of each of your major stories.

Be prepared to answer all of the following questions. Good approaches to answering these questions can be found in materials from the MIT Sloan Career Development Office and in Neil Yeager and Lee Hough's book, Power Interviews: Job-Winning Tactics from Fortune 500 Recruiters.

Personal Story

- Tell me a little bit about yourself.
- Tell me about a time when you handled conflict with your peers / supervisor.
- Describe an experience where you failed. What did you learn from this?
- How would you describe yourself? How would your close friends describe you?
- Where do you see yourself in 3 years? 5 years? 10 years?
- Tell me about a professional situation in which you impacted your peers.
- Are you a "details" or a "big picture" person? Why?
- Have you ever had to compromise your ethics? When and how?

- Which accomplishment(s) are you most proud of? Why?
- What are your greatest strengths and weaknesses?
- What is the most important thing not on your resume?
- Why should I bother reading your resume?
- What makes you a more interesting candidate than anyone else I interviewed today?
- Are you competitive?
- How will you know when you have become a success?

Why Consulting?

- Why consulting?
- Why do you think you would make a good consultant?
- Why do you want to be a consultant?
- What do you think it takes to make a good consultant?
- Describe a situation in the past where you had to analyze and solve a problem.

Leadership

- What does leadership mean to you?
- What have you done that demonstrates your ability to lead?
- Describe the best/worst manager you have ever worked for.
- Who is your favorite CEO? Why?

Teamwork

- What have you done outside of MIT Sloan that demonstrates you work well in a team environment?

Academics & Sloan

- Why did you choose MIT Sloan? Why business school? What have you learned?
- What has been your best experience at MIT Sloan? Your most frustrating experience?
- What has been your favorite class? Your least favorite? Why?
- Have you been satisfied with your grades?
- What is your GPA? Your GMAT score? (Be ready to explain if it's below average)
- What do you do for fun at MIT Sloan?

Interests

- What book(s) have you read recently? Tell me about it (them).
- What magazines do you read?
- What got you interested in X hobby/interest?

Why Our Firm?

- Why do you want to work at our firm? Why us instead of another consulting firm?
- Where else are you applying and why?
- If you were offered the job right now, would you take it?
- What are your criteria for selecting a firm? How would you choose from multiple offers?
- Why should we hire you?

What are your geographic/industry preferences?

- Why X city?
- What interests you in this industry or function?

Behavioral Interview Matrix – Brainstorming Personal Stories
We encourage you to use the following matrix to brainstorm potential stories for your behavioral interviews Although you do not necessarily need a unique story for every box, make sure you have at least **one** story for every category, and a balance of work, school, and personal stories.

	Work	**School**	**Personal**
Teamwork			
Leadership			
Analytics			
Creative Problem Solving			
Communication			
Adversity			
Ambiguity			
Conflict Resolution			
Flexibility			
Influence			
Initiation/Follow-through			
Strategic Thinking			
Convincing People			
Failure			
Weakness			

Behavioral Interview Matrix – Identifying Key Stories

After you have brainstormed stories in the above exercise, it is a good idea to identify 6-8 key stories that you will further develop to present during your interviews. Put together these stories should cover all skills identified above. Please list your key stories below and check off which skills each story highlights.

Teamwork	Leadership	Analytics	Creativity	Communicati ons	Adversity	Ambiguity	Conflict resolution	Flexibility	Influence	Initiation	Strategic Thinking	Failure	Weakness

Behavioral Interview Matrix – Crafting your STAR for each Key Story
With you 6-8 key stories in hand, now look to craft Situation-Task-Action-Result stories. Each should be **1-2 minutes long.** Make sure you spend adequate time on the Action and Results, as one key error candidates make is spend most of their time describing the situation!

Story:			
Situation	**Task**	**Action**	**Results / lessons**
		1. 2. 3.	

Story:			
Situation	**Task**	**Action**	**Results / lessons**
		1. 2. 3.	

Story:			
Situation	**Task**	**Action**	**Results / lessons**
		1. 2. 3.	

Story:			
Situation	**Task**	**Action**	**Results / lessons**
		1. 2. 3.	

Story:			
Situation	**Task**	**Action**	**Results / lessons**
		1. 2. 3.	

Story:			
Situation	**Task**	**Action**	**Results / lessons**
		1. 2. 3.	

Story:			
Situation	**Task**	**Action**	**Results / lessons**
		1. 2. 3.	

Story:			
Situation	**Task**	**Action**	**Results / lessons**
		1. 2. 3.	

Chapter 6: The Case Interview

The case is an interactive word problem based on a real consulting situation. This will typically take 20-30 minutes and will happen after your behavioral interview. This chapter provides a broad overview of the case interview. The next two chapters deep-dive into two of the more challenging parts of this: the framework and the brainstorming. Chapter 9 addresses common case types seen across firms.

The Purpose of the Case Interview

The interviewer is assessing you along several dimensions that are important for a good consultant:

- **Analytic Skills:** How do you analyze the problem? Do you employ a relevant framework to organize your thoughts and structure your analysis of the case question? Are you comfortable with simple math?
- **Poise and Composure:** Are you comfortable with ambiguity and confident under stress? Is it enjoyable to talk with you about the case problem?
- **Business Judgment:** Can you differentiate important information from extraneous information? Can you distill a complex, ambiguous problem down to a clear, actionable recommendation?
- **Communication Skills:** Are you comfortable explaining your analysis in front of a client? Are you expressive and easy to understand?

Case Types and Key Differences

There are broadly 3 types of cases: candidate-led, interviewer-led, and written cases. While there are differences, the evaluation criteria are similar, assessing analytical ability, poise, business sense, and communication.

- **Candidate-led**: The expectation is that the candidate suggests a hypothesis to the case question and drives the case. This emphasizes the candidate's ability to identify the "So What" components of a case. For example, given new information such as a chart, what does the graphic mean and how does that relate to the main question at hand.
- **Interviewer-led**: The interviewer drives the case, asking specific main questions with follow-up questions as necessary. The interview is more structured in the order and questions asked. Each question can be thought of as a mini-case, requiring structure and an understanding of how that question relates to the main, initial question.
- **Written case**: Typically there is a time period for the candidate to prepare alone. There may be 30-50 slides given as background, and the candidate is instructed to pick a handful and prepare to walk through recommendations with the interviewer. This can either take the format of a discussion (as if talking with a partner) or a presentation (as if talking with a client). Key components of this interview are prioritizing information, synthesizing recommendations, and structuring a concise summary.

Typical Structure of a Case Interview

- **Case Stem** (1-2 minutes)
    - The interviewer will read a case stem. The stem sets up the situation and provides facts about the case. It is vital to take notes during this portion.
- **Clarify Problem** (1-2 minutes)
    - After the stem is read, you'll have the opportunity to ask questions. Take advantage of this! Clarify parts of the stem that you might not have understood, ask questions if you don't understand parts of the industry mentioned, and verify that you understand the key aspects of the question. This time should not be used to repeat the stem verbatim.
- **Framework/ Structure Approach** (<2 minutes to structure, 1-2 for explanation)

- Ask your interviewer if you can have a few minutes to collect your thoughts. During this time, write out your structure. At the end of two minutes, walk your interviewer through this structure. End by highlighting the most important part of your structure and asking for the data needed to solve this portion.

- **Gather, Analyze Data, and Brainstorm** (10-20 minutes)
    - This part is the most interesting and interactive portion of the case interview. Your interviewer will have 3-5 slides of data, but they typically won't show you these until you ask for them! You'll need to use your structured framework to explain why you want specific data and how that data will help you to solve the overall case question. The following example is meant to illustrate how data is given throughout the case. You'll have 2-3 conversations like this during the case.
    - **Example**: Candidate: "Since we're looking to improve profitability at our movie theater, we need to understand the revenue and the costs. Let's focus on the revenue side first. Do we have any information about the cost per ticket, the number of tickets sold, and the average concessions sold per ticket?"
    - There are **three things that are great about this response**:
        - The candidate shows that they **understand the big picture** by restating the goal of the case (improving profitability).
        - The candidate **breaks down profitability** into revenue and costs, showing that they understand the two levers of this problem.
        - The candidate is **specific and targeted with their data asks**. They specify the case-specific metrics needed to solve for revenue. Avoid asking for generic data, such as "information on revenue or cost".

- **Recommend Solution** (2-3 minutes)
    - During this section, you'll summarize your recommendation for interviewer as if you were presenting the firm's recommendation to a client CEO. Make this clear, specific, and 'answer first'. Support your recommendation with specific learnings (e.g., data) from the case. It helps to lay out your slides in front of you, so that you don't miss any crucial information that happened during the case. Not all cases have one "correct" solution, so support the recommendation with information learned in the case.
        - Example: The theater should raise ticket prices, sell a greater variety of concessions, and renegotiate its distribution contracts. Doing so gives the theater the opportunity to improve profitability by 20%, or $2 million.
    - Spend 30 seconds laying out the next steps and risks underlying your recommendation. This shows the interviewer that you have thought beyond your problem statement and analyzed a real-world problem.
        - Example: We can better understand our target audience for specific concessions by conducting consumer surveys. We should also analyze the risks of re-negotiating with the distribution companies, e.g. can we lose our market share to competition?

Tips to Keep in Mind for a Successful Case

- **Structure**: Are my points MECE (mutually exclusive, collectively exhaustive)? Is it logically organized? Are the most important issues prioritized?
- **Communication**: Am I giving a clear roadmap for where I'm going? Are my written notes an effective communication tool?
- **Checking the '*So What?'***: How does this relate to the main question? What are the 2^{nd} order implications (risks and opportunities)? Is this solution practical?

Chapter 7: Deep Dive- Case Frameworks

In the beginning of every case, you'll pause for 1-2 minutes to build a framework. This will be your roadmap for the case and will help you convert your complex, difficult stem into an actionable recommendation. Once the stem has been read and any background questions have been asked, the candidate typically says something like "Can I take a minute to gather my thoughts before we dive in?"

Basic Structure

A framework typically has three major points and 3-5 sub-points under each major point. It is mutually exclusive (sub-points don't appear in more than one category) and collectively exhaustive (all questions needed to answer the case are present in the structure). This concept is often referred to as MECE.

Characteristics of a Good Framework
A good framework is:

- Specific to the problem – don't simply write "costs;" instead, break them into "fixed costs", "variable costs" and list a few in each category
- A clear roadmap that can be referred back to through the entire case
- Structured to answer the problem at hand

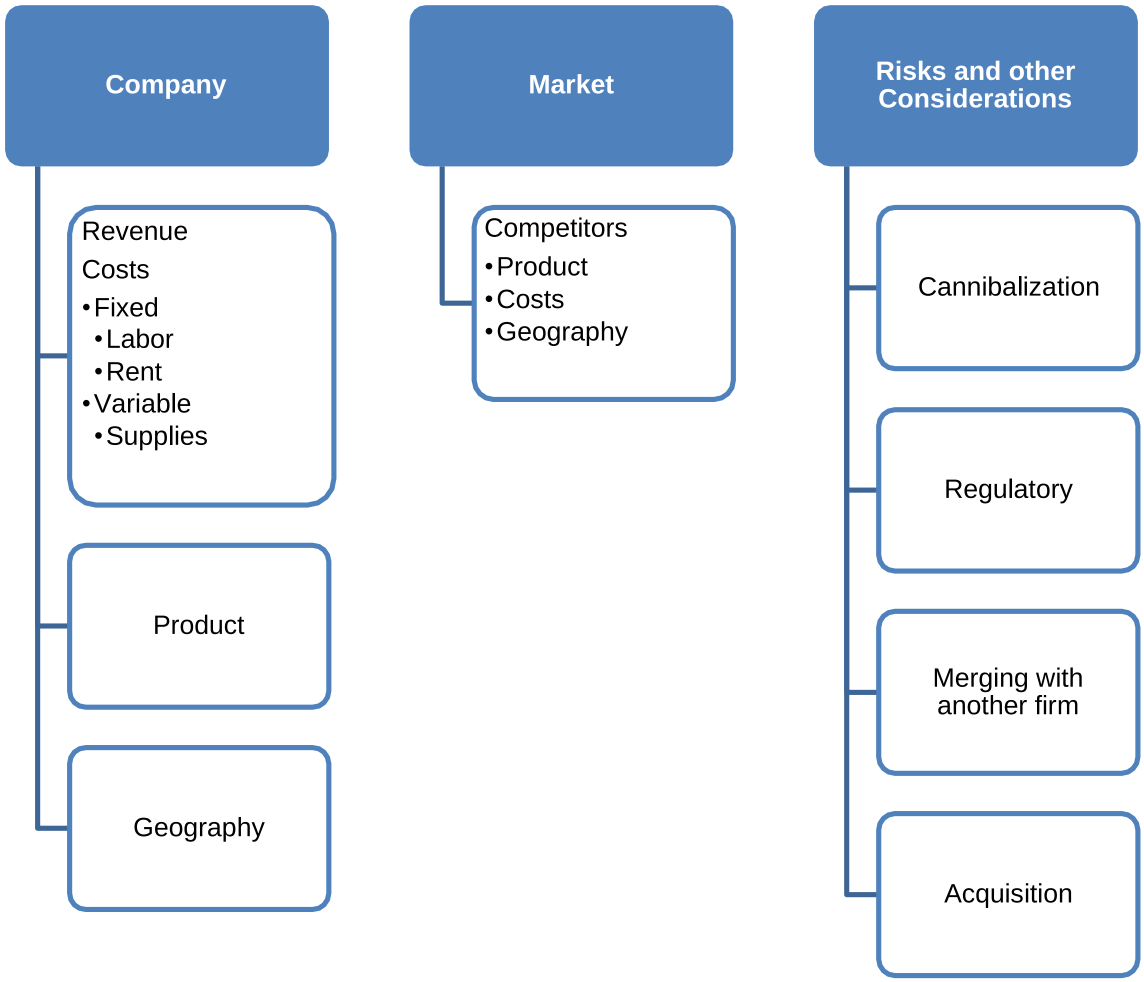
A good framework is not:

- The only answer to a problem, a case can have multiple correct frameworks
- A solution or recommendation – you will come to the solution or recommendation during the course of the interview, but do not need to have all of the answers at the beginning

A Framework Example
Let's walk through the steps to developing a strong framework. First, we'll think about the problem in generic, abstract terms, and then we'll turn this into a strong, specific framework to our case.

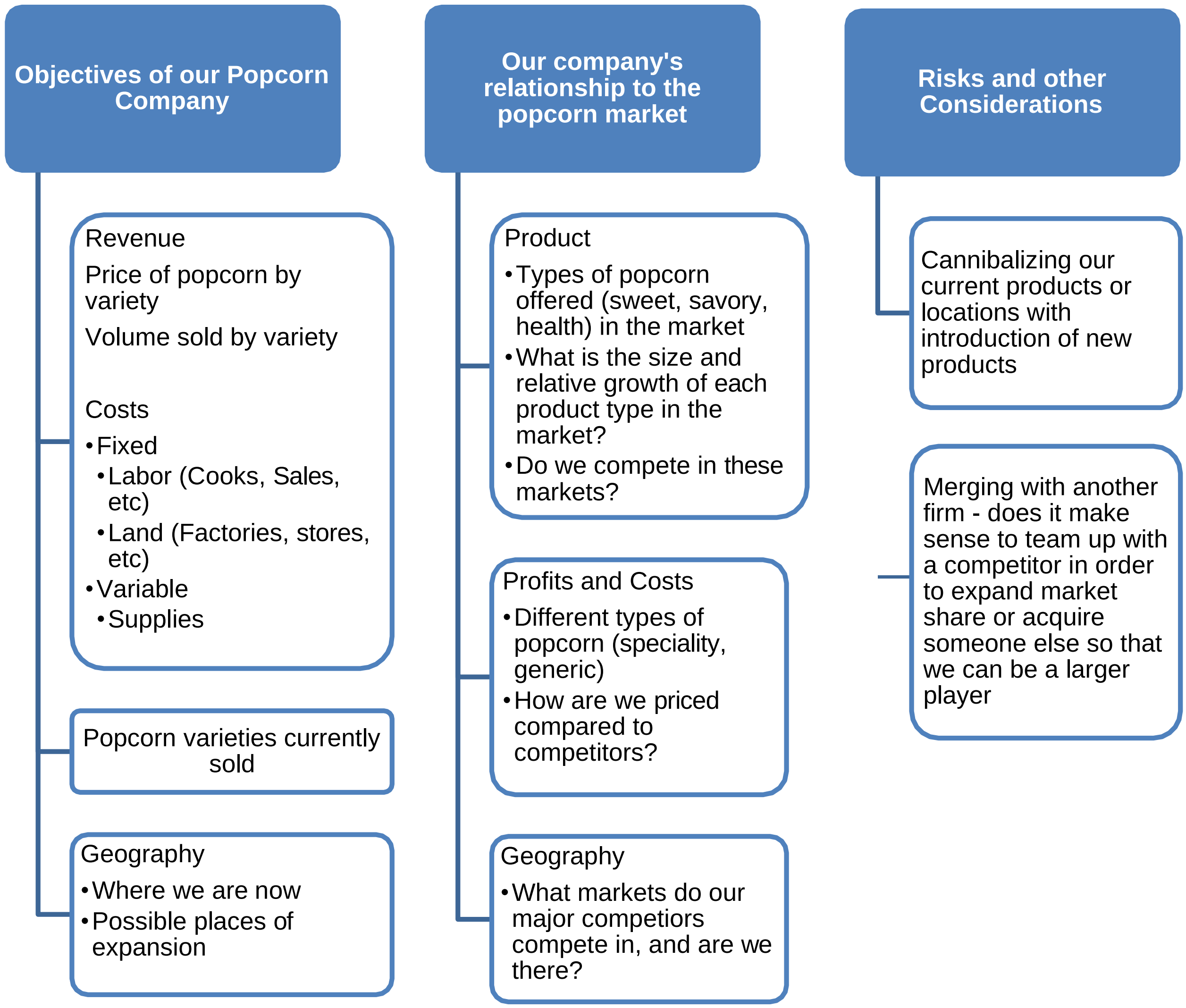
Stem: Our client, a specialty popcorn manufacturer, is considering entering a new market. Should they? If so, how?

A **generic** framework would lay out the following structure:



A Specific, Applied Framework

The generic framework included previously is a good starting point; you can adapt it to fit many different stems, including this one. A **specific, applied** framework deepens the analysis and applies to more closely to the popcorn industry. This would be a great start to an interview, though it isn't the only answer to this popcorn question!



Next Steps: After presenting your framework and walking your interviewer through the logic behind it, you should be ready to dive in! Use your structure as a jumping off point for the questions you have or issues you'd like to explore.

In this case, since we're looking at entry into a new category, a natural follow-up question would focus on exploring the size and relative growth of different popcorn types in the current market. Is there an attractive category where we currently don't have a product available? Your interviewer might just have a graph that shows total popcorn spend over time broken out by category and it seems that the health category is growing surprisingly quickly!

Chapter 8: Deep Dive- Brainstorming

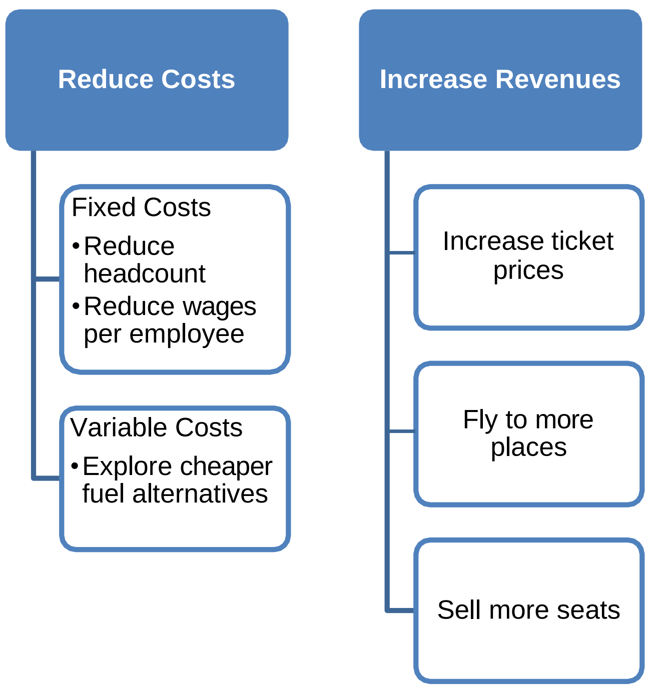
Throughout the case you will often be asked to brainstorm. This is an opportunity to show your structured thinking and creativity. The two most important things to keep in mind are **structure** and **specificity**. In other words, bucket your responses and make them highly specific to the case question.

Airline Example
Brainstorm Question: "What are some ways our airline might increase its profitability?"

An untrained brainstorm might make a list of ways to increase profitability:

- Increase ticket prices
- Reduced headcount
- Reduce wages

However, a more structured response will be easier for you to talk through with the interviewer. It is best practice to put answers into buckets to organize your thoughts and demonstrate structure. Examples of buckets could be "Internal & external", "Revenue & costs", "Existing markets, adjacent markets, and new markets", or "Domestic vs. international". Note also how this response is **specific and detailed**. The candidate talks about actionable ways to increase profits in the airline industry.



Anything Else?
While brainstorming, an interviewer will often ask you if there is "anything else?" While the interviewer might be probing for something big that you missed, they also might simply be trying to test you. It's fine to say, "I think that I've hit the major categories." Do not invent things because you think the interviewer wants your list to be longer.

Chapter 9: Deep Dive- Common Case Types

Below, we've included highlights for three of the most common case types: **Profitability Improvement/Operations, New Market/Product Entry, M&A/PE**. These are helpful starting points to make sure that you're considering all potential strategic questions when working through a case.

Profitability Improvement / Operations

Important concepts

The Basics
Profit = Revenue – Costs
Revenue = Price * Quantity
Total Costs = Fixed costs + Variable costs

To increase profitability, you must increase revenue or decrease costs

Important Metrics

Operating Margin = Operating Profit / Revenue

The higher the better! Operating Profit excludes taxes and one-off charges, so it's a clean way to see operating efficiency

Market Size = Total value of the entire market

Market Share = Our company's % of the total market

If our market share is small and the market size is large, there's significant opportunity for revenue growth. If our market share is close to the entire market size, then cost reduction will be the best way to drive profitability.

NPV of perpetuity = annual savings / discount rate

This is a great way to value the change in profitability. 10% is often an appropriate discount rate (and makes for clean math)

Key Questions to Ask

What is the timeframe for profitability improvements?

How long has our trend of declining profitability been observed?

Are other companies experiencing similar declines in profitability?

Structure components

Company: What do we look like?
- Revenue: How can we grow this? (Potential levers: increase price (higher priced products) or increase quantity (new products, new customers, new geographies)
- Costs: How can we cut them? (Potential levers: fixed, variable-> change suppliers, operational stream-line, reduce salary, move head office to cheaper location, consolidate branches, lower COGS)

Key Areas to Understand for Success:
- Will our profitability improvement come from revenue increase or cost decrease? Typically, cases only have time to focus on one lever.
- What are our most and least profitable product segments? What are our major cost centers? Where do we drive the most volume? How price inelastic are our customers?
- If the case stem mentions "reversing declining profitability," we need to understand where this drain is coming from. Which product, geographic, or customer segment is dragging down the company? The solution will most likely come from this problem area.

Market: What does the outside market look like?
- Size: What is the total value and the total volume? How have these changed over time?
- Product Mix: What products are selling well currently? How have these changed over time?
- Customers: Who purchases our product?
- Consumers: Who consumes our product?
- Competitors: Where are they located in the market? Are they facing the same profit problems that we are facing? Are we at risk of setting off a price war?
- Geographic: Is there a geography that is growing or receding in importance?

Key Areas to Understand for Success:
- What is the most attractive product or customer segment? What are historical trends? How does our portfolio and position lineup to major competitors?

Risks: brand image, cannibalization, competitor response (price war).

New Market / Product Entry

Important concepts	Structure components

The Basics

New market or product entry cases require that three questions be answered:
(1) Is this an attractive market?
(2) Are we positioned to enter this market successfully?
(3) What is the opportunity cost of our entry?

Important metrics

Market attractiveness is typically determined by the future growth potential and current competition in a market.

Our success is determined by our **core capabilities** and **competitive advantages**. Do we have experience in this market? Do our suppliers or customers overlap? There could be opportunities for scale advantages or we could be completely out of our depth.

When evaluating entry option, it's helpful to think about **Opportunity Cost**. Your company has a set amount of resources and spending them on this new market entry means that they cannot be spent on the core business. A new product with annual growth of 10% looks great, until you flip back to the stem and realize that our core is growing at 15% annually.

Is this an attractive market to enter?

- Trends in the Market: Size and growth?
- Competitors: How many? Is there significant consolidation?
- Customers: How are they segmented? What segment is growing the fastest? What is their willingness to switch products? What is the penetration of this product?
- Barriers to Entry: Is a large capital expenditure needed? Do scale or network effects help competitors?
- Products: What is the mix? How is this changing?
- Profitability: Do we expect our entry to be profitable? What are the expected per unit revenues + costs? What is the investment required to begin producing and what is our break-even point?

Key Areas to Understand for Success:

- How financially attractive is our potential slice of the pie? Ideally, we're looking for a big, easy to enter market with few competitors and high growth prospects.

Company Capacities (Internal/External Facing)

- Products: What is our current market or product portfolio?
- Suppliers: Who are our current suppliers? Will our new entry take advantage of these suppliers?
- Consumers: Who are our current consumers? Will our new entry cross-sell to them?
- Branding: Does our brand translate well to this new market?
- Channels/Customers: Do we have a developed way for moving this product or entering this market? Will we have to build new channels for this entry?
- Funding: Do we have the necessary cash flow to support expansion?
- Talent: Do we have the management and expertise needed for this new build?

Key Areas to Understand for Success:

- Do we have the ability to compete effectively in this new segment?

How to do it

- Acquisition
- Partnership/JV
- Solo Venture

Key Areas to Understand for Success:

- What is the best way that we can launch this product?

Risks: brand image, cannibalization, competitor response (entry into our core market)

Mergers & Acquisitions / Private Equity

Important concepts	Structure components

The Basics

In an **M&A case, a strategic buyer (a company) is looking to acquire a company**. Typically, strategic buyers are looking for synergies, scale, and long-term holding.

In a PE case, a **PE firm is looking to acquire a company**. PE firms typically hold companies for 5-8 years and then sell them to a strategic buyer, another PE firm, or put them on the public markets through an IPO (initial public offering). **PE firms typically raise funding in advance of purchase and hold a portfolio of companies** and **have expertise in a specific segment** of the market.

Organic Growth: Revenue growth that comes from investments made in currently held businesses

Inorganic Growth: Revenue growth that comes from acquiring another company

Target: The company that will be acquired

Key Questions to Ask

Why are we acquiring this company? Can we build this organically?

Are they pursuing other growth strategies?

Do we have a strong growth record for acquiring and integrating?

Is this an attractive market?

- Trends in the Market: Size and growth?
- Competitors: How many? Is there significant consolidation?
- Customers: How are they segmented? What segment is growing the fastest? What is their willingness to switch products? What is the penetration of this product?
- Barriers to Entry: Is a large capital expenditure needed? Do scale or network effects help competitors?
- Products: What is the mix? How is this changing?

Key Areas to Understand for Success:

- How financially attractive is our potential slice of the pie? Ideally, we're hoping that our acquisition has a strong position in a big, difficult to enter market with few competitors and high growth prospects.

Company Capacities

- Profitability: What is the target's profitability? How do their revenue/ costs break down? How does this profitability compare to the competitors?
- Tangible Assets: What property, plant, and equipment are we getting from this acquisition?
- Intangible Assets: What brand and potential synergies are we getting?
- Products: What is the target's current market or product portfolio?
- Consumers: Who are the target's current consumers?

Key Areas to Understand for Success:

- How is this target positioned in the market? Is it an attractive target in an attractive market? We want someone positioned for growth or for easy cost-cutting.

Risks

- Price: Could there be a potentially bidding war? How much do we expect to pay for this
- Portfolio/Integration Risk: How does this company fit with the PE/Strategic Buyer's current portfolio and expertise?
- Opportunity Cost: What else could we be spending our cash on?
- Exit Strategy: (PE Firm Only) How will we sell?

Key Areas to Understand for Success:

- Can we get this company for a competitive price and can we expect to successfully integrate it or sell it successfully?

Chapter 10: Practice Frameworks

Below are thirteen case stems and framework examples. **We recommend practicing these in small groups**. Typically, this works best in each person takes a turn reading the prompt, then everyone structures and compares answers. No two structures should be the same- there are many correct answers. Remember that the structure should answer the question specifically and have detail specific to that industry

#1 Due Diligence on Clothing Retail Specialist

A PE fund is thinking about acquiring a clothes retail specialist, leader on the French market. The French clothing retail market is composed of 2 segments:

- Urban: trendy, high quality, quite expensive
- Suburban: mass market, lower quality, low prices

We only have a few data on the target: total annual sales $800m, 800 stores, 4 brands on both the urban and suburban markets. The PE fund hired us to help them do the due diligence of the firm, in order to assess if it's worth bidding for it or not.

Example #1

Market

- Size and growth
- Trends
- Market segmentation
- Drivers of market
    - Buyer & supplier power
    - New entrants & substitutes
    - Competition
        - Market share & evolution
        - Market fragmented or not
- Distribution channel
- Regulation

Company

- Business and revenue model
- Competitive advantage
- Specific asset, knowledge, resource, capabilities?
- Key financials and cost structure
- Management

Example #2

Market

- Size and growth
- Competitive landscape
- Geography (urban/rural and potential to expand outside France)

Financials

- Company profitability
    - Revenue ($800M); by store / brand
    - Cost structure (Cost of 800 stores)
- PE deal
    - Acquisition price
    - Exit plan

Company non-financial attributes

- Brand recognition / positioning
- Distribution
- Management expertise

Other

- Regulation and trade policies
- Synergies with other PE portfolio companies
    - Retail industry knowledge/connections
    - Operational efficiencies
    - Management

#2 Eat Co. Profitability / Turnaround

Our client is a prepared food company known for its tasty and organic products, Eat Co. The company sells its products in supermarkets for home preparation and also to delis for on-site preparation. Eat Co has experienced a steady decline in its profits. The company's main source of revenue is from its deli products. The deli products segment had revenue of $120 million in the most recent financial year. The client has engaged us to determine (i) why profits are declining and (ii) how to turn around its profitability.

External	Financial	Internal
Market growing or shrinking?	Are costs increasing? What is cost breakdown?	What is the product mix?
Who are the competitors?	Are revenues declining?	Is it mismatched with the market?
What is happening in economy?	What are prices vs competition?	
Any major trends in market? (e.g., diet changes)	How are promos/discounts impacting sales volume/margin?	
What factors influence customer purchasing behavior?	How do products compare to competitors?	

#3 Wine Supply Chain

Our client is a winery located in California and they sell wine all over the US. They produce various marketing materials to be used in the displays in stores where their wines are sold. These marketing materials are either pushed by the central Corporate Marketing team or pulled by regional sales field offices. These marketing materials are stored in a central warehouse in Chicago and over time a lot of obsolete materials have been accumulated. Our client needs our help in reducing obsolete materials and improving their bottom line.

External	Internal
Competitors: are competitors using marketing materials in the same way?	Mix of corporate and field sales team: who is more effective?
Customers: Are customers responsive to materials? (Perhaps not the right materials?)	How does corporate push materials out?
Suppliers: are suppliers efficient? (Perhaps not delivering on time?)	How does field sales team pull materials?
	Does corporate or field have more accurate forecasting?

#4 Office Supply Stores

Our client is Office Supply Stores (OSS), a national office products company with revenue in excess of $7 billion in its last fiscal year. OSS sells various office supplies and services, business machines and related products, and office furniture under national and private label brands. It also provides high-speed, color and self-service copying, other printing services, faxing, and shipping services. The company operates approximately 1,000 brick-and-mortar stores in the United States and Canada, an e-commerce division and catalog business. OSS has more than 12 million customers, comprising of small, medium and large businesses as well as individual consumers. Over the past two years, Office Supply Stores has been experiencing declining profitability. The CEO has retained our firm to help determine what is causing the problem and how OSS might address those problems.

Market	Revenue	Costs	Customers / Channels
• Industry (industry has seen decline in revenues, profits and/or growth) • Competition (more competition, such as online or new players, has reduced market share and revenue)	• Product Mix (poor merchandising, sales in high margin services have declined faster than lower margin products) • Volume (sales have decreased, client is losing market share to existing competition or new entrants) • Price (discounting in response to competition, increased markdowns)	• Management/Overhead (too many middle managers, higher SG&A costs as percent of sales, distribution costs) • Store Operations (increases in store rent, labor costs, shrinkage/theft, renovations in store) • Cost of goods sold (lower gross margins, price increases from suppliers, higher transportation costs)	• Segments (losing more profitable customers, change in mix of business and personal customers) • Channels (sales decline in stores and catalog, more customers shopping online, Amazon)

#5 Gas Station

Your client is a gas company that operates in a town with a population of 1,000. There is only one other gas company in this town, and it is 1 mile away. The other nearest gas stations are outside town, and they are 20 miles away. Recently, our client was approached by a supermarket with the idea of selling groceries in the gas station. Our client is a simple businessman and has hired us to evaluate this proposal. What should our client consider?

Revenue	Costs	Competition
• Increased revenue from selling groceries in store • More people coming to buy gas from this station instead of station B • Will there be any profit-sharing or revenue-sharing with the grocery store?	• Upfront investment costs such as a freezer, shelves, etc. • Recurring costs such as labor will likely be minimal; can same staff can handle gas and groceries?	• Do other gas stations offer food options? • What is keeping the grocery store from going to sell groceries at other gas stations as well?

#6 Portable Storage

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

Market	Financial Impact	Considerations

• Existing market size and trends (growing, shrinking?)
• Competitor and dynamics
• Target customers (commercial, retail, office moves)
	• Costs
	  ○ Upfront: additional storage containers, marketing, licensing requirements?
	  ○ Ongoing: sales and operations team to handle increased workload
	• Revenue
	  ○ Prices charged to corporate clients; pricing structure could be one time fee or ongoing retainer
	  ○ Anticipated demand for services
		• Insurance coverage / liability for commercial products
		• Management/operational expertise to handle two different types of business?

#7 Household Cleaners Growth

Your client is a global consumer packaged goods company – Grime Co. Grime Co. makes paper products (like paper towels), home cleaning products, and laundry care products. The company's Board of Directors has set an aggressive net sales target of $2 billion by 2020 (four years). Currently, net sales are at $1 billion. The CEO has come to you to ask for help. Specifically, our client would like you evaluate the company's position and to help develop a strategy to deliver top-line results of $2 billion by 2020.

Market Growth

- Maintain market share in existing market
- What are market growth projections through 2020?

Organic Growth

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

Inorganic Growth

- Acquisition of competitor or start-ups
- Joint venture

#8 College Football

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

Financials

- Profitability; does it break even?
- Revenue
    - Tickets; single game and season tickets
    - Concessions
    - Apparel / licensing
    - TV/ radio broadcasting rights
- Costs
    - Upfront: Stadium build/upgrade or rent
- Operating: Coaching staff, athletic scholarships, equipment / uniforms, travel

Non-Financial Impact

- Increased exposure and brand awareness
- Improved college experience

#9 Publishing Company

Your client is the CEO of a publishing company producing a line of educational magazines and a line of women's magazines. Both businesses are profitable but not growing quickly. She wants to start a third monthly magazine in the US targeted at 25- to 55-year-old men (e.g. GQ Magazine). Her stated goal is $12 million in circulation revenues in the first year. Should they go forward with the third monthly magazine?

Revenue from Third Magazine

- Estimate circulation
    - Size of potential market
    - Ability to grow circulation
- What is market price of this type of magazine (e.g, $5/magazine, monthly editions)

Cost of Third Magazine

- Initial: equipment, licensing / trademark, initial marketing
- Ongoing: COGS (paper, ink), staff to write articles, editors
- What economies of scale / efficiencies could third magazine benefit from (e.g, distribution channels, sourcing of COGS)

Other Implications

- Impact on overall brand
- Target demographic accessibility

#10 Office Products

Your client is Office Products Co., which sells office supplies directly to businesses and consumers. It is direct retailer of office products through two channels: catalogue and internet. This market is growing, especially the internet. Office Products Co. has experienced historic revenue growth rates of 10%/year; however, over the past two years, revenue growth has been flat and profit margins have been trending down. Your job is to figure out what is causing the declining performance and determine what the management should do to turn things around.

Market Dynamic

- Size and growth rates of market
- Is this something that is happening more broadly or specific to our client?

Company

- Revenue drivers (price, # of transactions, $ per transaction),
- Cost drivers, customer satisfaction

Company Dynamics

- New market entrants
- Changes in prices
- Changes in channels (e.g., online sellers with lower overhead costs could drive prices down)
- Changes in customers
- New substitutes; such as online presentations and content rather than

#11 US Financial Services

A major U.S. financial services company has just implemented a Client Relationship Management (CRM) system. The goal: To give leadership a real time view into the organization's sales channel. For years, sales teams have maintained client sales information in separate excel spreadsheets.
This prevented leadership from having visibility into and a holistic view of sales opportunities, which meant sending multiple requests to sales teams for the latest and greatest information. By the end of fiscal year, all sales teams are expected to migrate their sales data onto this new system, and use it to manage all sales information. You are the change management lead for this project. How would you approach getting everyone on the system?

Stakeholders and Incentives

- Management; pushing for new system to see aggregated results; ensure management is visibly supportive of change
- Sales team; change will impact their day to day the most; develop implementation plan that accommodates sales needs where possible to limit disruptions to their work
  - Provide ample training
  - Collect feedback
- IT/support functions: will be critical to success of transition and new system; work to make support functions feel heard and empowered to speed change along where appropriate

Aligning Incentives

- Rewards: financial and non-financial for cooperation
- Recognition: publicly acknowledge those who are adopting new process, recognize desired behaviors

Risks

- Top-down approach could feel out of touch to frontline employees
- Consistent messaging so it doesn't feel like "just another initiative"

#12 Real Estate Developer

Your client is a real estate developer, Lizette's Luxury Properties, and is currently assessing a new project idea in Costa Rica. Costa Rica has a beautiful coastline which has historically been difficult to access. The nearest airport was over six hours away. As of last year, a new airport was constructed only a half hour away. There has been an investment boom in the region due to the increasing number of tourists (popular with Americans and Asians). The Mandarin Oriental and The Four Seasons, two prominent luxury hotel chains, were the first to enter this market with a 250-room hotel each. Should your client invest in the tourism opportunity created by the new airport? Would you recommend that s/he enter the market?

Financial Factors

- Does property generate profits?
  - Costs:
    - Upfront: development costs,
    - Ongoing: staff, maintenance, insurance, utilities, etc.
  - Revenues:
    - Quantity: anticipated demand, room fill rate
    - Prices: what price-level of rooms? Discounting or longer-term pricing?

Other Success Factors

- Client core competencies
  - Has client worked in beach areas? With hotels / short term rentals?
- Costa Rica market attractiveness
  - Area safety, including infections from disease such as Zika could impact tourism
- Barriers to entry: government regulation, is beach front property available?

#13 In-Flight Internet

Our client is a start-up with the ability to deliver broadband internet to commercial airlines. How would you help them think about their offering?

Airline Market

- Size and growth of market
- Customer segmentation; business travelers vs leisure

Financials

- Structure of deal with airlines; retainer or case by case?
- Revenue:
  - Demand for services
  - Pricing (how sensitive are consumers to price for this service?)
- Costs:
  - Upfront: to install capability in airplanes?
  - Ongoing should be relatively low to maintain and upgrade networks once it is up and running

Risks

- Government regulation?
- Competitive response (is there patent protection?)

Chapter 11: Practice Math

You should expect to do some math in (almost) every case. Below are some tips for acing the math section and examples of the type of math that you should be familiar with.

Be able to convert **percentages** into **fractions** into **decimals** and vice versa; some cases are easier to solve with fractions, some with decimals, and some with percentages. Recognizing these will allow you to easily approximate calculations such as 6/7 (1-0.14 = 0.86) and 5/9 (5*.11 = 0.55) under pressure.

Practice algebra, multiplication and division. Smartphone apps such as “Rocket Blocks” are good for sneaking in some quick practice on-the-go. Common types of calculations to be comfortable with are below. Practice a handful of each type of calculation.

- Big division (e.g., 100,000,000 / 50,000)
- Big multiplication (e.g., 50,000 x 15,000)
- Small multiplication (e.g., 600 x 20)
- Percentages (e.g., 35% of 60,000)
- Percent * percent (e.g., 25% of 80%)
- Market math (e.g., if 500,000 is 20% of the market, how big is the total market?)
- Growth estimates (e.g., if current revenues are $10M and growing at 10% YoY what will revenues be in 3 years?)

Case math should be **structured** and **easy for your interviewer to follow**. **Practice tabling** your math on blank sheets of paper. Tables should have headers and units should be clearly labeled. An example table for practicing percentages is below.

Percentage Market Share	Market Size	Dollar Market Share
5%	$800,000	$40,000
80%	$90,000	
30%	$7,000,000	
30%	$3,000,000	
75%	$7,000,000	
45%	$5,000,000	

Break it up when necessary. Don’t remember what 15% of 800 is? Take 10% (80), and 5% (40) and add them together (120).

Don’t forget the **distributive property.** 627*53 is hard to do, right? But it is the same as (500+100+20+7)*(53) = 26,500+5,300+1,060+371 = 33,231.

Simplify then solve. Don’t dive into the multiplication, write out the whole equation first. **Often awkward numbers will cancel out**. For example, you need the profitability of 150 units sold for $136 each. Each unit costs $36. You could do 150*136 – 150*36, or you could realize that the per-unit profit is $100 and multiply that one by 150 – which is easier.

Use **mental math shortcuts** when dealing with large figures:

- hundred*hundred = 10k (200*400 = 80k)
- k*k=M (e.g., 3k * 6k = 18M, 15M/3k = 5k)
- k*M =B (e.g., 5k * 4M = 20B)

Round where possible. Trying to figure out the profitability if you sell 202 units at $99 each? Ask if it’s ok to round to 200 units at $100 – often it is!

Chapter 12: Practice Brain Teasers and Market Sizing

Although these are not common case questions, be prepared for some curveballs. Practicing a few of these will make you much more comfortable should a firm give you one. Like in a regular case interview, perform the required analysis, then present a clear answer to the stated question!

1. Determine the true economic value of a soccer player in a soccer club.

Behind the scenes: This has been designed to be a very open-ended question and it can be approached in many ways.

Possible Answers**:** As always, the "rightness" of a response is a factor of how logically you organize your answer, and the extent to which the interviewer follows your analysis.

Bottom-up: Look at the player's characteristics and previous contribution and compare them to those of other players in a similar position. Also consider the revenues from sales of merchandise associated with that player.

Top-down: The revenue of the soccer club (for example $100 million) is split between the different players on the team and other parties.

Considerations: The sum of the economic values of all the players is not equal to the club's revenue for two primary reasons:

- A soccer club is guaranteed a certain level of ticket/season pass sales coming from loyal and passionate supporters regardless of the team's performance.
- The coach of the team can be very important in extracting the most out of the teams' players and as a result should be responsible for some of the club's revenues.

Potential recommendation**:** An individual player's economic value is that players share of the franchise's total profits, weighted by that player's value relative to other players and adjusted to account for intrinsic value in the soccer club.

2. Calculate the annual revenues of Mercedes Benz in California.

Behind the scenes: This is a market-sizing question in which you need to go through all of the numbers and your thought process with your interviewer and then deliver your solution.

Interviewer: We are more interested in your logical thought process rather than the actual answer that you generate.

Possible Answers**:** Use a series of steps to hone in on an estimate

Estimate the population of California	40M		
Estimate average cost of a Mercedes	30K		
Estimate # of people who could afford a Mercedes (% of above)	5%	2M	
Estimate # of the subgroup who could drive it (% of above)	25%	500K	
Estimate market share of Mercedes in luxury car market 20%	100K		
Estimate average *used* lifetime of the average Mercedes	5yrs		
Divide the number of people in Mercedes' market (6) by used lifetime (7)			**20,000**

This is a good question on which to perform a quick reasonableness check and/or sensitivity analysis. For instance, “If I am grossly overestimating the % of people who can afford a Benz, and if the actual number is 2%, that would drop the total number of cars in CA from 20K down to just under 10K cars.

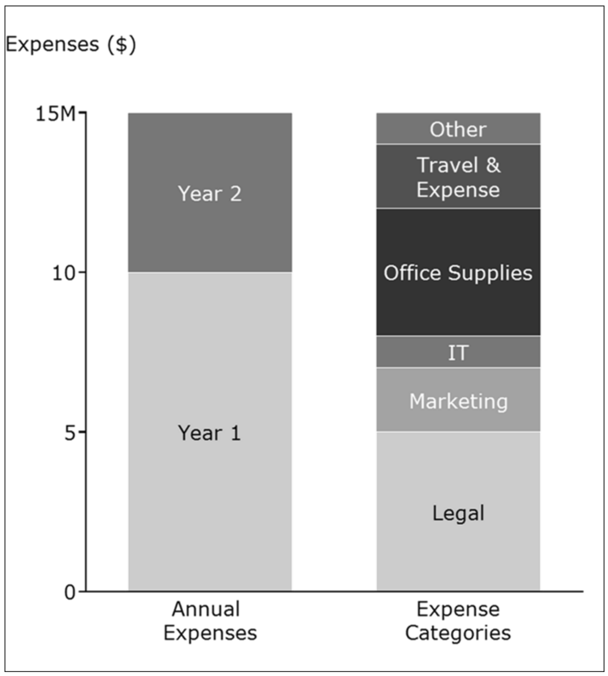
Conversely, Mercedes is an aspirational brand, so people might buy a Benz even if they can't afford it, resulting in 10% of the population being able to afford it. I think I could say with confidence that there are between 10 and 40 thousand Mercedes Benz's in California.”

Chapter 13: Practice Chart Interpretation

Learning how to interpret charts is an important part of case interview preparation. The following section has several charts that you can start practicing with. After looking at each chart, write down a couple of key insights (e.g., our client's market share is growing in one segment of the market but shrinking in another segment). Compare your insights to sample insights to see if there was anything you missed.

Online Video Games
Chart type: 100% stacked bar

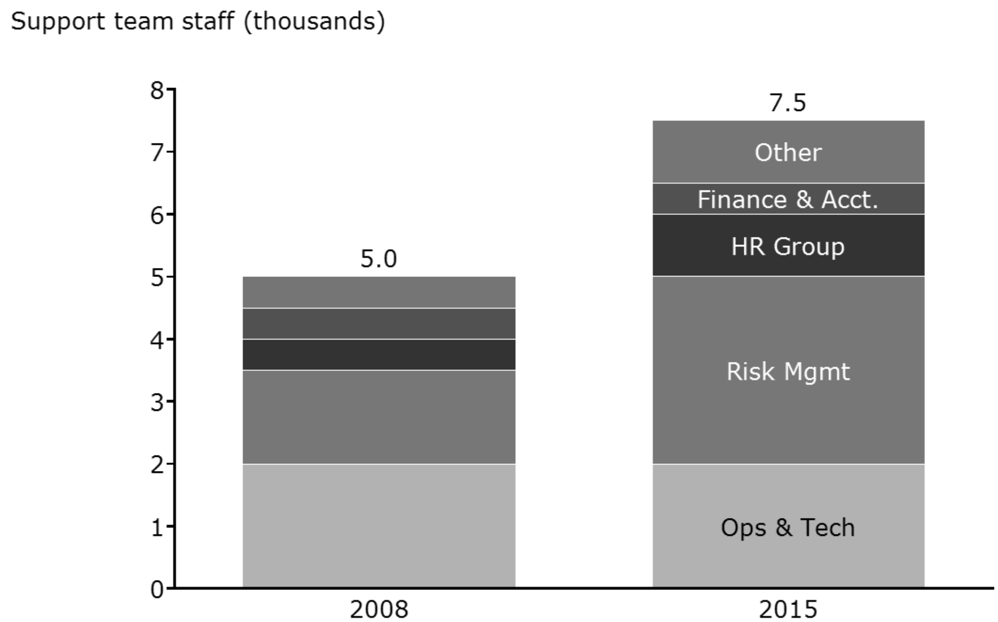
Your team is ramping up on a new case for a tech client that creates online video games. The associate hands you the following chart in preparation for a meeting with your manager in 5 minutes to discuss the company's costs. What are your thoughts?



- 2/3 of costs came in year 1, should look into potential one-time charges and/or cost cutting initiatives that took place
- The reduction of ~$5M from year 1 to year 2 is approximately the size of legal expenses, could the difference have come from one-time legal fees? Large and repeated legal costs seem odd for a video game company
- Office supplies seem to be a large expense given the nature of the business, similar questions could arise about one-time costs / cost cutting
- Marketing seems relatively small proportional to the other categories

Local Retail Banking
Chart type: Stacked bar

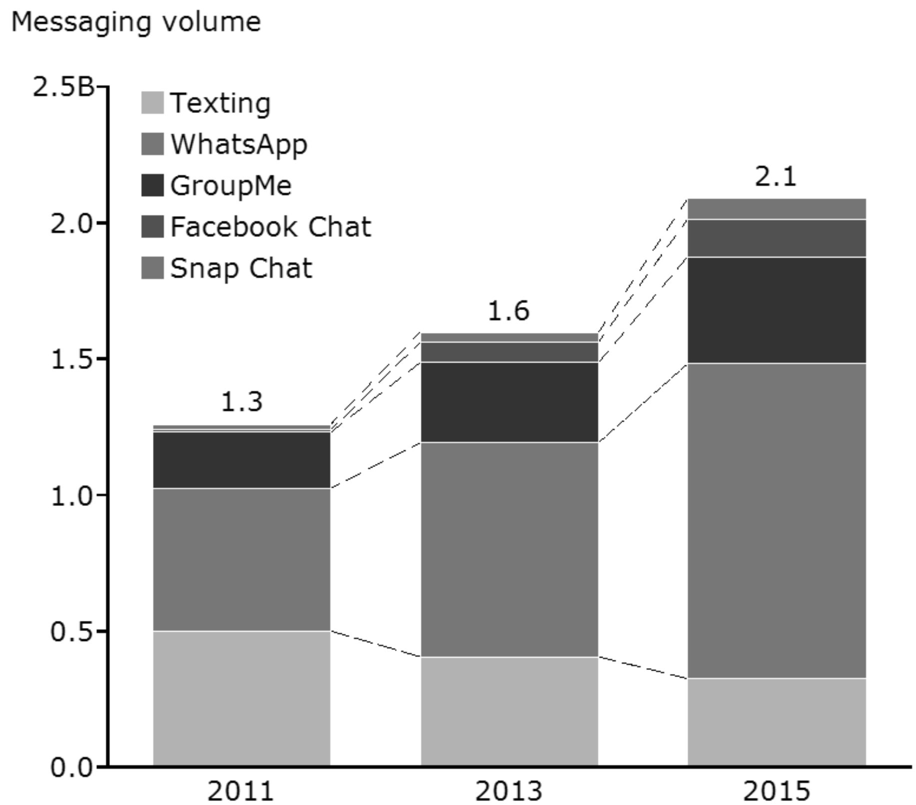
You are working with a local retail banking client. After categorizing the 2008 full-time employees based on internal documents, you receive updated figures from your contact at the client. You are sitting with the partner on the case as the data comes in, what are your takeaways?



- Overall headcount has increased 50% in 7 years, has this been consistent with revenue / profit growth? We should determine if this growth is consistent with expectations and/or industry standards
- The majority of the difference has been in Risk Management, which has increased 100% (doubled). A reason could be the increase in regulation following the financial crisis
- Are the costs for each full-time employee per category similar? In particular, is Risk Management expensive from a headcount perspective? We should look to determine overall costs per category
- Ops & Tech remains relatively constant, though it is the second largest category in 2015, down from the largest in 2008. Is this as a result of more efficient processes or a lack of overall growth?

Messaging Volumes
Chart type: Stacked bar

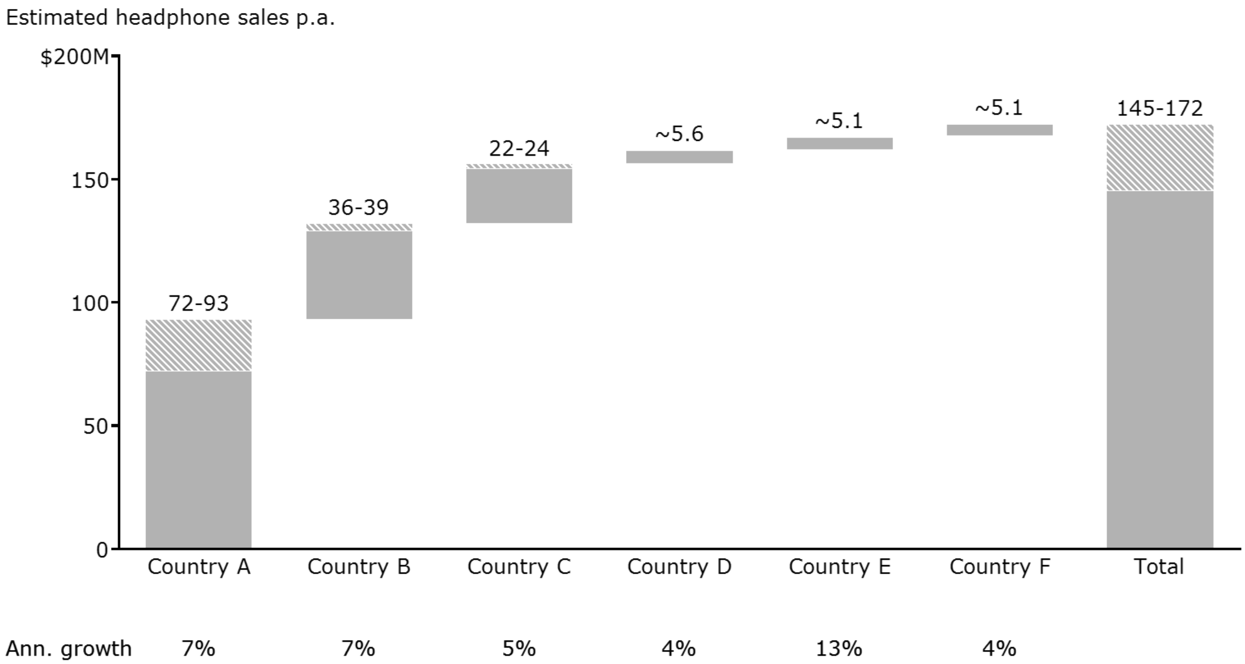
You are analyzing messaging volumes on behalf of a large mobile communications client. Your research leads to the creation of the following graph. What key insights do you deliver to your team at the next update?



- Messaging volume increased ~20-25% from 2011-2013 and ~30-33% from 2013-2015. This trend seems to be a promising indicator of the future importance of messaging as a mode of communication
- Standard texting seems to be the only category that is declining, at around ~20% annually (~0.1B annual decline)
- WhatsApp is the most frequently used messaging platform, nearly doubling in volume over the 4 years covered
- Facebook Chat and Snap Chat have grown exponentially since 2011, are these the next areas of growth?
- It would be prudent to scope the overall market to establish a “ceiling” on future growth
- We might want to look at the number of individuals using these messaging services to determine if the user base is expanding or if usage per individual is driving growth

Headphone Manufacturer
Chart type: Waterfall

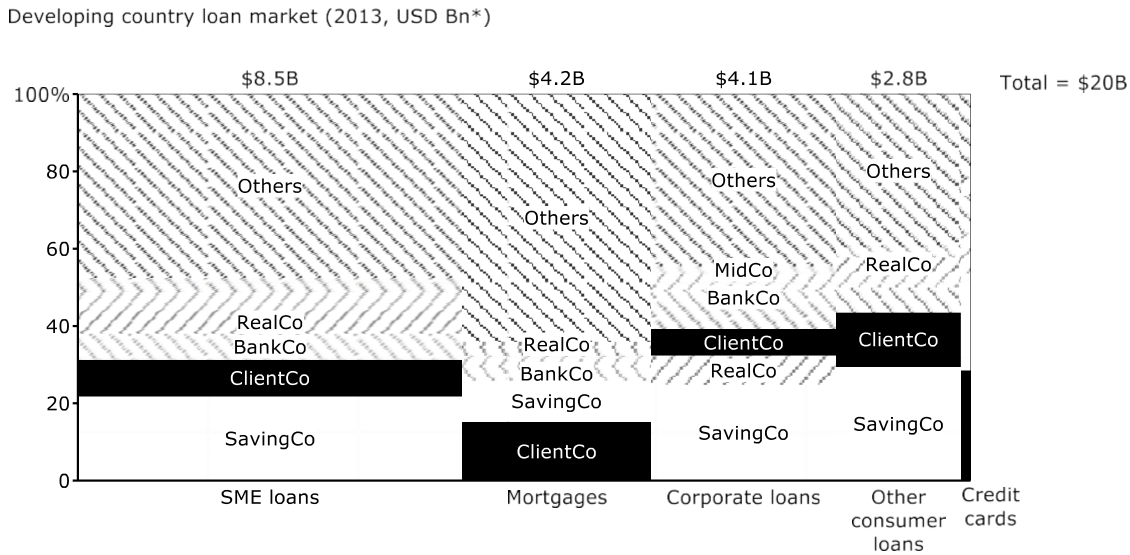
Your client is a producer of high-end headphones in the United States, and is looking to expand internationally. You are working one evening with your manager when the associate on the team sends across the following chart on the opportunity size for headphone sales in Europe. What takeaways do you discuss with your manager?



- Country A seems like an attractive market to consider further, sales look to be ~50+% of the six countries presented
- Since there are more than six countries in Europe, we should check the selection criteria with the associate - are these the largest sales opportunities, areas the client has capabilities to enter, etc.
- Country E has the same approximate sales as country F, yet triple the growth, we should look into the reasons behind this to determine what drives demand
- Country A has a large estimation error, even for its size, we should double check the components of the estimate and the impact of over/under estimating
- The top 3 countries comprise ~90+% of sales, we can focus on them first and narrow the scope of our future analysis
- Next steps would include looking into the composition of each of these estimates to determine what segments generate the most sales (high-end vs low-end headphones) and if there are any macro-economic considerations that could be driving demand. We could look into competitors in the space, the cost of entering each country, price per headphone type, etc.

Developing Country Loan Market
Chart type: Mekko

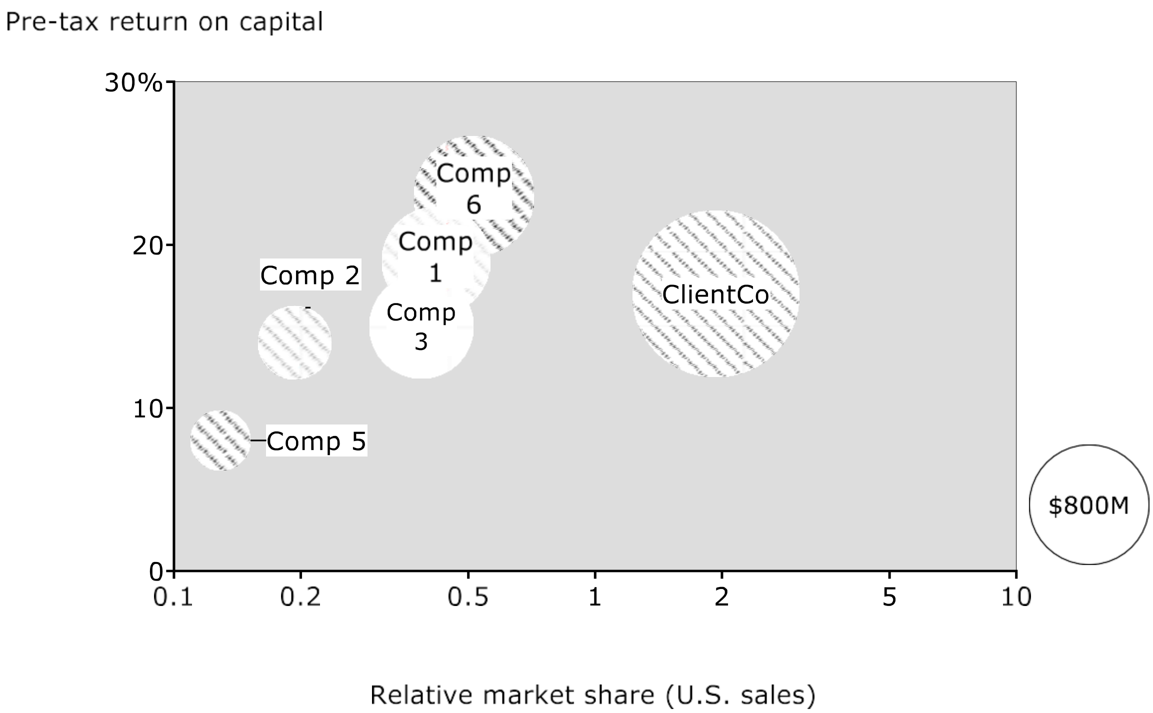
Your client is an international bank with strong presence in a small developing country. An analyst on your team has prepard the following chart on the loan market in this developing country. What are the key insights that you can draw from this chart?



- ClientCo is a threat in all segments of the loan market
- SavingCo is a strong competitor, dominating three segments
- The SME market is attractive, making up over 40% of the total loan market
- The credit card segment is still very small – does this present an opportunity for the future?
- Mortgage segment may be attractive due to significant segmentation
- The total loan market in this country is $20B

Compnay-to-Industry Analysis
Chart type: Relative Market Share / Return on Sales (RMS/ROS)

The CEO of your client believes that her company is underperforming relative to the industry as a whole. You see the chart below in an industry summary presentation prepared by the senior consultant on your team. What do you think?



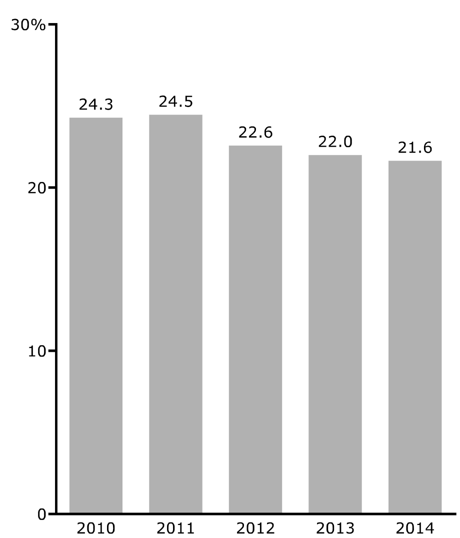
- ClientCo is the leader in terms of market share, with sales almost 2x those of its second biggest competitor
- There is a strong correlation between market share and profitability
- Given its strong market share, ClientCo appears to be underperforming relative to its profit potential
- Alternatively, there may be a problem with the definition of ClientCo's business vs. the competitors listed in the chart (e.g., does ClientCo compete in different geographic markets; does ClientCo have business lines that don't compete with the other competitors on the chart?)

ClientCo EBIT Margins

Chart type: Bar chart

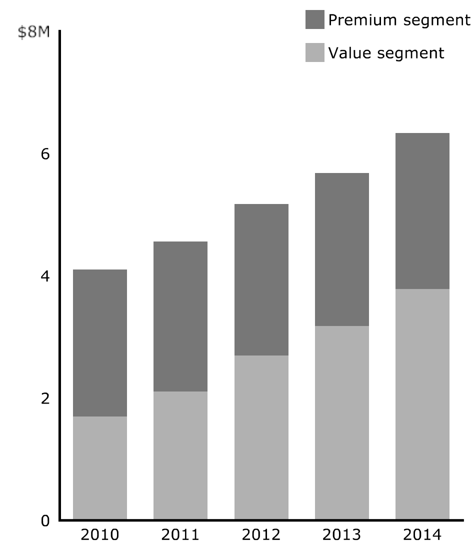
A friend who is on the board of a large CPG company is concerned because the company's EBIT margins have shrunk over the past few years. He shows you the charts below. What would you tell him?

ClientCo EBIT margin



	2010	2011	2012	2013	2014
Return on assets	23.3%	24.7%	24.4%	24.9%	25.7%

ClientCo sales

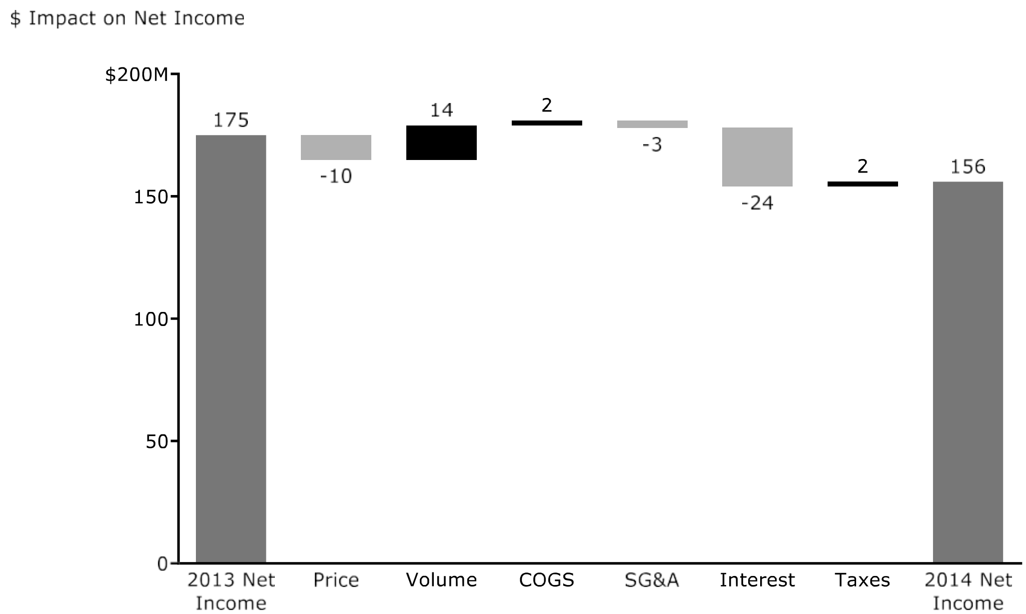


	2010	2011	2012	2013	2014
Premium margins	31.2%	33.2%	31.7%	31.8%	32.4%
Value margins	14.5%	14.3%	14.2%	14.3%	14.4%

- ClientCo's EBIT margin has clearly fallen over the past few years. The driver of this decline is the fast growth of the lower margin value segment combined with the slow growth of the higher margin premium segment
- Margins within each segment have remained relatively steady
- Although profit margins have declined, return on assets has increased. This suggests that the value segment is a less asset-intensive segment to serve

Net Income Waterfall
Chart type: Waterfall

Your manager is concerned because your client has reported net income that is $19M lower than it was last year. You've asked the analyst on your team to prepare a waterfall chart to bridge last year's net income number to this year's reported net income. What would you tell your manager?

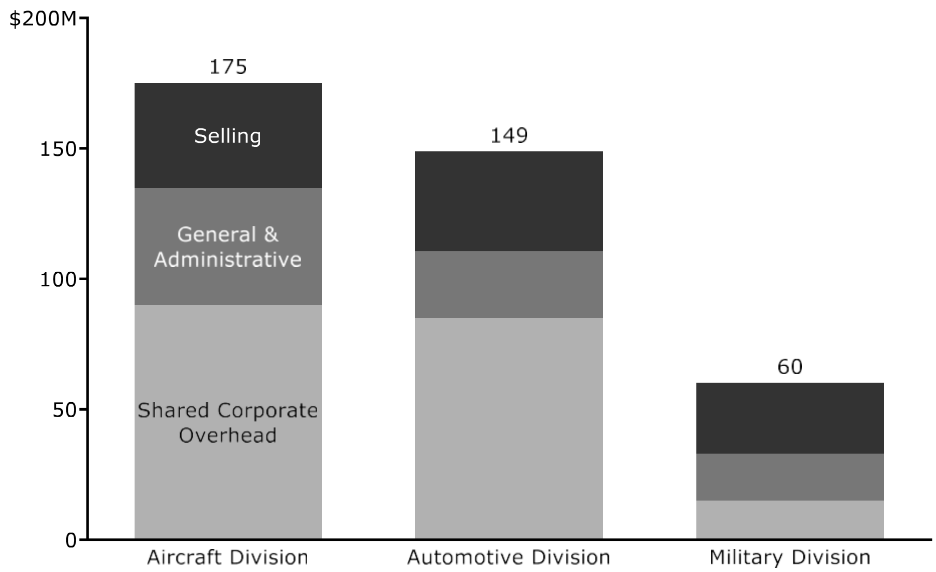


- Most of the decline in net income for the year was due to increased interest expense. Operating profits were flat.
- Pricing had a negative impact on net income while volume had a positive impact, suggesting that the company may have cut prices in order to gain market share

SG&A Analysis
Chart type: Stacked bar

You have just been staffed on a project that is focused on improving the profitability of a manufacturing company’s aircraft division. Your workstream is focused on SG&A reduction and you are given the chart below. What are your initial thoughts?

2014 SG&A by division



Revenue (2014)	900	850	600

- General & Administrative as a % of revenue seems high for the aircraft division, suggesting potential to cut costs in that area
- The shared corporate overhead allocation is low for the military division relative to revenues. The corporate overhead must be allocated by a measure other than % of sales. We should look into how corporate overhead is allocated across the three divisions

Chapter 14: Additional Reference Materials

We understand that all of you come from different jobs, majors, geographies, and life experiences. Some of you may be more comfortable than others with talking about the challenges facing supermarkets or with the specific language of consulting. This chapter is meant as a resource to help you understand terminology and broaden your business knowledge.

General Resources

- **Sloan Classes:** Your classes are some of your most helpful learning opportunities. Microeconomics is invaluable, as are Accounting and OP. Listen in class, contribute, and don't be afraid of asking questions. It's better to learn the difference between Net Income and Operating Profit in class than to encounter it cold in a case.
- **Outside Reading:** Favorite publications include: The Wall Street Journal, The Economist, The Financial Times, and Pitchbook. **Don't read to learn about what's happening**- interviewers rarely give you a pop-quiz about recent events and are uninterested in a factual robot. **Read to understand the lexicon of business and the basics of popular industries**.
- **Lectures and Lunches:** Attending recruiting lectures for other industries is a great way to learn about them and to pick up the language that they use to describe their operations.
- **Your Peers:** Some case groups had members give 15-minute pitches about the industry and functions that they previously worked in. It can be a great way to get to know each other and to better understand a wide variety of companies.

Glossary of Common Terms:

Barriers to Entry: Things that make it difficult for a new company to enter and compete effectively against companies already established in the field. They benefit established firms and inhibit potential entrants. Examples: patents, trademarks, copyrighted technology, a dominate brand.

Benchmarking: Gathering information about other companies in your industry to compare your performance against them.

Blue Sky: An entirely open market or products segment that it not served by competitors.

Bottom-Line: The bottom line of the income statement (i.e.,Net Income Available to Shareholders). When a company wants to increase their bottom line, they want to increase revenue or decrease expenses (i.e., increase profits).

Brand Integrity: Be careful not to price too low, as doing so could compromise the reputation of the brand.

Break-Even Point: The point at which revenue matches costs for a new product. This may or may not include allocated fixed costs per unit, so use all information on hand.

Consumer Price Index (CPI): Changes in CPI are used to assess price changes associated with the cost of living. CPI is one of the most frequently used statistics for identifying periods of inflation or deflation. The CPI is calculated by taking price changes for each item in the predetermined basket of goods and averaging them; the goods are weighted according to their importance.

Cost of Goods Sold: COGS, the direct costs of a product (e.g., costs to purchase or produce) that a company then later sells.

Discount Rate: Rate used to calculate the present value of future cash flows.

Discounted Cash Flows (DCF): Future cash flows multiplied by discount factors to obtain present value.

Double Marginalization: Monopolists at multiple stages in the value chain each marks up prices, producing higher prices to the consumer. Also called 'double markup'.

E_d : Elasticity of demand. It considers the impact of changes in price on changes in quantity demanded. You might also see elasticity come up in charts or graphs that you are shown.

Fiscal Policy: Government spending policies that influence macroeconomic conditions. These policies affect tax rates, interest rates, and government spending in an effort to control the economy.

Fixed Assets: Expenses that don't change based on production or sales volume. These include salaries, rent, insurance, etc**.**

Gross Domestic Product (GDP): The monetary value of all the finished goods and services produced within a country's borders in a specific time period (usually annually). GDP is commonly used as an indicator of the economic health of a country, as well as to gauge a country's standard of living.

Gross Profit: Sales - COGS. Gross Margin= Gross Profit/ Total Sales. This is an indicator of sales to profitability.

Inflation: The rate at which the general level of prices for goods and services is rising and, subsequently, purchasing power is falling. As inflation rises, every dollar will buy a smaller percentage of a good. Most countries' central banks will try to sustain an inflation rate of 2-3%.

Internal rate of returns (IRR): Discount rate at which investment has zero net present value.

Lagging Indicators: A measurable economic factor that changes after the economy has already begun to follow a particular pattern or trend. Some examples are unemployment, corporate profits and interest rates.

Leading Indicators: A measurable economic factor that changes before the economy starts to follow a particular pattern or trend. Bond yields are typically a good leading indicator of the market because traders anticipate and speculate trends in the economy.

Market Share: The percentage of the total market for a good or service that a company holds.

Monetary Policy: The actions of a central bank, currency board, or other regulatory committee that determine the size and rate of growth of the money supply, which in turn affects interest rates.

Money Supply: The entire quantity of bills, coins, loans, credit, and other liquid instruments in a country's economy.

Monopoly: While such firms have significant control over prices, monopolies are also faced with downward sloping demand curves implying that an increase in price will result in a lower sale volume. Monopolistic profit maximization is governed by the relationship $MR = MC = P\left(1 + \frac{1}{E_d}\right)$ where Ed is the elasticity of demand. Note that if the demand is highly elastic then there is little advantage to having monopoly power since MR = MC = Price (i.e., the same as that of a price-taking competitive firm). Even if demand is inelastic, monopolistic firms must be careful in their pricing so that the market does not become too attractive, thus inducing new market entry and competition.

Multiples: A valuation theory based on the idea that similar assets sell at similar prices. This assumes that a ratio comparing value to some firm-specific variable (operating margins, cash flow, etc.) is the same across similar firms. In other words, the theory is that when firms are *comparable*, we can use the multiples approach to determine the value of one firm based on the value of another.

Net Present Value (NPV): A project's net contribution to wealth is equivalent to the present value of cash flows minus initial investment. This is the most preferred form of valuation by academics.

Oligopoly: This occurs in highly concentrated industries with significant barriers to entry. Firms have marginal control over prices and must consider rival firms' behavior to determine the best policy.

Resist the urge to cut prices; your competition will likely match your price cut, and you'll both lose. Bring game theory into play.

Opportunity Cost of Capital or Hurdle Rate: Expected return that is foregone by investing in a project rather than in an alternative investment.

Payback Period: amount of time in which project should recover its initial investment.

Perfect Competition: Without any product differentiation, a firm will be a price taker. A competitive firm's demand curve is horizontal, and its elasticity of demand is infinite. MR = MC = P.

Perpetuity with Growth: A cash flow (CF) per year given that grows at a constant rate of *g* given a discount rate of *r* is $PV = \frac{CF}{r-g}$

Perpetuity: The value of a constant cash flow CF per year given a discount rate of *r* is $PV = \frac{CF}{r}$

Present Value: The current worth of a future sum of money or stream of cash flows given a specified rate of return. Future cash flows are discounted at the discount rate, and the higher the discount rate, the lower the present value of the future cash flows.

Price Discrimination: Consider methods to enhance and support price discrimination, which allows a firm to charge different customers different prices (e.g., charging higher prices to customers with high willingnesses to pay)

Pricing Tactics: Consider using tactics such as "loss leaders" or "traffic builders".

Producer Price Index (PPI): A family of indexes that measures the average change in selling prices received by domestic producers of goods and services over time. PPIs measure price change from the perspective of the seller.

Profitability Equations:

- Profit = Total Revenues - Total Cost
- Total Revenues = Price*Quantity
  Total Costs = Fixed Costs + Variable Costs

Risk-free rate: The risk-free rate represents the interest on an investor's money that he or she would expect from an absolutely risk-free investment over a specified period of time. Investors commonly use the interest rate on a three-month U.S. Treasury bill since there is virtually no risk of default.

SKU: Stock keeping units, typically a retail term. Wal-Mart has around 100k SKUs in a typical store. More SKUs= more variety and more customer types served, but this adds significant logistic costs.

Stagflation: A condition of slow economic growth and relatively high unemployment - a time of stagnation - accompanied by a rise in prices, or inflation. Stagflation occurs when the economy isn't growing but prices are.

Time: Consider the long-term and dynamic effects of pricing decisions. Demand may be inelastic in the short run, but elastic long term (remember automobiles vs. gasoline).

Chapter 15: How to Use the Mock Cases

How to Be an Effective Interviewer

- **Stay in the role of an Interviewer:**
    - Play the role of a consultant who is evaluating the candidacy of the person across the table.
    - Don't give data away. Let the Candidate ask for data on their own. Ask guiding questions only if the Candidate is stuck for long.
    - Pressure the Candidate to be specific when performing analyses, running calculations or making recommendations.
- **Respond to questions with questions:**
    - If the Candidate is fishing for data or direction, or if you feel that you're being too easy on the candidate, try answering questions with questions of your own, such as "What do you think?" "Are you sure?" "Can you be more specific?" "Why do you need that data?"
- **Take notes:**
    - Interviewers will often take notes during interviews. This can be disconcerting, especially when the interviewer starts scribbling while you know you're babbling. You want your classmates to be ready for this situation and you want to remember specific instances for improvement during the case.
- **Give Precise and Meaningful Feedback:**
    - Use the feedback form on the next page to provide feedback to candidates for both behavioral and cases. Make sure that you answer the following questions when giving the candidate feedback.
        - Was the initial structure effective? Did the Candidate refer back to it during the case?
        - Was the Candidate structured throughout the case?
        - Was the Candidate action oriented? Did they drive the case?

Sloan Values and Integrity

We base our casebook on real cases because we believe doing so provides you with the most effective preparation material. We do *not* base our book on real cases to give you an unfair advantage in the event that you are given a case in an interview that you have already seen during interview preparation. In fact, using real cases means you may face tests of your integrity.

Consulting firms detest dishonesty. If they discover during or after an interview that you willfully received a case with which you were familiar, you will not get the job, your reputation will be irreparably damaged with that firm and other firms, and the MIT Sloan community will suffer from your lack of integrity.

If you hear a familiar stem, pause the interviewer and say "I'm sorry, but this sounds familiar. I think I may have received a similar case from one of my peers during a mock interview. Could you give me another case?" The interviewer will gladly give you another case. They have plenty to choose from.

Do not try to get away with taking a case that you already prepared.

Earn your internship by cracking a new case on the first shot.

MIT SLOAN MANAGEMENT CONSULTING CLUB
Interview Preparation: Evaluation Form

Name of Candidate:

Please try to provide feedback on all the areas!

Date:

BEHAVIORAL QUESTIONS

Did it address…	Leadership & collaboration	Problem-solving	Results & impact	Passion & enthusiasm	Additional feedback
Question 1					
Question 2					
Question 3					

CASE EVALUATION

Must-haves		Additional feedback	
Item	**Y/N**	**Strengths**	**Areas for improvement**
Stem (before framework)			
○ Summarized the case appropriately ○ Asked relevant clarifying questions ○ Made the case relatable			
Framework			
○ Developed stem 1.5-2 minutes ○ Developed a MECE framework ○ Customized the headings			
Overall case			
○ Drove the case for next steps ○ Delivered the “so what” ○ Connected back to main question			
Math			
○ Error/mistake-free calculations ○ Used shortcuts to simplify math ○ Connected the “so what” from math to case question			
Exhibits			
○ Drew insights from graph / data ○ Explained graph / data properly			
Brainstorm			
○ Structured thoughts and wrote down notes on slides ○ Had creative insights and ideas			
Recommendation			
○ Structured the conclusion ○ Answered the case question ○ Included risks & next steps			
Casing tone / voice / style			
○ Conversational tone ○ Structured and concise delivery ○ Engages interview; followed coaching where appropriate ○ Was likeable & inspired confidence			

Chapter 16: Case Type Matrix

The casebook includes a number of different types of cases to give you exposure both to different types of cases, and different industries. Although you do not need to do all of the cases, we encourage you to use this matrix in order to track your practice and ensure you have done different types of cases.

	CPG/Retail	Fin Services	Healthcare/ Pharma	Industrial Goods	Private Equity	Tech
Profitability Improvement						
New Market						
New Product						
M&A						
Operations						
Competitive Response						

Chapter 17: Cases

The MCC Casebook can be overwhelming. As a starting point, MIT Sloan MCC recommends consulting applicants complete these cases as part of their preparation process. While everyone's casing process is different, in our experience these cases represent the MINIMUM level of practice needed to competently execute an interview.

We strongly encourage you to go beyond this selection.

Easy

- Bain Dairy Farm
- Bain Nantucket Ice Cream

Medium

- Bain VAT Tax Processing
- BCG Ferret Rabies Vaccine
- McKinsey Quentin Tarantino

Hard

- Bain HDTV Remote
- BCG Antidepressant Pricing
- EY Marlin Toys
- McKinsey Maldovian Coffins
- McKinsey Dinosaur

1. Electrical Utility Co. (Bain Mock, Industrials, Profitability, Quantitative)

Stem

Our client is an electrical utility company that had negative earnings last year due in large part to a one-time write-off of bad debt. Our client operates in what is essentially a perfectly competitive market with 30+ competitors. The way our client's industry works is this: customers typically have 12-24 month contracts and incur minimal switching costs when moving from one electrical utility company to another.

Our client has brought us in for two reasons: (1) to figure out why profitability has fallen and (2) to help them improve profits going forward.

Provide the following information only if asked: our client does not generate its own electricity and instead re-distributes it.

Structure

A good structure should include *Profitability* and *Electrical Utility Market Dynamics*. The structure can also include other things such as *Firm Capabilities* or *Customer*.

Part 1 – Profitability

Candidate: I'd like to understand more about the revenue model. Do you have any information on the price point or demand for our client's services?

Interviewer: Great question. Our client charges $0.10 / kwh for its services, which is in line with the market rate over the last few years. On the quantity side, our client currently serves ~1M customers per year and has for the last several years. Furthermore, the demand for each house has remained steady at 1000 kwh / month.

Candidate: Thanks. So, it seems that our client's price is in line with the market, which makes sense since this market is very competitive. Also, it looks like quantity hasn't really changed at all either. Given that price and quantity haven't changed much, I'd like to turn my attention to the firm's cost structure.

Interviewer: That sounds great to me. What do you think some of our client's key cost drivers are?

Candidate should structure his or her cost drivers into Fixed Costs and Variable Costs. Some fixed costs include salaries, SG&A, and regulatory fees. Some variable costs include electricity, marketing, installation, fees to the grid, and customer acquisition costs.

Interviewer: Perfect. What do you think the most important cost drivers are?

Candidate should hone in on the fact that energy costs are the highest.

Interviewer: Correct, energy costs are the largest. In fact, our client makes a 10% margin on electricity transmission. What else?

Candidate should clue in on the fact that acquisition costs and churn are important costs since this is a highly competitive market and switching costs are low.

Part 2 – Customer Lifetime Value

Interviewer: Great. I have a little more information about the economics of the firm. First, our client's relationship with a customer can be broken down into three stages: (1) sign-up, (2) on-flow, and (3) termination.

During the sign-up phase, our client pays $50 to sign up a customer, which is an all-in figure that includes things like installation, marketing, salaries, etc. Worth noting is that if a customer has a low credit score, our client collects a $100 refundable deposit.

During the on-flow stage, our client pays $7 per month to service a customer.

For the termination phase, our client has two types of customers: good customers and bad customers. Good customers pay their bills on time and leave with zero balance. Bad customers on the other hand do not pay for their last two months. After two months of unpaid service have elapsed, our client will disconnect a bad customer from the grid, incurring a cost of $75. At this point, a bad customer may choose to restore his or her service or not. If he or she chooses to restore service, the customer must pay the two months' outstanding balance as well as a $100 reconnection charge. If the customer does not restore service, our client sends the customer to a debt collector at a cost of $50 per customer. The debt collector has a 50% success rate in collecting a customer's outstanding payments.

What I would like you to do is calculate the customer lifetime value of a bad customer who chooses not to reconnect his or her service. Assume the customer originally signed a two-year contract.

Candidate should identify all costs and revenues. This question can be particularly tricky because Interviewer intentionally leaves out revenue information (which can be calculated with information previously given in the case) and cost-of-energy information (ditto). ***Do not provide the table below to Candidate.***

Costs	**Amount**	**Notes**	**Revenue**	**Amount**	**Notes**
Sign-up	50		Electricity	2200	0.10/kWh * 1000 hr/mo * 22 mo [Note: 22 mo instead of 24 mo since last 2 months are unpaid]
Electricity	2160	0.09/kWh * 1000 hr/mo * 24 mo	Refundable deposit	100	
Overhead	168	7/mo * 24 mo	Expected Revenue from debt collector	100	200 outstanding balance * 50% success rate
Disconnection fee	75				
Termination fee	50				
Total	**2503**		**Total**	**2400**	

Candidate should end up with a customer lifetime value of -103.

Candidate: Looks like the customer lifetime value is -103. Wow – right off the bat it looks like these customers could be contributing to our client's profitability issues. I'd love to learn a little bit more about how prevalent these bad customers are.

Part 3 – Customer Segmentation

Interviewer: I actually have some more information on that. Why don't you take a look at this breakdown of our client's customer base and let me know what you think?

Credit Score	Customer Lifetime Value (2-Yr Contract)	Percent of Customers	Avg. Account Length
Very Low	-350	30%	12 mo.
Low	-103	20%	22 mo.
Medium	125	20%	24 mo.
High	300	30%	36 mo.

Candidate: Wow! The first thing I notice is that half of our client customers are unprofitable and 30% are wildly unprofitable. Given our client's objective, I'd like to think about what we can do to improve profitability.

Interviewer: Sounds good to me. What are your thoughts?

Candidate should structure his or her brainstorming in a logical way such as Increase Number of Positive-Value Customers vs. Decrease Number of Negative-Value Customers. Some ideas for increasing the number of "good" customers include: reducing the sign-up fee (for medium and above credit scores), introducing "loyalty" bonuses, try to differentiate the service through high quality, etc. Some ideas for decreasing the number of "bad" customers include: increasing the sign-up fee (for low credit scores), charge a higher deposit, re-examining marketing channels, etc.

Part 4 - Recommendation

Interviewer: That all sounds reasonable. So, our client just walked in – what is your recommendation?

Candidate: You asked us to do two things: (1) determine why profits are falling and (2) come up with ways to improve them. First, profits have fallen largely due to churn and your customer mix. We determined that 50% of your customers are unprofitable and 30% are worth -$350 each. In order to improve profitability, we recommend you decrease the number of negative-value customers by raising your deposit and increase the number of positive-value customers by introducing loyalty bonuses. In terms of next steps, I'd like to analyze which of these strategies to implement first. In terms of risks, it is possible that these changes might invoke scrutiny from regulators or upset the general public. That said, improving your customer segmentation looks like a great way to improve your firm's profitability going forward.

2. Tiger (Bain Mock, Private Equity, M&A, Balanced)

Stem: Our client is a PE firm that is interested in potentially acquiring a company called Tiger. Tiger is a fashion hair products company who has seen strong EBITDA growth for the past 5 years. Tiger's internal team anticipates strong topline growth for the next few years to come. Should our client purchase Tiger?

Candidate: Are there any secondary considerations that we should be taking into account when determining whether our client should purchase Tiger?

Interviewer: Yes. The client is looking to minimize capital expenditures.

<u>Phase 1: Framework</u>

Candidate: Would you mind if I took a moment to structure my thoughts on the matter?

Interviewer: Not at all! Take your time.

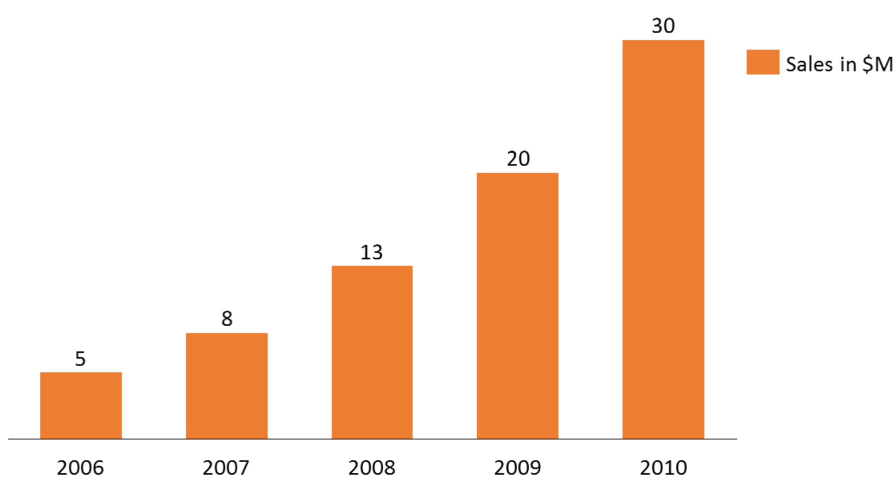
The candidate should create a framework that includes specifics about the company's financial and operating performance, the overall market for fashion hair products, and overall risks of acquiring this company.

<u>Phase 2: Analysis</u>

Candidate: I would like to start by looking at the company. Do we have any data on the company's EBITDA?

Interviewer: Yes, we do!

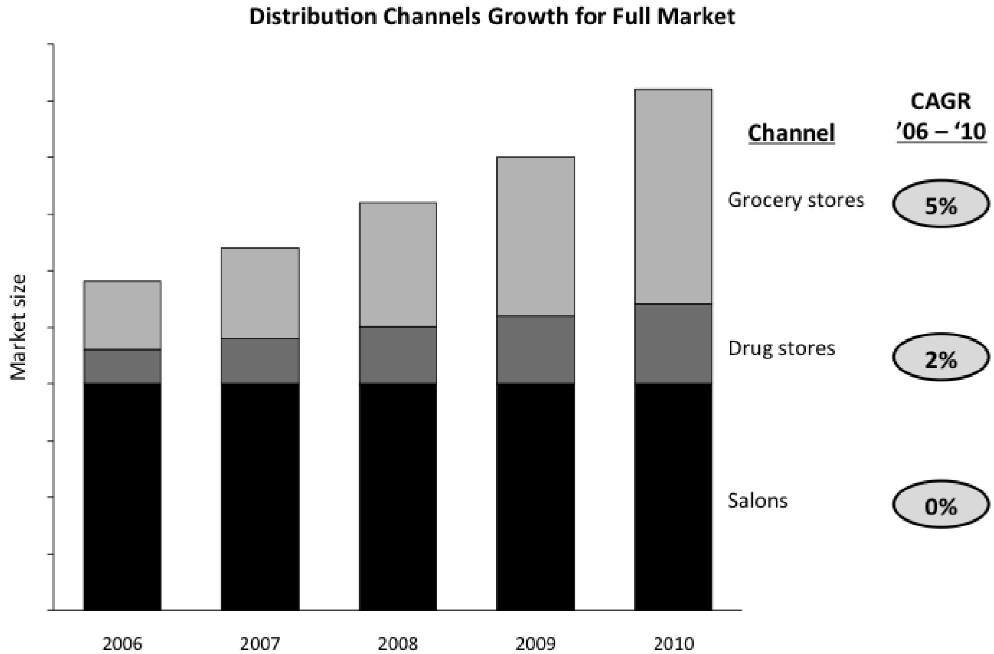
(Interviewer shows first graph)



EBITDA:	9%	10%	12%	14%	9%

Candidate: It seems as though the EBITDA has dropped off in 2010. I would love to dive in further to see what the root cause of this decline was.

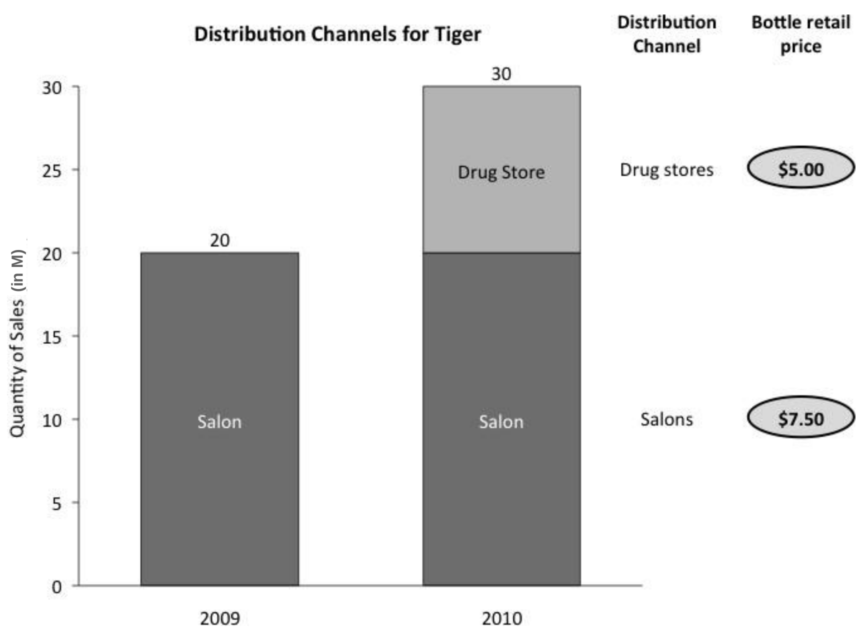
Interviewer: That sounds like a great idea. Let's first examine the market though.

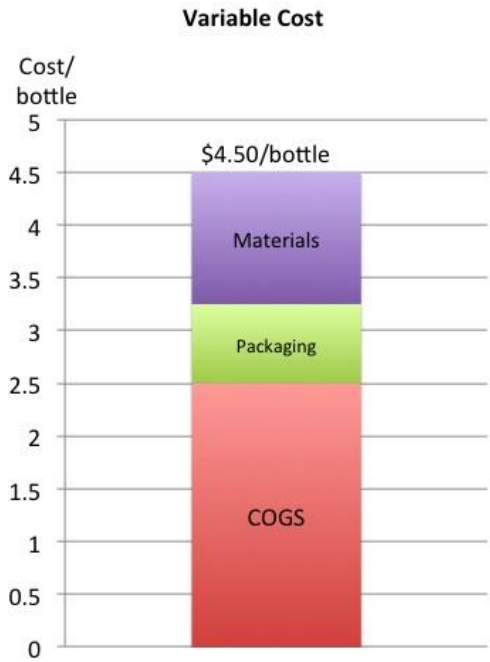


Candidate: Interesting, so it seems that Salons, while historically the biggest distribution channel for hair products, has plateaued over the last 5 years. If possible, I would like to examine some issues with the decline in EBITDA margin and see how these distribution channels might be related.

Interviewer: That makes sense.

(Hand graph of distribution channels for Tiger as well as the cost breakdown)





Candidate: Wow. The price has a 33% haircut in Drug stores. I would like to run a breakeven analysis for drug stores to see if this 10M unit increase in that channel has created the EBITDA decline for TIGER.

Price / bottle = $5.00
VC / bottle = $4.50
Contribution / bottle = $0.50

Quantity of bottles at Drug Stores = 10M
Contribution before Fixed Cost = $5M
Fixed Cost = 5M
Client is currently breaking even at Drug Stores

Interviewer: Very good. I think that might just be the root of the problem. What are some ways you can think of to improve EBITDA?

Candidate should focus on revenue improvements and cost. An appropriate breakdown is as follows.

Revenue side: Enter grocery stores because it has 5% CAGR. Also add marketing to salons. Could also raise prices in drug stores if low price sensitivity.

Cost side: Abandon Drug Stores. Could also cut Sales and marketing within drug stores to increase the margin. Improve technology to optimize processes.

<u>Phase 3: Recommendation</u>

Do not buy the company, because the overall status of Tiger is negative. The Salon market is stagnant and that has been the cause for most of the growth in EBITDA so far. Also, pursuing revenue options such as entering grocery stores requires much capital expenditure, which our client is trying to avoid.

3. Commercial Airline Amenities (Bain R1, Transportation, New Product, Balanced)

Stem: Our client is a commercial airline that is planning to upgrade their on-board amenities during the next round of plane purchases. They have already decided to provide on-board wi-fi for their passengers and are considering adding individual entertainment screens for each passenger. They have asked Bain to evaluate the proposal.

Phase 1: Framework

Interviewer: What would you consider in your evaluation?

Candidate: Before I proceed, can I clarify what is the goal of the upgrade? Is it purely profit-driven?

Interviewer: Well, that is a main goal. What other drivers would you think would cause the airline to consider such a project?

Candidate: The airline could consider it as an additional revenue stream on its own, or to provide the service at cost to differentiate themselves from the competition and increase overall number of tickets sold.

Interviewer: That's good. Let's see where the analysis will take us. How would you think about the project?

Candidate: Since we're considering profitability, I would like to consider the project on its own:

- Revenues:
  - Quantity
    - Increase in total passengers
    - Number of passengers who would purchase the additional entertainment (dependent on length/time of flight? Class of service?)
  - Price
    - Proposed price of entertainment service
- Cost
  - Fixed Cost
    - Fixed Cost of installing entertainment system
    - Depreciation period (or period before a replacement is needed)
  - Variable Cost
    - Subscription costs to provide entertainment

In addition, I would like to consider the project in relation to the firm and its competition:

- Company
  - Synergies? (with wi-fi to be added, or existing services – possibilities for bundling?)
  - Other alternatives to provide entertainment?
- Competition
  - Other companies offering similar service? Customers expect similar or lowing pricing?

Interviewer: That's good. Where would you like to start?

Candidate: I'd like to examine if there would be demand for the proposed entertainment system – both in terms of the existing customers, as well as the competition from other airlines flying the same routes. For example, a short flight of less than 1 hour or red-eye flights would probably not have passengers who would care to pay for in-flight entertainment. Also, if there are competitors flying the same route, this may be an important feature to help the client differentiate.

[At this point the interviewer may ask how the candidate would choose a route to pilot the service. Alternatively, the interviewer may also ask alternatives for how to monetize the service – higher price in tickets or pay-per-use, as well as the pros and cons of each. In either case, the interviewer would proceed with the following.]

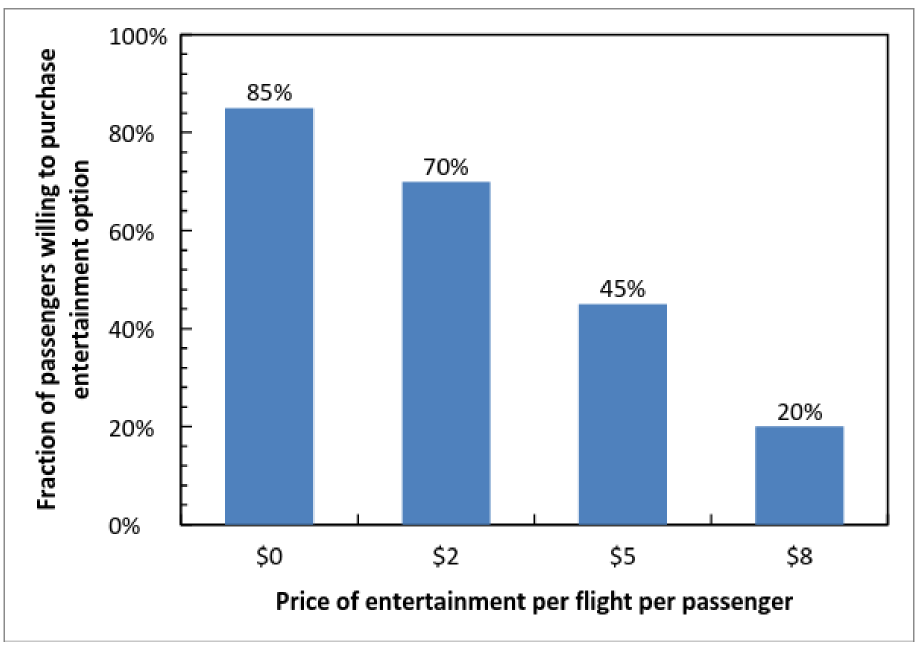
Interviewer: Let's examine one route as an example – it's a 4-hour direct flight along the East Coast. There are 4 flights a day, seven days a week. Luckily, there is no direct competition for our client along this route.

Candidate: So that would mean that the added system is not going to be bringing in a significant number of new customers, but existing customers may be enticed to pay for the service. The overall goal then is to potentially use this as a new revenue stream for the airline.

<u>Phase 2: Analysis</u>

Interviewer: I'd like to have you do the calculations for one plane. The cost of installing the Wi-Fi per plane is $100,000. Cost of providing Wi-Fi is $50 per flight. Cost to install the in-flight entertainment system is $15,000 per seat. Both systems will fully depreciate after 10 years. Subscription for the programming is $90,000 per plane per year. You may assume a negligible discount rate. The average capacity of each plane is 300 seats. Each plane flies 4 flights a day.

In addition, here's some data from a customer survey that the client did last month about the proposed on-board amenities. What can you tell me about how the client should price the proposed service?



Candidate: You've mentioned that the capacity of each plane is 300. What's the average occupancy for each flight?

Interviewer: Good question. You may assume that each flight is 80% full.

Candidate:

- Ignore cost of Wi-Fi since the client has already decided to go ahead with it
- Fixed cost per plane per year is (Depreciation) 300*$15,000/10 + $90,000 = $540,000/plane/year
- Average number of passengers per flight = 0.8*300 = 240
- Assume 50 weeks per year *(candidate should ask if this is acceptable)*
- Table calculates profit for a single plane per year

Price	# customers	Total Rev/flight	Total Rev/year	Profit/yr
Free	204	$0	$0	-$540,000
$2	168	$336	$470,400	-$69,600
$5	108	$540	$756,000	$216,000
$8	48	$384	$537,600	-$2,400

From the calculations, it can be seen that the optimal price would be $5/flight.

Note: If the candidate did not mention alternatives to the in-seat entertainment system, the interviewer would have either ended the interview at this point and asked for a summary, or would have asked for other considerations in the pricing.

Phase 3: Alternatives/Conclusions

Interviewer: I'd like to examine something you mentioned earlier about alternatives. What options do you think the company should consider?

Candidate: iPads plus an app to stream entertainment. The objective is a way for the airline to provide entertainment you can charge for. The airline is already providing Wi-Fi. Passengers then can either rent an iPad for the entertainment with a bundled pricing to get Wi-Fi as well, or you could have frequent flyers get the app on their iPads for free which would allow you an additional avenue to reward frequent flyers. The iPads would be cheaper to install and replace (~$600 per iPad, versus $15,000 per seat; if there is a need to replace or repair, much easier to replace a single iPad than to fix something that is physically attached to the plane)

Interviewer: Right, we're going to meet the CEO who has asked for an update. What do you tell her?

Candidate: I recommend that the inflight entertainment system be implemented, not by the proposed in-seat entertainment system, but by iPad rentals, coupled with the proposed Wi-Fi installation, leading to significant cost-savings, and increased potential profits.

Note: The candidate impressed the interviewer with a unique alternative that was not within the original proposal and backed it up with strong reasoning, while tying it back to the original aim of the client, which was to increase profits.

4. Commercial Real Estate (Bain R1, Fin Services, Profitability, Balanced)

Stem: Your client is a commercial real estate brokerage that focuses primarily on Class A buildings. The basic way the real estate market works is there are Class A, B and C buildings, which correspond to the quality and facilities of the buildings. There's also the residential market, and our client has considered high volume apartment buildings, but isn't sure if this is a good place to be. As a brokerage, our client doesn't own any properties, but rather acts as the intermediary between the buyer and seller. It's now 2008. Last year they had revenues of $500M, and they're wondering just how bad it's going to get and whether they need to be worried. This is particularly worrisome for them because they recently acquired another company, and are running lower on free cash to cover any short-falls in business.

Interviewer: What do you think are some of the drivers of profitability in the industry?

Candidate should be sure to use a general profit structure to determine the drivers of profitability, but the candidate should also be sure to include specifics of the industry and information from the stem. Some suggested answers:

> *Industry: Trends, Competitors, Segments (Location, etc.)*
>
> *Revenues: Price of the buildings being sold, commission rate, volume of new construction, general economic trends, quality of buildings being constructed, occupancy rates, mix of commercial vs. residential, types of businesses present in the region.*
>
> *Costs: Salary expense, bonus payments, IT & overhead costs, possibly sourcing/lead costs, insurance.*

Interviewer: Last year they sold 2,000 properties, and have a commission rate of 5%. What was the average price of properties sold?

Candidate: We know they have revenues of $500M, so we can figure out the average price given these two extra data points by using:

So average price is going to be total revenues divided by the # of properties times the commission rate, or 500 / (2000 *.05) = **$5 million** is the average price of properties.

Interviewer: So, it turns out this is in the top quartile of commercial real estate. Given the economic climate, do you think this is a good place to be?

Note: There are plenty of acceptable answers here, just make sure the candidate approaches the problem in a structured manner and arrives at a solid conclusion. Make sure he/she takes a stand – push back and even play devil's advocate.

Candidate: In the current economic environment, this is going to be one of the worst places to be. The primary reasons are:

1. The client's customer base likely includes companies that are sensitive to large economic fluctuations: law firms, consulting firms, investment banks, etc.
2. As clients reduce costs, one of the first places is to cut back on premium office space and reduce rent expense.
3. Their business as a brokerage is based on change: either companies trading up, since they're in the premium space, or with new companies entering the regions they cover, or new buildings being built. It is unlikely any of these will be happening during a recession. The brokerage could also be left with many properties available for long lengths of time as a result of companies trading down.

Interviewer: Interesting. We've run some analyses, and have a forecast that volume is going to decline about 25%. Will they still be profitable?

Candidate: What is their current cost structure? We also need to know what costs are fixed vs. variable to appropriately project profitability.

Interviewer: Absolutely! Total costs last year were $400M with 50/50 split between variable and fixed. The variable costs are compensation, which is entirely commission based, so it moves directly in proportion with revenues.

Candidate: With a volume decline of 25%, they will now be selling 1,500 properties. If we assume that the average price stays the same at $5M per property and their fees stay at 5%, then we have total revenues of 5% * 1500 * 5M = **$375M**.

On the cost side, we have **$200M** of fixed costs (50% of $400M last year). Last year we had $200M of variable costs on $500M of revenues, so this year there will be $375 * 2/5 = **$150M** of variable costs, for total costs of **$350M**.

(Another approach would be to realize that with a volume decline of 25%, revenues would be 75% or ¾ of $500M = $375M. Knowing the variable cost portion is $200M, one could take 75% or ¾ of $200M for variable costs for this year of $150M. Adding this to fixed costs of $200M, this would result in total costs of $350M)

Therefore, total profitability will be $375M - $350M = **$25M** in profits. This is just a quarter of the **$100M** in profits they made last year. It is interesting to note that a 25% decline in volume actually leads to a 75% decline for the bottom line. *(This could also be stated as: the hit to top line revenues resulted in a 3X effect on bottom line profits)*

Interviewer: Exactly. Now we've also examined the pricing, which we expect to decline 20% on top of the 25% decline in volume. Are they still profitable?

Candidate: Definitely doesn't seem like it, but let's run the numbers. We have average price falling to **$4M** now. So total revenues will be $4M * 1500 * 5% = **$300M**.

Variable costs will be 2/5 * $300M = **$120M** (another approach would be to take 4/5 of the already decreased variable costs of $150M: 4/5 * $150M = $120M), since this is all compensation for the brokers and depends not only on the volume of buildings they sell but the price they get as well.

Fixed costs remain at **$200M**, so total costs are **$320M** compared to revenues of $300M, so they lose **$20M** in this case. Not profitable, and definitely not good.

Interviewer: So, what might they do to get through the next several months?

Candidate: Well, they have a couple of options:

1. Enter a new business line, maybe residential or lower class buildings, unlikely to solve their immediate problems
2. Look for opportunities to reduce fixed costs (decrease office space by asking employees to work from home, minimize extravagant travel expenses, layoff support staff, shop around for new insurance quotes, etc)
3. Ask for brokers to take a lower commission rate in exchange for increased likelihood of keeping their job because the company is less likely to go under.
4. Sell the company they recently acquired
5. They could try to form a JV of some sort where they get cash in and provide some form of proprietary service or data to their partner, or a stake in the business.
6. Look for a strategic buyer. Either a cash-rich competitor or a private equity firm.

7. Enter into chapter 11 reorganization. Unlikely to be successful as their business is driven by their brokers' relationships

Given the immediate nature of their problem, a JV or strategic buyer are likely to be the best options.

Interviewer: Turns out, they identified selling a minority stake as the most viable option. Now switch perspectives, you're the PE firm, what are you thinking about when considering this purchase? You already know everything we've discussed about the numbers.

Candidate: I would primarily think about the following…

1. What price am I paying? Is it reasonable or even advantageous given they're distressed?
2. When do I expect an economic recovery to kick in, and what will that mean for this business? Does it lead or lag a recovery?
3. How good is the management currently in place? Will I have to find people to replace the management?
4. What are my competencies in commercial real estate? Is this something I know where I could stimulate the business?

Interviewer: Great.

5. Dairy Farm (Bain R1, Private Equity, M&A, Balanced)

Stem: Our client is a private equity firm deciding whether or not to invest in a dairy farm in Iowa. The farm only produces milk. The client doesn't have any investments in the dairy industry or in farming more broadly. Should they purchase this dairy farm?

Phase 1: Competitive Environment

The interviewer should reveal the following pieces of case information when asked an applicable question:

Dairy farming is a localized market:

- Bonus points for candidate who brainstorms why this might be true (e.g. spoilage during transport, government restrictions, and co-operatives)
- Our potential target competes with other dairy farms in the same area in Iowa

Competitive sizes:

- Our potential target has 10,000 cows
- Competitor 1 has 7,500 cows
- Competitor 2 has 2,500 cows

Market shares:

- Our potential target produces 100 units of milk per cow
- Competitor 1 produces 80 units per cow
- Competitor 2 produces 50 units per cow

Not all cows produce the same amount of milk (bonus points to the candidate for asking this question!) Cows produce more milk when they are happy – when they are more comfortable being milked and when they are milked faster.

Candidate should synthesize the above data into a chart such as this:

	# of cows	Units/cow	Total units	Market share
Potential Target	10,000	100	1M	> 50%
Competitor 1	7,500	80	600K	About 33%
Competitor 2	2,500	50	125K	< 10%

Candidate: So it looks like our potential target has 50% of the local dairy market in terms of number of cows and 60% of the market in terms of total units of milk.

Phase 2: Revenue Streams

Interviewer: That's right. And just to give you a little background on how things work in the dairy industry, our potential target's milk is sent to a processor who makes cheese, yogurt, butter, etc. The processor must purchase all the milk produced by the dairy farms in its co-operative, and the price is set by the government at $16 per unit.

Candidate*:* OK, so with the price fixed, and the processor required to purchase all the milk produced by the farm, the limiting constraint on the revenue side is the amount of milk produced. Knowing that, I'd like to think a little about costs.

Phase 3: Cost Drivers

Interviewer: Great. So what are some of the fixed and variable costs that you think go into the dairy farm? Keep in mind that all cows are owned by our client.

Candidate: I would imagine the main costs are cows, cow feed, machinery, machinery maintenance, labor, SG&A, land, transportation, veterinarians, etc.

Interviewer: That's a pretty good list. And you hit on something there. The primary variable cost is cow feed, which is $10/unit. Fixed costs scale with the size of the farm (the # of cows) and the fixed costs for our potential target are $4M per year.

Candidate: OK, so besides cow feed, I can assume all other variables costs are negligible?

Interviewer: That's correct.

Phase 4: Profitability Analysis

Candidate should drive to the numbers.

Candidate: So profits are:

Profits = (1M units x $16 per unit) – (1M units x $10 variable cost/unit) - $4M fixed cost = **$2M**

Profit margin = $2M/$16M = **12.5%**

Interviewer*:* How would you think about whether or not this is a good profit margin?

Candidate*:* I would like to compare it to that of other dairies. I would also compare this profit margin to other companies in our client's portfolio and consider how this level of profitability would affect the client's break even on this investment.

Interviewer*:* Well, knowing that the fixed costs scale with the size of the farm (# of cows). How does this profit margin compare to competitors?

Candidate could synthesize the data he/she has collected into a chart such as the one below:

	# of cows	Total Units	Total Revenue	Scaling Factor	Fixed Costs	Variable Costs	Profit	Profit Margin
Potential Target	10,000	1M	$16M	1	$4M	$10M	$2M	12.5%
Competitor 1	7,500	600K	$9.6M	7500/10000 = 75%	$3M	$6M	$0.6M	6.25%
Competitor 2	2,500	125K	$2M	2500/10000 = 25%	$1M	$1.25M	($0.25M)	(12.5%)

Candidate*:* The selling price and variable costs are the same, and therefore our potential target has a higher profit margin, because they are able to produce more units of milk per cow. Competitor 1 is making about half the margin and Competitor 2 is losing money.

You mentioned before that happier (more comfortable) cows produce more milk. Since we are seeing the potential target successfully produce more units of milk per cow, perhaps its larger farm (with more space to move around, etc.) is part of the reason. I would hypothesize that this is a business where you will get higher margins with a larger farm. Our client may want to consider acquiring more than just one business or securing more land to expand.

Phase 5: Risk Assessment

Interviewer*:* OK, and what are some risks associated with acquiring this business?

Candidate may consider developing a mini-framework to categorize the different types of risks (e.g. cost risks, revenue risks, regulatory risks, market risks, etc.)

Candidate: Some things that come to mind are:

- Uncertainty about the acquisition price – competition for the deal may drive price up
- Our client doesn't have expertise in this sector (What if we can't keep our cows happy enough to produce this much milk?)
- Revenue uncertainties: Government could change the price of milk or the co-operative policies
- Cost uncertainties: price of feed, risk of cow disease
- Risk of change in consumer demand and preferences (substitutes to milk, people may want to switch to soy for health reasons, etc.)

Phase 6: Recommendation

Interviewer*:* Great, so please summarize your findings for our PE client.

A good answer should have a strong recommendation along with next steps and potential risks.

Candidate*:* The client should acquire the farm given its strong relative performance in both market share (>50%) and profit margin (12.5%). The client should proceed by performing further due diligence on the acquisition price (e.g. examine other profit multiple comparables) and carefully weighing the risks (e.g. lack of experience, lack of synergies with other portfolio investments, macro trends in the dairy industry, etc.)

6. Domino's Pizza (Bain R1, CPG/Retail, Growth Strategy, Balanced)

Stem: Back in the 1990s, Bain Capital bought Domino's Pizza, a nationwide chain. They wanted to identify a growth strategy.

<u>Phase 1: Industry Landscape</u>

Let the Candidate make his/her structure. It should include a section on the industry landscape. Propose starting from there.

Interviewer: Let me give you a background on the industry. There are four national players.

> Pizza Hut: market leader; owns mainly sit-down stores but also offers some delivery
>
> Domino's: no sit-down restaurants, no carry-outs; entire operation is built around delivery; 80% of the stores are franchisees and 20% are company-owned
>
> Little Caesar's: marketing campaign is 2 pies for the price of 1; restaurants are cafeteria-style, they offer carry-out; there is no delivery.
>
> Papa John's: new player in the market with very fast growth; no sit-down restaurants; entire model is carry-out because stores are located on high foot traffic streets so that people can pick up and go; marketing strategy is "better ingredients, better pizza."

When we conducted a blind taste test, we noticed that despite the fact people showed little taste preference between the four types of pizza, when the brand names were put on the pizza, people went with Papa John's.

<u>Phase 2: Identifying Growth Opportunities</u>

Interviewer: So, what's the first thing you would look at to grow Domino's business?

There are a variety of good answers to this question. Let the Candidate offer a few. Hopefully, he/she will suggest opening more stores. If not, prompt him/her by asking the following.

Interviewer: What are some things you'd look into to identify where to open stores?

Again, there are a lot of factors to be considered. Let the Candidate brainstorm his/her list and make sure he/she talks through each item. An example list is provided below.

- Best Practices: Look at where we have stores right now, which of them are doing well, and what types of areas these successful stores are in
- Competitors: Look at regions where there is not already a high concentration of competitors so there is a possibility to be first mover. (Note that competitors will also include other restaurants, fast food, etc.)
- Cost structure: Look in areas where labor and rent prices are affordable
- Demographics: Pizza is a "youth" or young family trend. (Age: 13-35)
- Income: Likely low to middle income areas as high-income areas are more likely to go to higher end restaurants.
- Growth: population is growing, at the least it should not be decreasing
- Presence of Domino's: Is there a region of the country where Domino's has no presence, then we could move there assuming there is enough demand.
- Growth for pizza demand: Identify places where general demand for pizza is going up

The Candidate should wrap this up by saying something like, “Most and ideally all of these factors should go hand-in-hand for us to open stores.”

<u>Phase 3: Store Specifics</u>

Interviewer: Ok, so what kind of place would be good to look at opening stores?

Many answers are acceptable, just ask for the reasoning behind the suggestions. Here are a few examples.

> University neighborhood: fits demographic of low income and young; students tend to order to their dorm rooms rather than carrying-out, which fits Domino’s current strengths, the number of students that universities take each year usually increases, leading to a growth in the market
>
> Other good answers include: suburban strip malls, vicinity of office parks, near suburban schools, near sporting facilities

<u>Phase 4: Math by Store</u>

Interviewer: Ok, let’s change gears. I told you that we are mostly a franchisee business. Let me give you some data. Luigi, one of our franchisees, has seen that now he sells 100 pizzas per day and charges 10 dollars per pizza. If he charges 11 dollars per pizza, he’ll sell 90. Should he do it?

Make sure the Candidate asks for the cost data, don’t give it out right away.

Candidate: This will depend on his profits. What are his costs per pizza? (Bonus points for saying that you don’t need to ask about fixed costs, because in the short run they will be the same in both cases)

Interviewer: 6 dollars per pizza. Now, you should be able to calculate.

Candidate:

> Current margin: $10-$6 = $4 profit per pizza
>
> Current profit: 100 pizzas/day * $4/pizza = $400 per day
>
> Projected margin: $11-$6 = $5 profit per pizza
>
> Projected profit: 90 pizzas/day * $5 profit per pizza = $450 per day

Candidate: Luigi should do it. He gets $50 more per day.

<u>Phase 5: Looking at the Chain</u>

Interviewer: Ok, now let’s look at the chain as a whole, and not just a single store. Would this benefit Domino’s overall?

Candidate: Since Domino’s is mostly a franchise business, can you tell me what the royalty structure is (i.e. how much Domino’s gets from its franchisees)?

Interviewer: The franchisees pay 5% of their sales (revenues).

Candidate: So using the numbers from Luigi’s store, Domino’s as the franchisor would get:

> Current Revenue: 100 pizzas * $10/pizza = $1000/day

Domino's Revenue: .05 * $1000 = $50/day

Projected Revenue: 90 pizzas * $11/pizza = $990/day

Domino's Projected Revenue: .05 * $990 = $49.50/day

Candidate: If elasticity of demand for Luigi's store is typical of those throughout the chain, Domino's should not raise prices because the revenues received by corporate go from $50/day to $49.50/day. I'm not sure of the current policy, but it seems Domino's should certainly want to have control over prices at its stores.

Interviewer: What are some things Domino's can do to control prices among its stores? Let's first start with Luigi, who we left wanting to raise prices, and then talk about stores at the national level.

Candidate: I would talk to Luigi and explain that this price increase would only offer a short-term increase in his profit. Even if demand is relatively inelastic now, in the long-term he will likely see his customers start buying from other pizza places. This could be demonstrated by showing the blind test results; taste-wise people actually think all pizzas are comparable except Papa John's.

On a more national level, I would ensure contracts with my franchisees included language which established Domino's corporate as the price setter and/or required Domino's corporate to approve price changes for each store.

Interviewer: Let's say Luigi's contract was for 5 years and this is only year 1. Can you think of anything else Domino's as a headquarters could do to discourage Luigi from increasing prices?

Candidate: Well, I would think that Domino's is doing the marketing and advertising on behalf of the franchisees. If that's the case, we could use the $10 price in our advertising. Luigi would be kind of forced to abide by this because people would complain if they walked into Luigi's and didn't see the price as advertised.

Recommendation

Should walk through what has been discussed, but most basically will conclude: Open more stores, don't raise prices, and control franchisee prices to maximize revenue.

7. Fruit Juice (Bain R1, Private Equity, M&A, Balanced)

Stem: Bain is serving a private equity client thinking of purchasing a fresh fruit juice manufacturer. The company operates on the West Coast and serves the high-end health food market. Currently servings are in 16 oz. bottles. The juice is sold in high-end delis, cafés such as Starbucks, and large upscale grocery chains such as Whole Foods. Last year they had $90 million in revenues and they have been growing at 15% for the past 3 years. They have strong sales and marketing teams and a strong brand name. The private equity company wants us to identify whether the company is an attractive acquisition. What are some things you would look into?

Phase 1: Structuring the problem

First part should be broad. Allow the candidate to brainstorm.

Interviewer: How would you think about evaluating this opportunity?

Candidate: Important issues to hit:

- **Industry dynamics**: size, growth, drivers of purchases, trends, competitors' market share, new entrants, customers
- **Margins**: price, cost structure of the firm (compare to competitors), possible future changes in the cost structure due to outside forces
- **Private Equity Fit**: Is the price fair? Is there an exit strategy? How does the potential acquisition fit with the current portfolio, and would there be any synergies?

Phase 2: Industry dynamics

Interviewer: First let's look at the industry dynamics. The high-end juice market in the US is $1B. Our client is the third largest presence in the industry. The number 1 and 2 players have 70% of the market. The market overall is growing at 10% annually. What are the one or two most relevant pieces of information you'd like to have about the industry landscape?

Candidate:

- Are the two top players only operating on the west coast or are they nationwide?
- How have they been able to capture such a big share? Is it because they've been in the market longer, (our target looks like a more recently established company given it only operates on the west coast) or because their product is better?

Interviewer: *(give the following information if requested)* The two top players operate nationwide. They have been in the market for longer than the acquisition target.

Candidate: The target company has been able to be number three even though it is competing with bigger national players. If it goes national, it has the potential to be a big player because it has been growing faster than the industry. Our target's growth numbers suggest that its product is comparable to that of the top players and would be successful in the new markets.

Phase 3: Private Equity Fit

Now come back to the acquisition part of the structure. Guide the conversation to a point where the candidate asks the following question:

Candidate: Before I dig deeper does the client have anything in their portfolio that could generate synergies?

Interviewer: Yes, they own a low-end soda and bottle water manufacturer makes private labels in US and Canada. The private labels are sold at retailers like Walmart and CostCo.

Guide the conversation to make sure that the Candidate hits on most of these.

Candidate: Synergies usually come from manufacturing, distribution channels, marketing etc. In terms of manufacturing, there probably aren't big synergies because the manufacturing of high-end juices is not similar to sodas (different kinds of ingredients, markets, processes, quality standards).

Then one might think of trying to sell juice in these channels because there are existing relationships but I think this would hurt the company in two ways: First, the placement of a high-end product in a low-end retailer it would hurt the brand image. Second, retailers like Walmart will use their buyer power to try and push prices down.

Also, the competencies of already-owned sales and marketing teams don't line up with this business.

Interviewer: So, what is your overall feeling about this acquisition's potential for synergies *(just make sure that there is a clear wrap-up for this section before proceeding to the next)*?

Candidate: The company itself seems promising, but in terms of working with other companies in the portfolio, I see no obvious synergies.

<u>Phase 4: Company Profitability</u>

Interviewer: Okay, we know this is a growing company, but now let's look more closely at profitability. COGS are 75 cents per bottle, manufacturing is 20% of revenue, sales and marketing is $15M, distribution is $30M. Each bottle sells for $2.50.

Candidate:

Revenue	$90M
COGS	$90M/$2.5 = 36M bottles x $0.75 = 27M
Manufacturing	$90M x 0.2 = 18M
Sales/Marketing	$15M
Distribution	$30M
Profit	$0

They are not making a profit. We could look at some ways to improve this.

Interviewer: How would you go about doing that?

Candidate: I'd look at it from two perspectives, increasing revenue and decreasing costs.

Interviewer: Let's brainstorm. What are some ways to cut costs?

Candidate: *(as many of these as possible should be hit on)*

- Consolidate suppliers – centralize procurement
- Automate the factory – increase efficiency
- Change packaging to make it lighter without hurting the high-end brand image – decreases fuel spending and thus distribution costs
- Reducing employees (especially higher ranked ones)
- Get rid of less profitable juice flavors through profitability analysis and identify the lines that we could let go. There would also be a potential to use shelf space to sell more of the profitable types.

Interviewer: Good. Now, what ideas do you have about increasing revenues?

Candidate: Look at price. We are selling this at $2.50, what's the competitor's price?
Make sure the candidate asks; otherwise there won't be grounds upon which to reach real conclusions.

Interviewer: Also $2.50. Would you raise prices?

Candidate: No, because there are more established comparable products with the same price, this is a bad idea. We would either lose market share or potentially spark a price war which would hurt margins. But we could look at some increased distribution channel penetration. Given the product's high image - we could go into hotels, catering companies, restaurants, etc.

Recommendation

Interviewer: So, do we tell them that this is an attractive acquisition or not?

The key here is to be succinct. But overall, this is an attractive target. Though the company is currently not making profits, there are areas to cut costs and increase revenue and the company is growing faster than the industry.

8. Industrial Tools Manufacturer (Bain R1, Industrial Goods, Profitability, Quant)

Stem: Our client is an industrial tools conglomerate. One of their businesses manufactures two lines of products: nail and staple guns, and the fasteners used by the guns. Revenues are $1B. The Fastener product line accounts for 70% of revenues and the Tools product line accounts for 30% of revenues. All products are currently manufactured and sold in the US. Sales come through three channels: 1) Construction supply stores; 2) Direct-to-Manufacturer sales; 3) Home centers (e.g., Home Depot). The company has seen profit margins fall from 10% to 5% and they are still declining. Our client, the corporate parent company, would like us to figure out what the maximum potential profit is.

A structure should mention a review of the market to gain understanding of the landscape, a look at the company's profits, and gaining an understanding of the company's place within the conglomerate's portfolio.

Phase 1: The Market

Candidate: What do we know about the client's competitive position?

Interviewer: Market share is broken down as follows:

In tools, the client owns 40% market share and is holding steady relative to industry growth (about 3%). The client is the market leader and has great brand reputation.

In fasteners, the client owns 20% market share and is seeing that decline by about 2%/yr, while the market grows at about 3%. The client is one of two top players who alternate for the market lead.

Candidate: OK, so with $1B in total revenues, and Tools accounting for 30% of that, the client is getting $300M in revenues from Tools. We also know that the client makes up 40% of the total market share, so total market size for Tools is:

$300M / 0.4 = **$750M**

…and the total fastener market size:

$1B (company revenue) x 70% = $700M

$700M / 0.2 (client's fastener market share) = **$3.5B**

The total market size of Fasteners is almost 5x larger than that of Tools, so it is particularly concerning to me that this is where we're losing share, since a 1% loss of $3.5B is obviously much more than a 1% loss of $750M.

Interviewer: OK, so what might be causing this market share?

Candidate: There could be price competition, technological improvements we're missing out on, or other recently introduced competitive maneuvers.

Interviewer: Actually, we know that it's generic fastener are taking share away from the client.

Candidate: OK, generics are usually priced lower so perhaps consumers are becoming more price sensitive.

Interviewer: Yes, the generics are 25% cheaper than our client's. And actually, this is largely a commodity market, which is why the lower price is effective at grabbing share from the client's known brand.

Phase 2: The Client's Profit Equation

Interviewer: Since we already know fastener revenue is $700M, let's look at the cost side of the equation.

Candidate: What do we know about fixed costs?

Interviewer: The plant in the U.S. is very expensive and generates a lot of overhead. Our total manufacturing cost for fasteners is 80% of revenues.

Candidate: OK, 80% of $700M is $560M.

Interviewer: OK, and what options might we have for lowering that cost?

Candidate: Perhaps we could look at outsourcing some of our manufacturing.

Interviewer should brainstorm with candidate about the potential ways of reducing cost. If candidate does not get to outsourcing within 5 minutes, Interviewer should bring his/her attention to what companies in other industries (e.g. tech) are doing. If candidate doesn't get to outsourcing even then, interviewer should drive the discussion towards outsourcing.

Interviewer: Actually, our generic competitors' operations are in Asia.

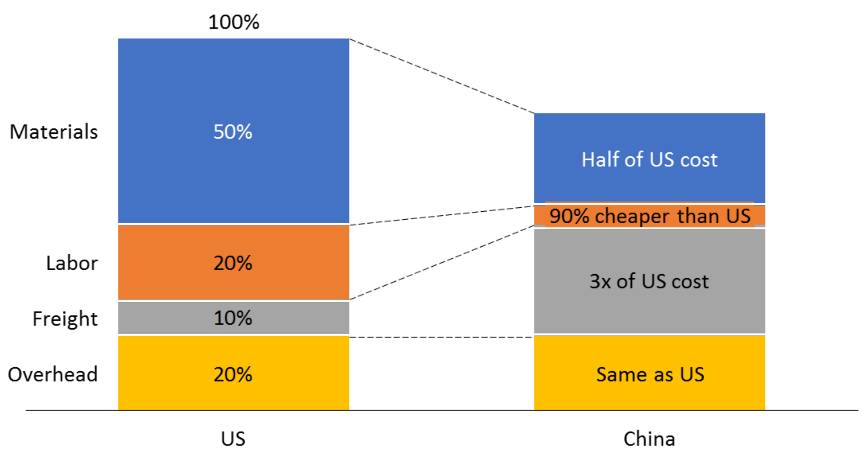
Candidate: I think we should look into the numbers of moving our operations to Asia.

Phase 3: Cost Analysis

Interviewer: Moving operations to China is an available option. How could we would think about the cost savings? (Don't worry about fixed/startup costs)

Candidate: I would imagine main categories are Materials, Labor, Freight, and Overhead.

Interviewer: Good, here is some of our cost data.



Candidate: OK, I'll run the numbers.

Candidate should generate the following table.

Cost Components	**U.S.**	**China**
Materials	280M	140M
Labor	112M	~10M (11.2M to be exact)
Freight	56M	168M
Overhead	112M	112M
Total	**560M**	**430M**

Candidate: Moving to China would save $130M per year. We know that profits today must be $50M (since $50M is 5% of $1B). Assuming all the calculated cost savings will go right to the bottom line, that means profits will now be $180M. Therefore, if revenues remain flat at $1B, there will be an increase in the profit margin from $50M/$1B (5%) to $180M/$1B (18%). This is quite substantial.

<u>Phase 4: Other Considerations</u>

Interviewer: OK, great. What other considerations might come into play?

Candidate: Looking back at what we discussed at the beginning of our conversation, I'd like to think about portfolio impact. Are there synergies to be realized or lost by this move to China vis-à-vis the conglomerate's other portfolio companies? Looking elsewhere, the move overseas puts a higher weight on freight costs, meaning that the company is more vulnerable to jumps in oil prices. Political factors also weigh in—this market may be especially sensitive to the idea of using American labor so the company's brand image could be hurt by moving overseas.

<u>Phase 5: Final Recommendation</u>

Candidate should summarize what has been discussed. The recommendation will most likely be to relocate manufacturing operations to China with the caveat of ensuring other factors (both market-related and logistical) are carefully considered.

9. Nantucket Ice Cream Shop (Bain R1, CPG/Retail, New Product, Balanced)

Stem: We have a client, Sally, who we know because she used to be a 'titan of business.' She is currently retired and living on Nantucket. Sally owns an ice cream shop and called us to ask if we think it's a good idea for her to expand her business into bagels.

Let candidate ask clarifying questions and provide the following information if asked:

- Sally owns one shop only
- Expanding into bagels is only desired if profitable; there are no other motivations

The candidate should create a framework that includes at least an analysis of the market and the existing shop, as well as the implications/risks of expanding to bagels. If the candidate does not mention competitors/market, guide them to this by asking leading questions.

<u>Phase 1: Market Sizing</u>

Interviewer: How would you calculate the size of the market?

Nantucket has very different population sizes in winter vs. summer; the candidate should make note of this.

If candidate is not familiar with Nantucket, the candidate should be told that it is a popular summer vacation destination.

The candidate should start asking questions to determine the volume of bagels sold per year in this market. Provide the following information as the candidate asks for it:

- We are concerned with the market in the general vicinity of Sally's shop
- The year-round population of Nantucket is 10,000
- There is a tourist population amounting to an additional 30,000 people for 6 months out of the year
- 25% of the year-round population are bagel buyers; they buy 4 bagels per week
- 50% of the tourist population are bagel buyers; they buy 2 bagels per week

The Candidate should use this information to calculate the total bagels sold in this market annually:

<u>Year-round population:</u>

25% of year-round population: 10,000 x 0.25 = 2,500 year-round bagel buyers

2,500 year-round bagel buyers x 4 bagels per week = 10,000 bagels bought weekly

10,000 x 52 weeks ***(Interviewer** interjects that candidate can round to 50 wks/yr)*, so:

10,000 x 50 weeks = **500,000 bagels** per year bought by year-round population

<u>Tourist population:</u>

50% of tourist population: 30,000 x 0.5 = 15,000 bagel buyers

15,000 tourist bagel buyers x 2 bagels per week = 30,000 bagels bought weekly

30,000 x 25 weeks (approx. 6 months) = **750,000 bagels** per year bought by tourists

Total annual bagel market: 500,000 year-round + 750,000 tourist = **1.25M bagels**

Phase 2: Competition and Market Share

Once the candidate gets the size of the market, they should comment on what they think of the number, and next ask for information regarding competitors. Supply the following information when asked:

- There are 6 current bagel suppliers in the vicinity of Sally's shop
- Of those, 2 are large chains ("think Finagle a Bagel"), 2 are specialty shops, and 2 are mixed-use shops (health food stores, delis, etc)

Interviewer: What would you estimate the market share of the competitors to be?

Candidate should come up with something reasonable and support their answer, taking into account the potentially different shopping habits of year-round customers and tourist customers. A reasonable estimate could be:

- 2 large chains50%
- 2 specialty shops30%
- 2 mixed-use stores20%

Interviewer: So, what is a reasonable market share that Sally could hope to obtain?

Candidate should support their answer; something reasonable could be 10%.

Interviewer: Great, we like to be conservative at Bain. So, 10% of the market means 120,000 bagels per year and 10,000 bagels per month (*ideally candidate would make this comment*). Where do you want to go from there?

Phase 3: Cost Comparison

Candidate should transition now to evaluating profitability, asking about how much Sally can charge for her bagels and the associated costs.

Interviewer can give the following information as the candidate asks for it:

- Bagels sell for $1.25 per bagel across all of the existing suppliers; we can assume that's what Sally would get also
- There are two available models for Sally to consider: making the bagels in-house or buying them from Joe the baker

The candidate should then move on to a cost comparison between these two options. First have the candidate brainstorm about what the costs would be if Sally made the bagels in-house. Then reveal the following information:

- If Sally makes the bagels in-house, she will incur a monthly equipment cost of $1,000 and all of her other costs (electricity, labor, etc.) would amount to $0.50 per bagel
- If Sally buys the bagels from Joe the baker, it will cost her $0.75 per bagel

Interviewer: Can you set up the profitability equations for both of these options?

Candidate should come up with the following:

Make in-house:1.25x – (1,000 + 0.5x)

[Note using 1,000 will lead to a monthly indifference point. For the yearly indifference point, the equation would be: 1.25x – (12,000 + 0.5x)]

Buy from Joe:1.25x – 0.75x

Interviewer: Great, so at what point would Sally be indifferent between these two options?

Candidate should demonstrate that Sally would be indifferent when x equals a number such that her costs are equal across both options:

$1{,}000 + 0.5x = 0.75x$ -OR-[$12{,}000 + 0.5x = 0.75x$

x = **4,000 bagels/month**x = **48,000 bagels/year**]

Interviewer: So what option do you think she should go with?

Candidate should note that once Sally crosses the 4,000 bagel/month threshold (or the 48,000 bagel/year threshold) it is more cost effective to go with the in-house option. So, if she is indeed able to secure the 10% market share previously discussed (which would mean she is able to sell 10,000 bagels/month), she would have more than twice the indifference point, and should definitely go with in-house production.

<u>Phase 4: Brainstorming</u>

Interviewer: So now it's 6 months later, and Sally has started producing bagels in-house and selling them. She contacts us again to say that sales are way below predictions. Why? Go ahead and make a long list.

When the candidate reads his/her list, say: "Good, what else?" and have them brainstorm more, then repeat "Good, what else," have them brainstorm again; repeat a few times.

Candidate can come up with answers such as:

- Inferior product
- Location of Sally's shop
- Insufficient marketing
- Product mix (does she also sell coffee since it is a strategic fit with ice cream?)
- Shop hours
- Negative competitive response (opened another store, etc.)
- Production capacity (she is still learning how to use the machines and is unable to produce up to full capacity/her machines are insufficient)
- Customer loyalty – existing customers are unwilling to switch from their current bagel shop of choice
- Economy/market – bagel sales are poor on Nantucket in general?

Interviewer: OK, thanks. *No formal recommendation for this case.*

10. Synthetic Rubber Manufacturer (Bain R1, Private Equity, Profitability, Balanced)

Stem: Our client is a PE firm looking to acquire a synthetic rubber manufacturer. Synthetic rubber is the petrochemical material used in most passenger car tires in the US. The target company only sells the product to big tire manufacturers (think Goodyear, Michelin etc.). Should our client invest in the firm?

Phase 1: Market Analysis

Let the candidate make his/her structure. It should include sections on the firm's profitability (revenue and cost), the deal strategy, rubber market and exit strategy.

Candidate: I think the best place to start would be analyzing the market. Do we have any information on the size and growth of the market?

Interviewer: That sounds right. Let's just assume flat growth for the market. Can you help me figure out the size?

Candidate: First, we should think about the number of passenger cars and from there we can figure out how much synthetic rubber is needed to produce a tire and then the price of the tire itself. Does that sound like a plan?

Interviewer: Sounds good, I can tell you that synthetic rubber price is $0.50 per pound and it takes 5 pounds to produce a tire.

Candidate: Let's assume the US has a population of 300M and has an average household size of 3, which gives us 100M households. An average household should have 1.5 cars and each car needs tire servicing once every two years. That gives us 100M * 1.5 * 50% = 75M sets of tires sold in a year. Of course, a car has 4 tires and not all of the people will care enough to replace the tires on time. Let's say 80% of the people do follow the schedule. That gives us 75M * 4 * 80% = 240M tires.

I can convert that to the market size of the synthetic rubber using the information you have given me. So, the total market size is 240M * 0.5 * 5 = $600M. Wow, that's a big market.

Do we happen to have the target company's market share?

Interviewer: Great question -- it's 50%.

Candidate: The target firm's revenue will then be $600M* 50% = $300M. That is a reasonable revenue figure, but in order to know whether this is a good or a bad target, I would want to know the profitability of the firm. Do you happen to have the cost structure?

Phase 2: Profitability

Interviewer: What do you think are the main cost components?

Candidate: Let's break this down to Fixed Costs and Variable Costs.

Fixed Costs: PP&E, SG&A, R&D, Employee Salaries and Benefits

Variable Costs: Raw Materials, Utilities, Distribution, Marketing

Interviewer: That's a great list. To simplify this, let's assume the profit margin is 5%.

Candidate: Okay, so the target firm's annual profit is $300M * 5% = $15M. That's a decent amount, but in order to know whether this is a good or a bad profit margin, I think we need to compare it to the competitors or industry average.

Interviewer: Everyone else is having 2-3% profit margin. What do you think are the target firm's potential growth strategies?

Candidate: That's very interesting. They are currently the biggest player in the market (50%) and enjoying the biggest profit margin. There are multiple ways to leverage that. (The list should have new segment, promotion campaign, cost cutting, finding alternatives for rubber, etc)

Phase 3: Recommendation

Interviewer: So, the client's calls and wants an update immediately, tell them whether you think this is an attract target or not.

Summary should be direct and concise, touching on multiple data points as well as the growth strategies that have been covered

11. Potato Inc. (Bain R1, CPG/Retail, Profitability, Qualitative)

Stem: Our client, Potato Inc., is a producer of fried potato crisps, also known as chips. The product is high in sodium and fat, comes in several flavors – plain, barbecue, etc. The customers of this product are loyal,18 to 30-year-old males that mostly reside in the Southern part of the United States. The year is 2010.

Our client makes and manufactures chips domestically and has two main product lines: premium and price value. They sell their product in convenience stores, gas stations, drug stores, and supermarkets. Recently, profits have been decreasing. Potato Inc. would like to understand why this is happening and what to do about it.

Phase 1: Industry Landscape

Let the Candidate make his/her structure. It should include a section on the industry landscape. Propose starting from there.

Interviewer: What do you think might be happening in the industry?

The candidate should zero in on the fact that the economy in 2010 is still recovering from the recession and that customers may be cutting back. Keep pushing the candidate if they don't point out that the problem is from 2010.

Interviewer: Well, we have found that customers are buying the same amount of product as they were before.

Candidate: Since revenue is basically price * quantity. If we set quantity constant, then the customers may be cutting back on the more expensive chips in favor of the cheaper product.

Interviewer: Good point, but how does that affect the profitability?

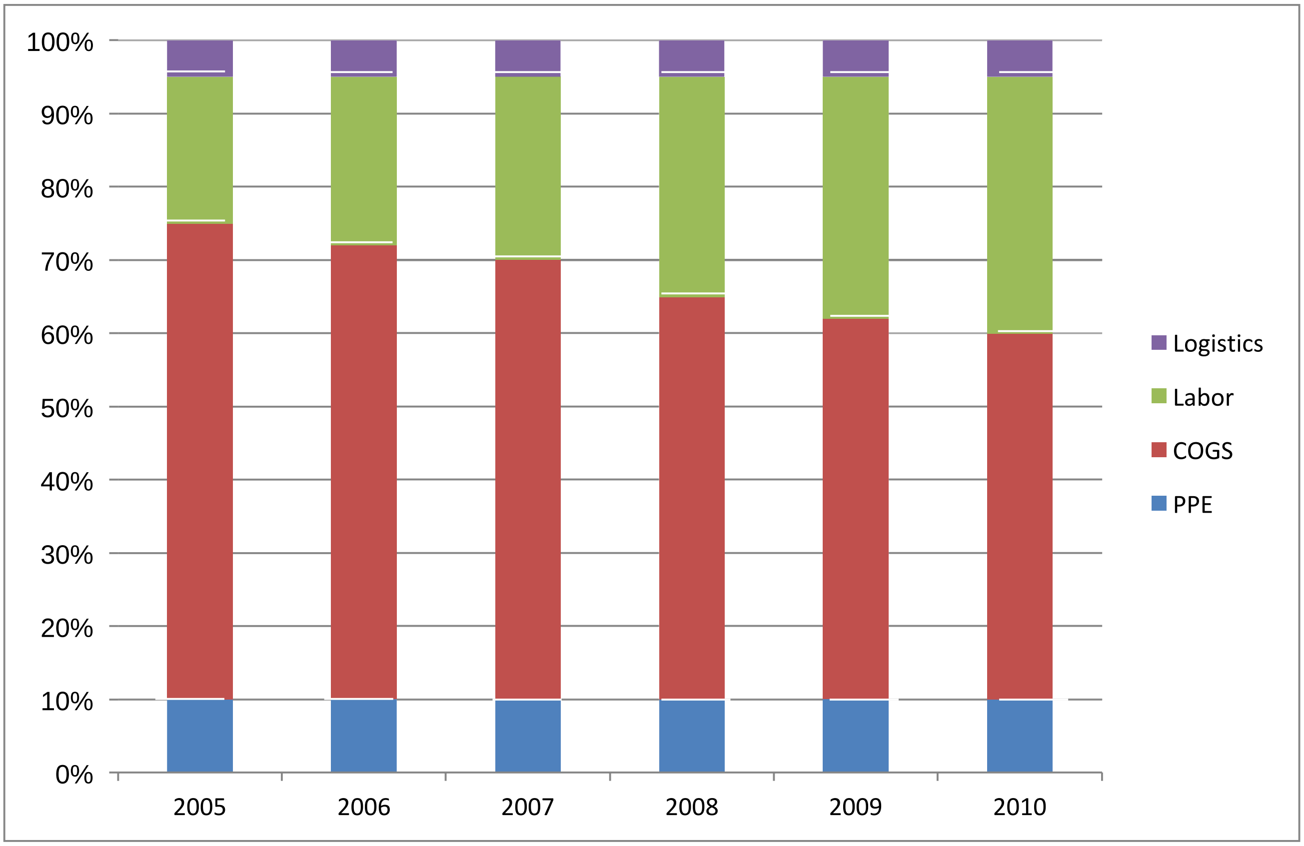
The candidate should also identify that the more expensive chips have higher margins and while Potato Inc. has been selling the same volume, the profit per sale has been decreasing.

Phase 2: Identifying Profit Enhancing Opportunities

Interviewer: So how can we improve Potato Inc.'s profitability?

There are a variety of good answers to this question. Let the Candidate offer a few. Bonus points to the candidate if they structure their thoughts instead of simply rambling off ideas. The candidate should identify that one way to increase profitability would be to reduce costs. The candidate should also list potential cost areas specific to Potato Inc. Once Interviewer is satisfied that all cost areas have been listed, he/she can show the following table to the candidate.

Case continues on next page.



Interviewer: What are some costs you think we can cut?

Candidate: I see a lot of interesting information here. Before I jump in, does the client have any objectives I should keep in mind. Specifically, are they trying to achieve a certain level of profitability? (*This information should assist the candidate in understanding how much cost cutting should be done).*

Interviewer: No, they are just looking to be as profitable as possible given the circumstances.

The candidate should now state the observation on the rising labor cost and explore the cost cutting areas for consideration based on the Exhibit. The list could include outsourcing production to trim down labor cost, automating some processes, and increasing efficiency through training or quality control.

Interviewer: Nice ideas, any risks of us implementing the ideas?

The candidate should now state the potential risks such as expertise retention, increase in logistic cost, and the execution lead time and how to mitigate them.

Interviewer: Great conversation, the CEO has just walked in, can you give him a 30-second summary on your ideas?

<u>Recommendation</u>

Should walk through what has been discussed, but most basically will conclude: Open more stores, don't raise prices, and control franchisee prices to maximize revenue.

12. Dentist Office (Bain R2, Healthcare, M&A, Balanced)

Stem

Interviewer: Your friend, Anne, works as a dentist at a private practice. The owner of that practice, Dr. D, has owned the practice for 20 years and has decided that he is finally ready to retire. After searching for years for a replacement, he believes Anne is the right person to take over the practice and has offered to sell it to her. Anne truly enjoys her job; though she isn't sure if she would enjoy actually owning and managing the business. She wants your help figuring out whether or not she should purchase the practice.

Structure

Candidate: This can be attacked like an M&A case, so three reasonable buckets are *Profitability*, *Dental Market Dynamics*, and *Fit*. Some components that can be considered are:

- Profitability
  - Revenue
    - Price
      - What price does Dr. D charge?
      - Can Anne keep the same price points?
    - Quantity
      - How many patients does Dr. D have?
      - Would patients leave when Dr. D retires?
      - Can Anne manage all the patients herself or would she need to hire someone?
  - Costs
    - Fixed
      - Dental technicians
      - Lease
    - Variable
      - Customer/patient acquisition
      - Dental equipment
      - Medication
- Dental Market Dynamics
  - Number of other dentists in the area
  - Macroeconomic trends
  - New technologies/regulations
- Fit
  - How are Anne's skills aligned with running a private practice?
  - Does Anne want to run her own practice?
  - Acquisition price

Phase 1 – Profitability (Qualitative)

Candidate: I'd like to start by considering profitability.

Interviewer: That sounds great. What do you think some of the main drivers of profitability would be?

[Candidate should come up with a list including some of the above drivers.]

Interviewer: What do you think are the greatest risks to the profitability of the practice?

[The most important thing to clue in on are the fact that customers may leave if Dr. D retires.]

Candidate: Well, if I were Anne, I would be worried that customers would leave when Dr. D retires, decreasing profitability.

Interviewer: Makes sense. What would you do to mitigate that risk?

[Candidate should come up with several reasonable ideas. Some include: having Dr. D gradually decrease his patient work, have Dr. D send a note to his patients explaining that he is retiring and endorsing Anne, offering some type of loyalty discount or gesture for existing patients.]

Interviewer: That sounds reasonable. Is there anything else that would worry you?

Candidate: Yes. I'd be very curious how Dr. D retiring impacts the number of patients the practice can see. Will Anne be able to see all the patients herself or will she need to hire someone to help her?

Phase 2 – Profitability (Quantitative)

Interviewer: That's a great point. I have some information about the profitability of the practice. After paying all expenses (including Anne's $100K salary), the practice generates a profit of $150K per year, which is taken as income by Dr. D. Anne currently works for 8 hours a day (including 2 hours of administrative work) and Dr. D sees patients for 2 hours a day. Dr. D has offered to sell the practice to Anne for $1M. What are your thoughts?

Candidate: The first thing that jumps out at me is that Anne already has a full patient load and would need to hire additional help to cover Dr. D's patients. Does that sound reasonable?

Interviewer: That sounds fine to me. Assume Anne can offload all her administrative tasks by hiring a dental technician for a salary of $50K.

Candidate: Great. When you replace Anne's salary ($100K) with the salary of a dental technician ($50K), annual profits increase to $200K per year. I'd like to calculate the value of the private practice assuming the profits continue in perpetuity. Is it reasonable to use a discount rate of 10%?

Interviewer: Sure.

Candidate: With annual profits of $200K and a discount rate of 10%, the value of the private practice is $2M [$200K / 0.10]. To calculate the NPV of the decision, we must compare the NPV of purchasing the practice with the NPV of not purchasing the practice. The NPV of purchasing the practice is $1M [-$1M + 2M]. The NPV of not purchasing the practice, assuming Anne can keep the same salary, is likewise $1M [$100K / 0.10]. Therefore, assuming our discount rate is accurate, Anne should be indifferent between the two options from a financial standpoint. The next thing I'd like to understand a little more about is the market.

Interviewer: Unfortunately, I don't have much information on the market. For our purposes, assume the market will stay as-is. Is there anything else you'd like to know?

Phase 3 – Fit

Candidate: In my initial framework, I indicated that *Fit* is an important component, so I'd like to understand more about Anne's ability and desire to run a private practice.

Interviewer: What types of skills do you think someone would need to run a private practice?

[Candidate should brainstorm skills in a structured manner. One example is Dental Skills, Administrative Skills, Human Resources Skills, and Other.]

Phase 4 - Recommendation

Interviewer: That all sounds reasonable. So, what would you tell Anne?

Candidate: You asked me to recommend whether or not you should buy the private practice. I recommend you do not purchase the practice. The financials of each path are equivalent (NPV = $1M) and you indicated that you likely do not want to manage a practice going forward. In terms of next steps, I'd like to understand what Dr. D. will do with the practice if you choose not to purchase it and what that means for your salary going forward. That said, at this point, purchasing the private practice does not seem like a wise investment.

13. HDTV Remote Controls (Bain R2, Private Equity, M&A, Quantitative)

Stem: It is 2005 and your client is a Private Equity firm looking to purchase an HDTV Remote Control manufacturing company. The firm would like to sell the company after 3 years. Should they go forward with the acquisition?

<u>Phase 1: Framework</u>

The candidate should take some time to come up with a simple, logical, MECE structure that includes a bucket for the Market (Size, Growth, Competition, etc.), the Target Company (Revenues, Costs, Market Share, Product, etc.), and the client/PE Firm (Strategy, Cannibalization, Synergies, Risks, ROI, etc.)

Candidate should first look to analyze the market's attractiveness by starting to look at size and growth. You can assume that the only real competition is 2 main players, but otherwise fragmented.

Candidate should attempt to size the market as follows, but if not, guide him/her to do so.

Candidate should recognize that TV Remotes are innately tied to the TV's they control, and should therefore look to size the market via # of households (HH's) in the US…

- 300M people in the US
- 3 people/HH
- 100M HH's
- 3 TV's / HH
- 300M TV's

Candidate might assume that the useful life of a normal TV is 10 years, and will therefore want to divide the 300M TV's by 10 to get a total of 30M TV's sold/year. However, they should think about a potential consumer's buying process when it comes to upgrading to an HDTV. Most people don't switch to HD because their old TV is broken, but rather, they switch to HDTV because it's the latest and greatest in technology.

<u>Phase 2: Target Company</u>

The interviewer should then guide the candidate to focus on the Target Company. When prompted, the interviewer can provide the following information:

- Revenues for the last 3 years have been $25M, $50M, and $100M.
- They've maintained a 25% market share throughout.
- Remotes sell at $10 each.
- You can assume margins are attractive.
- If they haven't figured this out already, candidate should recognize that TV Remotes are tied to the TV's they control.

Candidate should infer that the market has been growing from $100M to $200M to $400M, or 100% growth year over year.

Candidate should now look at the growth rate for the next 3 years, and the 3 years after that.

Interviewer: How would you expect the market to behave over this time frame (6 years)?

Candidate: Let's assume that all the TV's will be replaced gradually based on momentum. A few people will try HDTV's at first. Then once momentum builds and HDTV's become very popular, demand will pick up such that most of the purchasing comes in the first few years and then evens out towards the end.

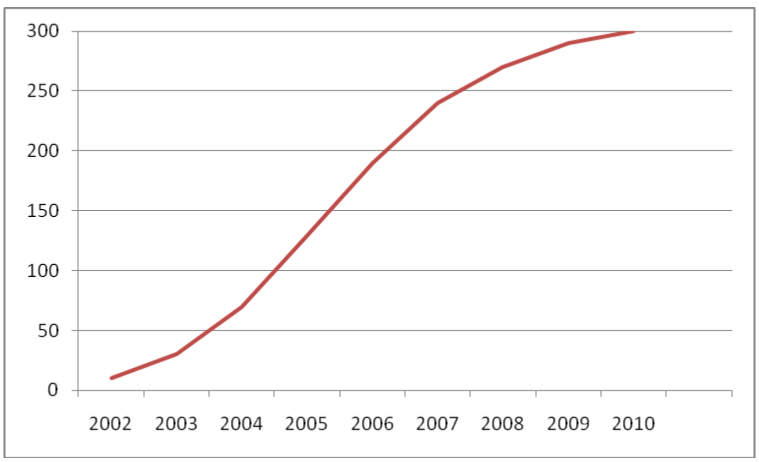
Interviewer: *Tell the candidate that the client expects that all normal TV's will be replaced by HDTV's and that from start to finish this will take 9 years.*

Behind the Scenes: *Looking at the data we have…*

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Remotes	10M	20M	40M						
Cumulative	10M	30M	70M						

To fill the rest of the table out, we know that total # of TV's = 300M.
Average # of TV's sold/year in remaining years = 40M
However, we know most of this will be front-loaded.

Ask candidate to draw a chart of what he expects the market penetration of HD remotes to look like. It should look something like this:



Interviewer: Before asking for the final recommendation, share the following table with the candidate. Ask the candidate to assess whether or not the PE firm should acquire the company and why. If necessary, interviewer should guide the candidate to think about what drivers the purchase price.

	2002	2003	2004	2005E	2006E	2007E	2008E	2009E	2010E
Remotes	10M	20M	40M	60M	60M	50M	30M	20M	10M
Cumulative	10M	30M	70M	130M	190M	240M	270M	290M	300M

Note: A good candidate will recognize the following sequence of events and what they mean in terms of the company's value.

2002 - 2004: High Growth = High Multiples
2005: Acquisition Date
2005 - 2007: Sustained Growth = High Multiples
2008: Sell Date
2008 - 2010: Decline = Low Multiples

<u>Phase 3: Recommendation</u>

Interviewer: So what can you surmise about what we would have to pay for the company now and what we could sell it for later?

Conclusion: From this, candidate can conclude that this is a bad deal despite the growing market and profitability of the company, because of the high multiples they would have to pay to acquire the company, and then the low multiples they would command 3 years later when they sell the company.

14. Paper Clips Acquisition (Bain R2, CPG/Retail, M&A, Quantitative)

Stem: Our client is Paper Clips, a publicly-traded office supplies manufacturer based in the US. Due to slow growth in the office supplies market, the client is considering an acquisition of a company in another industry to boost sales growth. Bain has identified the safe industry as a good fit for the client and is helping the client to find the right target company to acquire. The CEO of the company has stated that she has three primary criteria for an acquisition target: 1) the acquisition candidate must have high sales growth potential, 2) the acquisition candidate must be a leader or have the potential to become the leader of at least one segment within the U.S. safe market, and 3) the acquisition candidate cannot dilute Paper Clip's EBIT margin – which is currently 12%. How would you select the best acquisition target for the client?

Candidate's structure should focus on the three areas that the CEO has prioritized: 1) sales growth potential, 2) relative market share, 3) impact on operating profitability (EBIT margin). Candidate can point to other factors and areas to consider but should clearly prioritize these areas that the client has highlighted. Let the candidate drive the case and ask for the appropriate data. If the candidate asks for clarification on the market segments within the safe industry, state that there are three primary market segments: commercial safes, premium home safes, and value home safes. Commercial safes are safes provided to businesses. Premium home safes are higher end safes for residential homes while value home safes are lower end safes for residential homes.

Candidate: Given that high sales growth potential is a key requirement for the company, I'd like to see if we have any information on sales projections for companies in the safe industry or for the industry overall.

Interviewer: Our analyst put together these projections for sales in the safe industry. Which segment looks most attractive from a sales growth perspective?

Note: If the candidate asks whether the data is for U.S. or global market, state that the client is focused on the U.S. market and that all data is for the U.S. market.

Projected Safe Sales for the Next Five Years

Market Segment	Unit Sales CAGR*	Average Selling Price per Unit CAGR
Commercial	0%	6%
Premium Home	6%	5%
Value Home	8%	3%

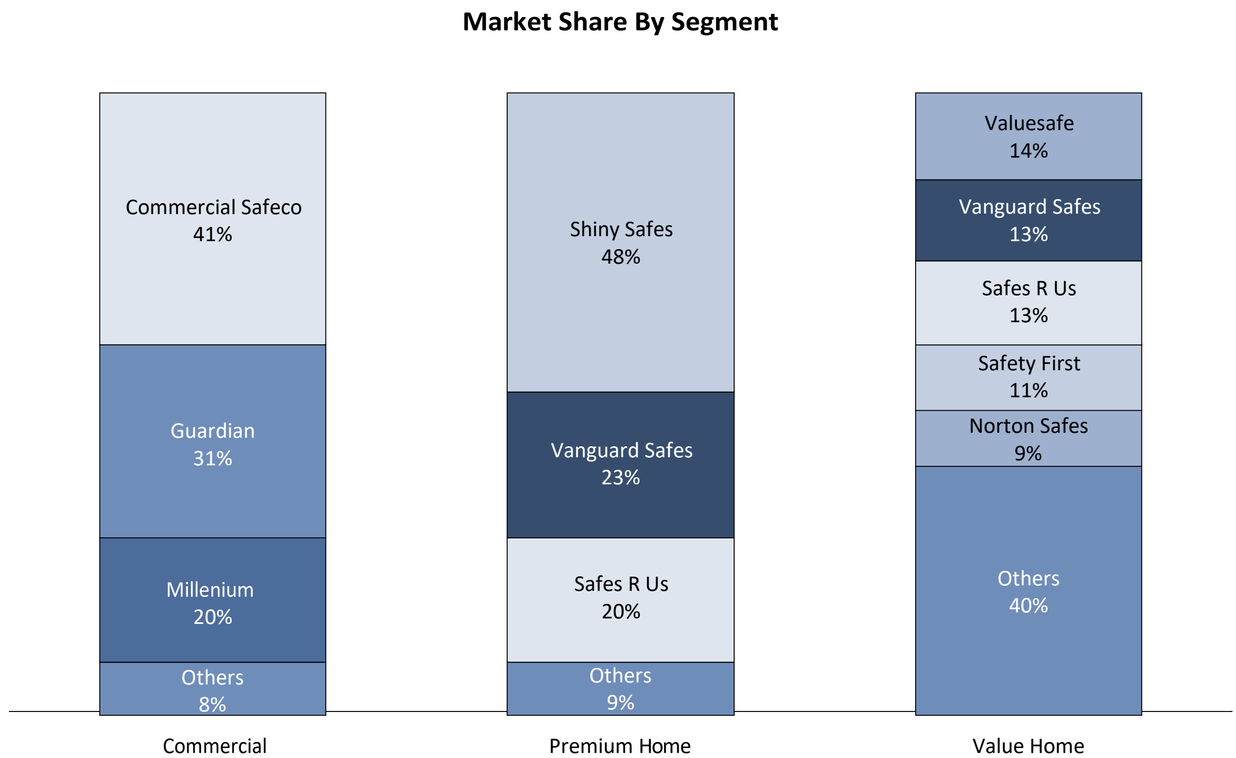
**CAGR = Compound Annual Growth Rate*

Candidate should get to projected sales by using the data on unit sales and average selling price per unit. Candidates can estimate the sales growth rates without doing all of the calculations and be able to quickly see that sales growth is projected to be stronger for the Premium Home and Value Home segments (11% CAGR vs. 6% CAGR for Commercial).

Commercial Segment Projected Sales CAGR = 6%
*Premium Home Segment Projected Sales CAGR = 11.3% (1.06 * 1.05 – 1) or approx. 11% based on 6% + 5%.*
*Value Home Segment Projected Sales CAGR = 11.3% (1.08 * 1.03 – 1) or approx. 11% based on 8% + 3%.*

Candidate: Based on these numbers, the projected sales growth rate for the Premium Home and Value Home segments are above 10% annually while the projected sales growth rate for the Commercial segment is only 6%. Therefore, the Premium Home and Value Home segments look to be more attractive segments and we're more likely to find an attractive acquisition candidate in those segments. I'd like to now consider the CEO's focus on segment leadership. Do we have any market share data that could help us identify market leadership in these segments?

Interviewer: Here's the data that we have on market shares within each segment. What can you tell from this?



Note: Market share data based on annual sales

Candidate: Based on this chart, it looks like the Value Home segment is much more fragmented than either the Premium Home or the Commercial segment. The market leader in the Value Home segment has less than 15% market share and there are a number of close competitors. In the Premium Home segment, Shiny Safes has close to 50% market share and a relative market share of over 2. Combining this data with the sales growth data, Shiny Safes looks like a strong acquisition candidate because it has clear market leadership in a high growth segment of the industry. However, I'd also like to look at profitability since the CEO is concerned about any dilution of operating margins. Do we have any data on profitability?

Case continues on next page.

Interviewer: Yes. Here's some data on profitability of the leading company in each market segment.

	Commercial Safeco	Shiny Safes	Valuesafe
Revenue	100%	100%	100%
Materials	30%	21%	29%
Direct Labor	31%	23%	28%
Freight	7%	15%	18%
Total COGS	68%	59%	75%
Gross Margins	**32%**	**41%**	**25%**
SG&A	20%	30%	22%
EBIT	**12%**	**11%**	**3%**

If the candidate recommends Commercial Safeco based on current EBIT margins, push the candidate to think about synergies and changes in cost structure that may happen post-acquisition.

Candidate: Based on current EBIT margins, only Commercial Safeco can be acquired without diluting our client's operating profits of 12%. However, there may be potential for the client to improve the targets profits margins through cost reductions or revenue improvements. Do we have any data on expected synergies from an acquisition?

Interviewer: In past acquisitions, the client has consistently been able to reduce SG&A expenses of acquired companies by approximately 10% and the client believes that similar reductions are achievable for this acquisition. In addition to SG&A expense reductions, the client can also reduce freight expenses at Shiny Safes by 10% because of significant overlaps in distribution channels. We expect only a 5% reduction in freight expenses for Valuesafe and no freight expense reductions for Commercial Safeco.

Candidate: For Shiny Safes, the expected SG&A reduction will boost EBIT margins by 3% (30% * 10%) and the expected freight expense reduction will boost EBIT margins by a further 1.5% (15% * 10%). This will boost Shiny Safes post-acquisition EBIT margin to 15.5% (11% + 3% + 1.5%). For Commercial Safeco, the expected SG&A reduction will boost EBIT margins by 2% (20% * 10%). This will boost Commercial Safeco's post-acquisition EBIT margin to 14%. Valuesafe's EBIT margin looks too low to make the company an attractive acquisition candidate even after accounting for synergies so I'll ignore it for now. Combining this analysis with our earlier analysis of expected sales growth and market share, Shiny Safes looks to be the best acquisition candidate.

Interviewer: Great. What are some other factors that you would consider in evaluating potential acquisition candidates for the client?

Candidate should brainstorm some key factors while using a structured approach. There are many other potential factors to consider including financial considerations (e.g., price of acquisition, ability to finance acquisition), operational factors (e.g., access to distribution channels), and people issues (e.g., cultural fit of target company, quality of target's management team).

Interviewer: Those all seem like good things to consider but we're running out of time. Can you wrap things up by presenting a recommendation to the client's CEO based on the work we've done so far?

Candidate: We recommend that Paper Clips acquire Shiny Safes as it is the most attractive acquisition candidate based on the factors that you've prioritized. First, Shiny Safes competes in a relatively fast-growing segment of the market that is expected to experience over 11% annual sales growth over the next five years. Second, Shiny Safes is a dominant market leader in its segment with a relative market share of over 2. Third, the acquisition of Shiny Safes will be accretive to Paper Clip's operating profits after accounting for expected synergies. As we continue with our work, we'll focus on other factors such as financing considerations and cultural fit to make sure that this is the best acquisition candidate for Paper Clips.

15. VAT Tax Processing (Bain R2, Private Equity, M&A, Qualitative)

Note: This is a conversational case that is testing the candidate's ability to talk through a problem logically and think through various drivers. Encourage the candidate to think creatively and logically about all aspects of the case.

Stem: Our client is a PE fund who is considering buying a Value Added Tax (VAT) processing company. A VAT is a form of consumption tax that is utilized is many countries outside the US. Foreign travelers are entitled to a refund on the VAT of purchased durable goods that they plan on taking out of the country. Refunds can be obtained by mailing in a VAT refund form, which can take 4 – 12 weeks, or by taking the VAT refund form to a processing kiosk at their departing airport.

The target makes money by operating refund-processing kiosks in 36 countries and taking a 25% commission on any transaction. The target has an 85% market share for VAT refund-processing kiosks. The PE firm is concerned about their ability to grow the company and wants our opinion on potential growth and risks, particularly those that are outside of their control. The target has been in business for over fifty years, since post WWII, and the management team is comprised of 20-year veterans.

Note: If candidate asks, clarify the VAT business model with an example. "If I travel to the EU, and I buy something in a VAT country, I ask for a VAT refund form. I complete the form and take it to customs. They verify the goods and the form, and stamp it. I then take the stamped form to a VAT refund processor, who then gives me 75% of the refund value on the spot. The processor then sends the receipt to the government and collects the full VAT, thus earning a 25% commission. In EU countries, the VAT is eligible for non-EU citizens who are taking products out of the country."

Candidate should develop a framework that includes profit growth (revenues and costs) and risks.

Interviewer: Let's start on the revenue side, what do you think is the biggest opportunity?

Candidate: The main drivers of revenue are the number of transactions processed, the value of the refund, and our commission rate. The value on each receipt is out of our control. I know that when I travel, VAT tends to be an afterthought. This leads me to believe that volume of transactions is the biggest opportunity. Transaction volume would be driven by the percentage of people that are aware of VAT, and the percentage that actually redeem. Do we know what percentages of travelers are aware of VAT?

Interviewer: We know that 40% of VAT purchasers are aware of the refund.

Candidate: Do we know of those that are aware, what percentage actually redeem?

Interviewer: 50%.

Candidate: That means only 20% of the potential transactions that could be processed are. If we can increase this to 30%, that would be a 50% increase in revenue.

Interviewer: Great. And what do you think are some ways to drive additional transaction volume?

Candidate: Customer awareness, ease of transaction, and promotion. Awareness may include: retailer incentives to inform customers; general marketing, online marketing on travel websites, target online presence, social media. Ease of transaction may include: moving the kiosks out of airports and into cities or retail hubs where people can obtain immediate refunds and avoid lines, online refunds, or streamlining the in-airport refund process. Also, promotions, such as quicker refunds, get an additional percentage back.

If candidate then tries to go to price as a revenue driver (e.g., commission percentage), push them to determine whether or not price is a big factor, and what determines price. Ask whether or not customers would be price elastic or inelastic. The correct answer is inelastic because 1: there are few other players *in the market, and 2: VAT refunds are like free money. Should they raise prices...? Open ended.*

Interviewer: Great. Now let's look at the cost side. What do you think some of the costs are?

Candidate: On the fixed side, I would think primarily overhead costs such as finance, sales, marketing, and administration. Also, the costs of the kiosks and kiosk support staff. On the variable side, I would think about any transaction costs such as processing, paper, and any fees we pay. You mentioned the company has been operating for 50+ years, and the management team has been in place for 20+ years. I would hypothesize that they haven't shaken up their cost structure in quite a while.

Interviewer: What do you think the biggest opportunity is?

Candidate: This sounds like a primarily fixed cost business, where the number of transactions doesn't really affect our bottom line. We could reduce fixed costs by centralizing operations or technology. We could also look at ways to automate administrative processes, reducing the need for staff. Another big opportunity could be in creating a web-based system for redemption, reducing the need for kiosks and kiosk staff.

Interviewer: Ok, now let's talk about risks. What do you think?

I think there are three buckets: regulatory, macroeconomic, and competition.

- *Regulatory*: There is a chance that the government might want to take a piece of the action. Or they could nationalize in certain countries, or take away VAT overall, or change the VAT redemption policies.
- *Macroeconomic*: I know VAT is largely driven off of tourism and international travel, which is cyclical based on the economy. If there is a recession in 3 – 5 years, it may be tough for our target to make money regardless of what the PE firm does.
- *Competition:* For competitors, the fact that we have 85% market share is a bit surprising. It doesn't sound like there are any real barriers to entry here. I would worry about an upstart competitor coming in with a new model and a better cost structure that is able to undercut us and take share.

There is no formal recommendation at the end of this case.

16. CPG Low-Income Market Entry (BCG Mock, CPG/Retail, New Market, Balanced)

Stem:

Your client is SmartCity, a large multinational CPG company operating in over 200 countries. SmartCity primarily serves the middle to high income consumer segments with premium to high end products and is considering targeting the lower-income (LI) demographic in the US, which is defined at average household income at the poverty line or below. Currently, the lower income demographic in the US is experiencing double digit growth. The client would like help with three things specifically, 1) Should they target the low-income segment 2) What tactics should they employ if they do, and 3) What are some risks with targeting the low-income segment?

Note: Candidate should drive the entire case. Interviewer should provide hints or gentle suggestions along the way. Candidate should focus on answering the three questions systematically and should draw conclusions from all the data provided by the interviewer

STRUCTURE (possible):

<u>Low Income Market</u>

- Number of customers
  - Growth rates
  - Percentage of overall market spend
- Product segmentation (how do they spend their money?)
- SmartCity market share vs. competitors for low income segment
- Profitability

<u>Synergies with Current Operations</u>
- Existing products (where is there overlap or potential for growth?)
- Supplier purchasing power (will we use the same suppliers?)
- Marketing and branding (will they employ the same marketing strategy?)
  - How will this affect their brand?
- Distribution channels
  - Where do low income populations shop?
  - Do they need to establish new channels?

<u>Strategies to Employ:</u>
- Adjusting pack sizes?
  - Do LI purchase in smaller pack sizes? Larger pack sizes?
- Adjusting prices?
- Establishing new distribution channels
- Offering new products?

<u>Risks</u>
- Cannibalization of existing products
- Lack of experience with LI segment
- Brand / Reputation

Candidate should drive to the first step and be relatively specific with what type of data they want to look at first.

Candidate: First, I'd like to look at SmartCity's overall market share and its market share with the LI segment.

Interviewer: Can you be a little more specific? Do you want their total revenue?

Candidate: I'd like to compare their market share by revenue for a sample product mix.

Interviewer should show candidate table 1.

Table 1: Category Sales for Total Market and LI segment ($MM)

Product	Total Market Category Sales	Client Category Sales	LI Category Total Sales	Client LI Category Sales
Shampoo	400	100	100	33
Cold Medicine	200	40	75	7.5
Diapers	800	400	400	100
Baby Food	300	100	100	33

Candidate should take a minute to analyze the data and to walk the interviewer through the high-level observations with back of the envelope calculations. Possible responses include:

- LI segment is attractive since they comprise a high percentage of the total market spend for the four products.
- If SmartCity does not target the low-income segment, they could be missing out on a large market and huge growth opportunities
- At a high level, with the information given, it appears like targeting the low-income segment would be a good idea, but of course, we need to take into consideration the risks of this strategy as well as possible tactics to employ

Candidate should quickly realize that they should calculate SmartCity's overall market share vs. LI market share. Candidate should write out an organized table of calculations (example below):

Product	Category Market Share	LI Market Share
Shampoo	25%	33%
Cold Medicine	20%	10%
Diapers	50%	25%
Baby Food	33%	33%

Here are some possible insights from the candidate:

- In the Shampoo segment, SmartCity has a higher share in the LI market than the overall category. It might be tough to grow the LI market share, but we can take lessons from our

Shampoo division and apply them to other categories looking to grow LI market share.
- In the Cold Medicine segment, we are only at 10% LI share, which could be a growth opportunity.
- SmartCity is strong in the diapers segment, and there could be a large revenue opportunity if we can bring the LI market share in line with the broader category.
- SmartCity is doing well with baby food for the LI segment (33% for LI vs 33% overall). It would seem that their brand is known in the LI segment, we should be able to apply this to diapers.
- Final takeaway: Diapers appears to be the most attractive opportunity for growth in the LI market. I would want to apply practices from Baby Food to the diaper market.
- Extra points: Diapers and baby products have brand synergy, and are also attractive as people are generally less price sensitive to baby products as they want the best for their children and don't want to take risks with inferior products (provide real life or news examples if possible, i.e. China and baby milk formula circa 2008).

Interviewer: What additional revenue could the client expect if they could increase their market shares for Cold Medicine and Diapers?

Candidate: (adding to their table): Additional revenue for Cold Medicine is another 10%, which is $7.5M. Additional revenue for diapers is 25%, which is $100M. Total additional revenue is $107.5M. This is attractive, and another reason why XYZ should pursue the LI segment.

Interviewer: What other opportunities exist to grow revenue?

Candidate should drive to the next step. Once the candidate mentions pack size and pricing, the interviewer should provide them with Table 2:

Table 2: Product Pack Sizes and Prices

Product	Client Package Size	Avg. Competitor Package Size	Client Price ($)	Avg. Competitor Price ($)
Shampoo	10 mL	12 mL	20	15
Cold Medicine	8 mL	10 mL	12	10
Diapers	40 diapers	32 diapers	20	16
Baby Food	16 oz	20 oz	20	25

Candidate should take a minute to analyze the data and to walk the interviewer through high level observations (possible responses):
- This table shows us pack sizes and prices compared with average competitors. We can use this data to see what SmartCity's unit pricing is compared to their competitors.
- Candidate should follow train of thought of comparing Diapers and Baby Food.

Candidate should calculate the per unit price of diapers and baby food. Here are possible responses:
- The per unit price of diapers for SmartCity is the same as it is for competitors ($0.50/diaper). The only difference is that the diapers are offered at a higher price for higher volume.
- Baby food on the other hand is offered in lower pack size with the same per unit price as the competitor ($1.25/oz)
- SmartCity should consider offering a lower pack size for diapers, similar to what they've done with baby food.
- Extra points: Large diaper pack size might be unattractive to LI community, as they may not have the means to buy large volumes at once.

- Extra points: SmartCity can maintain its brand and reputation and still be attractive to the LI segment as previously mentioned, people are generally price insensitive for baby products as they want brands that they can trust

Candidate should drive to the next step which is to determine the risks of this strategy:

Candidate: It looks like changing the pack size and pricing is a good strategy for now. Let's look at the risks of this strategy

Risks (possible):

Customer/Branding

- Brand could diminish if targeting low income
- Cannibalization of existing product sales
- Brand confusion among customers

Operational

- Need to establish new distribution channels
- More complexity with additional SKUs
- Investments or changes in machinery to change pack size?

Financial

- Competitive response could lead to price war
- Profit margins could narrow if targeting LI with smaller pack sizes
- Shareholder response to new strategy?

Interviewer: The client has walked in and wants to hear your final conclusion. What do you have to say?

Recommendation (possible): We recommend entering the LI segment as it represents a large percentage of the total sales of the CPG products analyzed. Specifically, we recommend focusing on baby products, and specifically on diapers as SmartCity has the opportunity to gain significant market share. We advise experimenting with smaller pack sizes and keeping the per unit price the same. This will help LI people afford the product, and likely increase our market share. However, moving forward, we'd like to investigate the risk of this strategy on SmartCity's brand and reputation, as well as their ability to establish the best distribution channels to reach these customers.

17. National Fast Food Chain (BCG Mock, CPG/Retail, New Market, Quantitative)

Stem: Your client is a small National Fast Food Chain considering a frequent diner program. For every $1 that is spent, customers will gain one point. With 20 points customers receive a free movie ticket. The Chain's goal is to increase per-store revenue. Should your client undertake this program?

Candidate should lay out a framework reviewing the following:

- Company (type, size, where stores are located, customer segments, trends, product mix)
- Market (trends, size, sub-segments, suppliers, channels)
- Incremental Profit of the program (Revenue – Costs)
- Risks

<u>Phase 1: Background</u>

Interviewer should let the Candidate drive the discussion completely. He/she should preview his/her logic, explaining to the interviewer how he/she will go about solving this problem.

Candidate: I know that customer loyalty programs are about changing customer behavior, incentivizing the customer by getting current customers to spend more or by acquiring new customers. Can you tell me a little bit about the Fast Food Chain, how many customers we have, how much they spend, and what our goals are for each of these items?

Interviewer should only respond with the following if asked:

Interviewer: We are a burger and sandwich chain. We have 500 stores nationwide with an average of 30,000 customers per store per year.

Candidate: OK, so we have a total of 15,000,000 (500 x 30,000) customers per year. Do we know how these customers are segmented?

Interviewer: Yes, we have some information on customer segmentation. How do you think a fast food chain might segment its customer base?

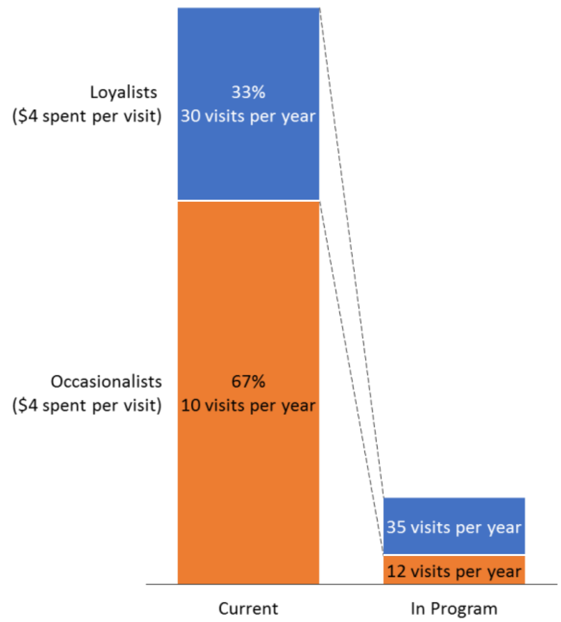
Candidate: Probably by age, demographics, and loyalty/frequency of visit.

If Candidate does not get to "loyalty," prompt him or her by asking "how else?"

<u>Phase 2: Revenue Calculations</u>

Interviewer: OK, good. We have two types of customers: loyalists and occasionalists. What would you like to know about these customer segments?

Candidate should preview his/her logic for the interviewer (what information he/she needs and why he/she needs it). If Candidate does not get to this right away, Interviewer may gently prompt the Candidate by, for example, revealing that there is market research proving that neither segment will increase the spend per visit, but that both segments would increase in the frequency of visits. Interviewer should reveal the following graph when he/she feels that Candidate has asked all relevant questions:



Candidate: OK, great. Do we have any information on how many of each type of customer would actually join the loyalty program?

Again, if the candidate does not ask for this right away, gently prompt him/her to do so by referring to the graph.

Interviewer: Yes, we know that 20% of the loyalists would join the program and 5% of the occasionalists would join the program.

Candidate should now have enough information to calculate the additional revenue per store. If he/she does not drive there, prompt him/her to do so:

Loyalists per store:
1/3*30,000*20% = 2,000 loyalists will join the program and visit 5 more times per year (still spending $4/visit):

- $4/visit x 5 additional visits per person = $20 additional spend/loyalist
- $20*(2,000 loyalists) = **$40,000 additional revenue from loyalists**

Occasionalists per store:
(2/3*30,000*5% = 1,000 occasionalists will join the program and visit 2 more times per year (still spending $4/visit):

- $4/visit x 2 additional visits per person = $8 additional spend/occasionalist
- $8*(1,000 occasionalists) = **$8,000 additional revenue from loyalists**

➔ $40,000 + $8,000 = **$48,000/year additional revenue from program per store**

Candidate: So now that I have calculated the revenues, I would like to talk about costs.

<u>Phase 3: Cost Calculations</u>

Interviewer: Good. What kind of costs do you think are associated with a program like this?

Candidate: There will be both fixed and variable costs associated with this program. I would like to know the cost of the physical frequent diner cards, marketing, food, and cost of movie tickets.

When candidate has developed this list, provide the following information (Candidate may forget the cost of the food itself – let him/her start calculations without this figure, then prompt to ask if he/she forgot anything):

- There is a $10,000 startup cost per store for the program (this includes all cards, marketing, etc)
- Redeemed movie tickets cost $1 (*candidate should ask about the redemption rate of these tickets:* 50% are redeemed)
- Margins on food are 50%

The candidate should now have enough information to calculate the costs of the program (Candidate must recall that the redeemed ticket cost must be based on the ENTIRE spend of the customer, not just the incremental spend):

- Initial startup costs: $10,000
- Redeemed ticket costs: $8,200
    - 2,000 loyalists * 35 visits * $4/visit = $280,000
    - 1,000 occasionalists * 12 visits * $4/visit = $48,000
    - $280,000 + $48,000 = $328,000
    - $328,000 / 20 points per ticket = 16,400 tickets issued
    - 50% * 16,400 = $8,200 for tickets redeemed (with 1 point = $1)
- Food: 50% margin on the additional revenue from food sales = $24,000
    - (0.5*(2,000 loyalists * 5 more visits * $4/visit + 1,000 occasionalists* 2 more visits * $4/visit)) = $24,000)
    - Or note 50% of $48,000 is $24,000
- Total cost = $10,000 + $8,200 + $24,000 = $42,200

➔ Incremental profit per store = $48,000 - $42,200 = **$5,800**

Phase 4: Recommendation

Interviewer: Good. So what is your recommendation for our client?

Candidate: Our client should adopt this program because it will meet the client’s goal of increasing per-store revenue. Per-store profit will increase by $5,800 per year as a result of this program. Potential risks to be mindful of as the program moves forward are shifting consumer preferences and any price increases from the movie tickets supplier. The client may want to roll out a pilot program before instituting the loyalty program firm-wide.

18. Antidepressant Pricing (BCG R1, Healthcare, New Product, Quantitative)

Stem: Our client, Dopamine, is the fourth largest manufacturer of drugs internationally. Two years ago, Dopamine invented a drug – tentatively branded Soma – to treat acute depression. Unlike most antidepressants, the drug is preventative rather than responsive. Whereas most antidepressants attempt to treat diagnosed cases of depression, Soma is designed for consumption *before* symptoms emerge. It is aimed at individuals who are deemed "high-risk" for acute depression due to family history, an acute trauma, or a variety of other factors. The drug is available by prescription only and it has no known side effects. Soma received regulatory approval by the FDA, and Dopamine is considering how to price the drug in the United States. You have been asked to size the market and recommend a price.

Provide only the following information only if explicitly asked. If the candidate asks for other information state that "we may get to that."

1. The drug has not yet been covered by insurance.
2. Medical bills for acute depression average $10,000 annually per case (i.e. per patient). This includes costs associated with drugs, therapy, and hospitalization.
3. Development costs were $500M.
4. The drug is a single tablet taken on a daily basis.

Candidate should develop a framework to assess the problem. This case has components of market sizing, new market entry, and pricing. As such, the framework should at least include: Market (size, competitor drugs, market share), Product (strengths, weaknesses, etc) and a Pricing model (either cost-based or price-based).

<u>Phase 1: Insurance Coverage</u>

Interviewer: What factors do you think are most critical to the price of the drug?
This is meant to serve as a brainstorming moment to assess intuition and creativity.

Answers could include uniqueness (a lack of substitutes), the extent to which the public and doctors accept a radically new way of understanding mental illness prevention, etc. Ultimately however, the key issue will be whether insurers cover the drug. If insurers do not cover Soma, it will not gain traction in the market. Allow the Candidate to brainstorm until he or she runs out of gas. If the insurance issue is not mentioned, guide the Candidate with questions like, "what constituencies are critical to establishing the price of drugs?"

Interviewer: How would the insurance company decide whether to cover the drug?
Although other considerations are nominally relevant, this is really a question about costs: is the current treatment model cheaper than a treatment model that includes the prospective drug.

Interviewer: One price that has been floated is $50. How would you assess whether or not an insurer would cover the drug at this price if the company covered the entire cost?
Allow minimal rounding.

The Candidate should see that he or she must compare the costs associated with current treatment model and the costs associated with the new drug treatment model. If the Candidate doesn't begin to perform this comparison, provide clues. Make sure that the Candidate uses the following assumptions:

- 300 million people in the United States
- 1 in 200 Americans suffer from acute depression every year.
- 1 in 100 Americans are considered *at risk* and of that group, only 1 in 5 are considered *high-risk* for acute depression. Assume that all individuals considered *high-risk* would develop acute depression. (Note: This means that more Americans suffer from acute depression than are

identified as *high-risk*.)
- Soma is a tablet taken on a daily basis. The drug price covers ten tablets.
- Annual treatment for acute depression costs $10,000 per case.
- Soma is 70% effective. That is, of people considered high-risk taking Soma, 70% will not develop acute depression and 30% will. For simplicity, assume that the 30% who develop acute depression will *also* cost insurers $10,000 each, in addition to the cost of the Soma.
- For simplicity, assume that all individuals who suffer acute depression receive treatment.

<u>Current costs to insurers:</u>

- 300M people in America * 1/200 Americans suffer acute depression = 1.5M cases
- 1.5M cases * $10,000 per case = **$15B**

<u>New drug costs:</u>

- New drug costs = cost of identified individuals treated by Soma + additional cost of identified individuals unsuccessfully treated by Soma + cost of unidentified individuals treated conventionally
- 300M people in America * 1/100 considered at risk * 1/5 considered high-risk = 600,000 high-risk individuals
- 600,000 high-risk individuals * $50 per package / 10 pills per package * 365 days = **~$1B**
- Additional costs associated with individuals for whom the drug is not effective:
  600,000 high-risk individuals * .3 failure rate * $10,000 = $**1.8B**
- Don't forget that there are 900,000 individuals (1.5M cases - 600,000 identified cases) who are *not* identified as high-risk. This **$9B** (900,000 * $10,000) must be added to the annual cost of the new drug treatment model.
- Because current costs of $15B exceed the ~$12B in costs associated with the new drug scenario (~1B+1.8B+9B), insurers would likely cover the drug.

<u>Phase 2: Follow-up</u>

Interviewer: What would you charge for the drug? No calculations are necessary, but do you think you could get more for the drug?

There is no correct answer here. One might answer that insurers would accept a price that brings new drug costs up to the current costs. Alternatively, the question of adoption may necessitate a lower price. Again, this is more of a check on intuition, creativity and logic.

Interviewer: What single factor would allow Dopamine to raise prices?

Candidate: Improved screening. Although 1/200 individuals develop acute depression, only 1/500 are identified.

<u>Phase 3: Production Economics</u>

Interviewer: Our client liaison from Dopamine is a bumbling guy who learned all his economics from Wikipedia. He thinks the $500M development costs for the drug must be covered by future revenue streams, or else we shouldn't proceed with large-scale production.

Candidate: That is not the correct thinking since $500M is a sunk cost. What matters is that revenues cover variable costs of production.

Interviewer: Excellent. So, the variable costs of production work out to $10 per package of 10 pills. Fixed costs are zero. What's the margin? What's the markup?

Candidate:

- Margin = $(50-10) / $50 = 80%
- Markup = $(50-10) / $10 = 400%

Interviewer: Ok, so indulge the client anyway. They recognize that the developmental costs are sunk, but still want to know the breakeven period for this drug. Assume a negligible discount rate.

Candidate:

- Annual profits = 600,000 high risk individuals * $(50-10) per package / 10 pills per package * 365 days = **~$0.8B**
- Breakeven period = (500M / 0.8B) yrs ~ **between 7-8 months**

<u>Phase 4: Recommendation</u>

Interviewer: What is your final recommendation?
The Candidate should deliver a formal recommendation that restates the market size, recommends a sensible price, and synthesizes any other witty insights that arise along the way.

19. CPG Conglomerate (BCG R1, CPG/Retail, New Market, Balanced)

Interviewer: Our client is a conglomerate that manufactures and sells CPG products across Europe. They hired BCG to help them review the operation in those markets. How would you evaluate those markets?

Phase 1: Framework

A good framework includes:

Criteria of evaluation:

- Market Opportunities
  - Competitive landscape/trends for current products
  - Opportunities for new products
  - Consumer trends
  - Macroeconomic environment
    - Population trends
    - Available income
    - Regulatory framework/tariffs
- Company Performance
  - Relative market share for each country
  - Profitability margin for each country
  - Labor relations
  - Efficiency of manufacturing and distribution

Candidate: I would look at the current market landscape for each country/region we are operating in and evaluate our client's performance vis a vis those conditions. Ultimately, the question I would want to answer is where there is room to improve current operations and if/where there other opportunities we can take advantage of i.e. develop new products or sell our existing products to a new type of customer.

Interviewer: Ok. Makes sense. Suppose our client wants to evaluate selling olive oil in the Italian market. How you would go about it?

Candidate: Well, Italians are known to be consuming a lot of olive oil but the market could also be very saturated in terms of competition. In terms of sizing, a good measure would be to see how many households there are in Italy and what the average consumption per household is. Then I would take a look at the competitive landscape and see how much market share we can capture. It would also be worth looking if there is a specific "niche" we can exploit i.e extra virgin olive oil or reduced fat oil.

Interviewer: Ok. Suppose the population of Italy is 60M and the average household consumes 30 LT a year. We are able to establish sourcing agreements with producers from Lazio for extra virgin oil that would allow us to capture 5% of the total market.

Candidate: Great. Well, let's say the average household in Italy has 3 members, so we are looking at 60M/3=20M households. In total 20M x 30LT = 600M Liters of olive oil are consumed every year. How much is the average price for olive oil in Italy per liter?

Interviewer: 10 Euros.

Candidate: At 10 Euros per liter, we have a market size of 6B Euros a year, and since we are able to capture 5% of it, we are looking at market share/revenues of about 300M Euros. So, now the question is it worth penetrating the market. Is there estimation about profit margin?

Interviewer: Let’s say our EBITDA is 10% of the top-line and we would have to lay down 50M upfront. How long would it take to break even?

Candidate: Well, that means we are making a profit of 10% x 300M = 30M a year so we will be able to recoup the investment in little under 2 years.

Interviewer: Ok. If the discount rate is about 10%, what would be the total value of the investment?

Candidate: Over its life, it will be 30M/0.10=300M minus our cost of our initial investment, so 250M. Clearly, it is a net positive investment, but we would have to compare it with other possible investments that may yield more.

Interviewer: Great. Thank you. That’s all.

20. Italian Pharma (BCG R1, Healthcare, New Market, Balanced)

Stem: Our client is an Italian pharmaceutical company. They have the right to sell a cardiovascular drug that was developed and previously sold by a multinational pharmaceutical company in the Italian market. The multinational company is leaving the Italian market and gave the rights to sell this drug to our client based on a royalty. The drug regulates blood pressure and has 5 competitors (substitutes) in the market.

Our client has asked us to size the field force (sales reps) needed to reach to physicians.

Notes: Sales reps simply go to physicians and illustrate features of the drugs; physicians decide which drugs to prescribe.

Framework: *A good framework includes:*

Market Size / Competition

- *Overall market size*
- *Growth*
- *Client's and other competitors' respective market share*
- *Characteristics of the market*
    - *Doctor visits by cardiovascular patients*
    - *Population*

Activities of the Sales Force

- *During visit*
    - *Telling about product features*
    - *Answering physician questions*
- *Before/After visit*
    - *Prioritization*
    - *Appointment making with physicians*

Patterns related to Physicians

- *# of physicians*
    - *Specialization / Type (General practitioners vs. specialized physicians)*
- *Decision making process of physicians*
    - *Other stakeholders? (i.e. insurance companies)*
    - *Correlation between # of visits and probability of prescribing client's drug*

Interviewer: OK. Let's assume that as a result of our studies to date, we've determined that there are three basic groups of physicians:

- A: Physicians to be visited 10 times/year
- B: Physicians to be visited 5 times/year
- C: Physicians to be visited 2 times/year

If we assume that we can place all of the regions in Italy into the below table (figure 1) with the number of potential cardiovascular patients on the X axis and our client's market share in a given region on the Y axis, can you show me where on the table you would place each of the three physician groups?

Figure 1

H				
L				
	L			H

Candidate: Sure. I would definitely put A-type to the southeast and C-type close to the north of the chart. The rest would be B-type.

Interviewer: Why?

Candidate: I want to visit the doctors in the regions where our client's share is low and market potential is very high the most. The southeast part of the chart has that characteristic and is great for A-type.

Similarly, I want to visit the doctors in the regions where our client's share is high the least because there won't be much marginal improvement as a result of those visits. The north part of the chart has that characteristic and this is why I would label that part C-type. To improve our share in potentially big markets, I would put B-type to the rest, probably dedicating most of the reps close to the center of the chart.

Interviewer: Sounds good. Let's put some numbers to the discussion and try to calculate the number of reps our client needs. This next chart (Figure-2) shows the percentage of physicians serving each part of the market. There are 50K physicians who prescribe cardiovascular drugs. Based on that info can you tell me how many physicians will be A-type and how many visits will be made to them per year?

Figure 2:

10%				
40%				
30%				A
20%			A	A
	20%	30%	40%	10%

Candidate: Sure. Based on the percentages, I can calculate how many physicians are serving each part. For example, at the lowest row of the matrix there has to be the 20% (i.e. 10,000) of all physicians. As 10% of them are serving at the square lying in the southeast end of the matrix, that square represents 1,000 (10%x10,000) physicians. A similar calculation for the other 2 squares occupied by A-type doctors gives me a total number of 6,500 A-type doctors and a required 65,000 visits per year to them.

Interviewer: Good. Let's assume that we did the similar calculation for the whole matrix and calculated total number of required visits per year as 270,000. What is the number of required reps?

Candidate: To calculate that I need to know on average how many visits a sales rep can do per day and how many working days per year are there for a sales rep. Can I assume that a sales rep can do 5 visits per day and works 220 days per year?

Interviewer: Let's assume a sales rep can do 7 visits per day and works 200 days per year.

Candidate: OK. Based on that information, our client needs a sales force of 200 people. (270,000 / (200 x 7) = around 200)

Interviewer: Thank you. That's all the time we have today. (*No formal recommendation is needed).*

21. Media Operations (BCG R1, TMT, Operations, Balanced)

Stem: Our client is a large media company in Los Angeles. It currently has two offices. One in Santa Monica and one in Century City. They have decided to consolidate their operations into one location and will choose one of their existing buildings, but are unsure which one to choose. What should they do?

Candidate should look at two main things:

1. *The economics of the move*
2. *The non-financial (social, political, and cultural) issues about integration*

Phase 1 – The Economics

***Candidate** should identify rent, capacity requirements, switching costs associated with the move, the cost to upgrade the existing structure to make it usable by the increased number of employees, etc.*
***Candidate** should also ask if the client leases or owns the locations and what each office is used for (i.e. what divisions of the operation are housed in each).*

Once they ask for these things, you can provide the following information…

Interviewer: The client requires 100k ft^2 of space. Their buildings are both under lease for 10 years. They plan to sub-lease (rent) any space they don't use.

	Santa Monica	Century City
Purpose	Video Games	DVD's
Space (in ft^2)	200,000	400,000
Cost / ft^2 / year	$40	$40
Build-out cost (over 10 years)	$1,500K	$500K
-		
Avg. vacancy rate of city	10%	18%

Key Assumptions:

- *Assume they can sub-lease any and all unused space.*
- *The remaining time on the current leases is 10 years.*

Interviewer: What do you think about the vacancy rate in these two cities as it pertains to the rent our client will be able to charge for a sub-lease?

Candidate: The higher the vacancy rate, the more supply, and therefore the lower the price our client will able to charge.

Interviewer: Given that, let's assume that the price our client can charge per sq ft is $40 for Santa Monica and $30 for Century City.

If the candidate has does not begin to do so on their own, ask them to calculate the financial impact of each option (may be in total OR per year). The candidate should realize that the client is already locked into a 10-year lease with both buildings.

Annual Financial Impact of each alternative:

($)	Occupy Santa Monica only	Occupy Century City only
Santa Monica Rent	($8,000,000)	($8,000,000)
Century City Rent	($16,000,000)	($16,000,000)
Build-out Cost (per year)	($150,000)	($50,000)
Total Cost / Year	**($24,150,000)**	**($24,050,000)**
Sub-lease Income - Santa Monica	4,000,000	8,000,000
Sub-lease Income - Century City	12,000,000	9,000,000
Total Sub-lease Income	**16,000,000**	**17,000,000**
Net Impact	**($8,150,000)**	**($7,050,000)**

Calculations:

- *Santa Monica Rent = 200k sq ft * $40*
- *Century City Rent = 400k sq ft * $40*
- *Build-out Cost = Total build-out cost / 10 years*
- *Sub-lease Income of Client occupied building = (Total sq ft - 100k sq ft) * sublease rate*
- *Sub-lease Income of 100% subleased building = (Total Sq ft) * sublease rate*

Candidate should quickly see that moving to Century City is optimal.

Alternate Approach

Candidate may also calculate the marginal difference between the two options by noting the rental costs and majority of sublease revenue will be the same across both options. In this case, the candidate calculates:

Build-out cost (per year)	*($150,000)*	*($50,000)*
Marginal Sub lease Income – Santa Monica	*$0*	*$4,000,000*
Marginal Sub-lease Income – Century City	*$3,000,000*	*$0*
Marginal Impact	*$2,850,000*	*$3,950,000*

Century City is the better option by $1.1M

Note: *A good candidate will note that so far, we've only looked at the financial aspects of the situation. This is NOT enough information on which to base a decision.*

Phase 2: The integration issues

Interviewer: Besides the economics, what else should our client consider?

Answers should include the following:

- *Workforce integration issues*
- *Proximity to clients/customers*
- *Proximity to employee homes*

Interviewer: Good. How would you recommend our client inform its employees of this move?

Note: *There is not necessarily a perfect answer but a good candidate will identify several alternatives (which could a few possibilities from the following list). It is important that they identify the pros and cons of each alternative and clearly communicate the ramifications of each option (business strategy, talent retention, office politics, etc.).*

- *Office wide-meeting*
- *Starting with top employees to ensure they are retained*
- *E-mail or memo*
- *One on one discussions between managers or employees*

Interviewer: Are you sure that's the best approach? What are some the cons of using that strategy?

Candidate should defend their view, while also noting the negative aspects of their approach / potential alternatives that might balance out the cons.

Interviewer: Our client's CEO is walking in now. What is your formal recommendation for her?

Candidate makes final recommendation. It should be direct while providing potential risks. Extremely good answers will have next steps such as identifying where employees live using HR to look up the zip codes, drafting up a survey to ask employees where they want to work, etc.

22. National Supermarket Chain (BCG R1, CPG/Retail, Operations, Balanced)

Stem: Our client is a national supermarket chain with $25B in annual sales. The client's sales have been growing at 5% annually compared to 2.5% for the overall market. However, the client projects revenue growth to trend back to market growth rates over the next few years and is looking for ways to boost its profitability. The client has brought BCG in to evaluate one of its options for boosting profits: the introduction of large format grocery stores. How would you evaluate this opportunity for the client?

Provide the following information if the candidate asks for it: Typical grocery store = 70K square feet; Wal-Mart = 200K square feet; A large format store = 120K square feet.

Candidate should develop a MECE structure that evaluates the costs and benefits of entering the large format grocery store category. On the benefits side, candidates could consider how large format stores could boost sales volumes, how the new store formats would impact prices, etc. On the cost side, candidates could consider Capex / leasing requirements for larger stores, potential costs for sourcing / warehousing more inventory, cannibalization of existing store sales etc. Candidates may also want to consider alternative revenue growth strategies (e.g., smaller format stores, pushing organic foods).

Let the candidate drive the case but the discussion should turn to the projected revenues and costs for the large format stores since we need to evaluate the profitability of these large format stores. Push the candidate in that direction if necessary. When the candidate asks for the profitability of large format stores, present the following chart.

Interviewer: What can you tell from this data?

	Large Format Stores	**Typical Grocery Stores**
Sales Composition	Groceries: 50%, Health & beauty products: 30%, Personal products: 20%	Groceries: 75%, Health & beauty products: 15%, Personal products: 10%
Monthly Revenue	$960K	$640K
Monthly Profit	$96K	$32K
CapEx Required	$21M	$11M

Interviewer: First, revenues of large format stores are 50% higher than those of typical grocery stores. Second, profitability is also higher for large format stores with 10% profit margins compared to 5% margins for typical grocery stores. Perhaps this is because non-grocery products such as health & beauty products carry higher margins and make up a larger percentage of sales at large format stores. However, large format stores do require more CapEx to build than typical grocery stores.

Interviewer: So how do you suggest we compare the two options?

Candidate: We could try to calculate an NPV for each type of store by discounting future profits. We could also compare the two options by calculating and comparing payback periods.

The candidate may see that monthly profits are 3x higher for large format stores while the required CapEx is less than 2x higher and conclude that the large format stores are probably the better option. Bonus points for candidates who point out this insight before doing any math! Have the candidate do the calculations anyways.

Interviewer: I like the payback period option.

Candidate should use the information in the table to calculate the payback period for the two options. Allow for some rounding if the candidate asks.

*Large format stores: $21M / ($96K * 12 months) = ~18 years*
*Small format stores: $11M / ($32K * 12 months) = ~29 years*

Candidate: Based on payback period, the large format stores seem like a better option as they yield a better return on Capex.

Interviewer: Good. Now what other factors might you have to consider before concluding that large format stores are a good option?

Candidate can talk through some options but should ultimately point out the potential for sales cannibalization (i.e., will the new large format stores take sales away from the existing store locations?).

Interviewer: Good. We have some data on cannibalization. Based on studies that we've done, adding large-format stores to areas in which the client has existing stores will increase sales at existing stores by 2%.

Candidate: Interesting. So, there's positive cannibalization?

Interviewer: Correct. What are some reasons why that might be?

Candidate should brainstorm some ideas using a structured approach. The main thing to point out is the potential for network effects. For example, new customers who are attracted to the large format store may now join loyalty programs that will draw them to the existing stores.

Interviewer: Excellent. It turns out that network effects are important enough that they can lead to positive cannibalization effects. We're running out of time so can you wrap up with a recommendation for the client?

Candidate: I recommend that the client introduce large format stores in order to boost profitability. First, large format stores generate higher profit margins on higher sales than regular grocery stores. Second, investments in large format stores are a better use of capital based on a payback rule analysis. Third, large format stores will boost sales at existing store locations through positive cannibalization. Before moving forward with the introduction of large format stores, I would like into implementation challenges that the client may face while also looking at alternative uses of capital that may provide even better returns.

23. Rental Cars and Frequent Flyer Miles (BCG R1, Transportation, Profitability, Balanced)

Stem: Our client is a US airline with a popular frequent flyer mile program. They sell frequent flyer miles through partnerships with credit card companies, hotels, and rental car agencies. While the business overall has been healthy, they have noticed a sharp decline in their frequent flyer miles revenue from the rental car segment: a 50% drop in the last two years. They have asked us to determine the cause for this loss in revenue, and what they can do to reverse the trend.

Phase 1: Case Facts

Let the candidate and their structure drive the first part of this interview, but give the following information if they ask questions about the following topics.

- History of frequent flyer program: The frequent flyer program has been in place for over 20 years. It was created for two reasons: 1) competitive advantage, and 2) customer retention. Our client was among the very first to implement such a program, but now almost every airline has frequent flyer miles.
- How do car rental agencies sell these miles? An agency will advertise that customers can get X frequent flier miles per car rental day. When customers request the frequent flier miles, they get the miles and the agency pays the airline for the transaction.

More facts about revenue from car rental agencies (only if the candidate asks for it):

- There are 7 major car rental agencies in the country
- 5 out of the 7 agencies are partners with our client
- These 5 agencies comprise 97% of all rental car business in the US
- Number of cars rented has not gone down
- Days per rental have not gone down
- It is fair to assume that our frequent flyer members would strongly prefer to rent a car that came with miles as compared to a car that did not come with miles

Candidate: It seems what has decreased is the number of frequent flyer miles sold per day. Perhaps the rental car companies wanted to lower their own costs per rental transaction by paying less for frequent flyer miles.

Interviewer: Actually, they asked the airline to lower the price per frequent flyer mile, but the airline said it couldn't do that. In response, the agencies have simply started offering fewer miles per rental.

Phase 2: Possible solutions to problem

Interviewer: What could the airline do to help fix this problem?

Candidate: The airline could offer exclusive partnership(s) rather than having everyone as partners. It could then explain the value to these rental agencies of having a lock on this airline's frequent flyer customers.

Interviewer: Interesting idea. Why don't you try figuring out the rental agencies' willingness to pay for the miles under an exclusive partnership agreement? How much could our client benefit from such an arrangement? Structure a math problem using the following assumptions:

- 10M rentals/year by our frequent flier members

- $45 car rental per day on average
- Average rental is 3 days
- Approximately 10% margins on the car rentals for the rental car agencies before paying for any frequent flier miles
- Assume 5 partners now, cut down to 3 partners
- Current payments from rental cars to our client are $3 per transaction

Candidate should note the distinction between fixed and variable costs to the rental agency and the implications on profit. Marginal profit from extra rentals generated by the program should be calculated based on variable costs, ignoring fixed costs that will be incurred regardless. For simplicity, assume that all costs of the fleet are variable.

Candidate:

Current profit to rental agencies from our frequent flyer customers:

- (10M rentals/year) / (5 companies) = 2 M rentals per company per year
- Profit per transaction is (10% x $45/day * 3 days/rental) – ($3 for frequent flier payment) = $10.50
- Total profit (based on variable cost only) to any one agency is **$21M**. This can also be seen as $27M in incremental profit before paying for frequent flier miles, minus $6 M in total frequent flier mile fees.

Potential profit to rental agencies under 3-partner model:

- Assuming same number of total rentals, each rental agency will now get (10/3) M customers from the frequent flier program.
- The potential profit before paying for frequent flyer miles is: (10%)*($45/day) * (3 days/rental) * (10/3 M rentals) = $45 M.
- So total theoretical WTP for the semi-exclusive arrangement, for a single rental agency, is $45 - $21 MM = $24 M. Incremental WTP compared to the current arrangement is the incremental profit of $18 MM (or new WTP – current WTP which is $24 – 6 M). Note we can equate WTP to price in this case because the rental agencies are basically setting their own prices.

So total WTP comparison is:

- WTP(new) = $24M * 3 = **$72M**
- WTP(old) = $6M * 5 = $30M (assumes current fee structure equals max WTP)
- Key Insight: This represents up to $42M in additional revenue to our client, the airline. How much of the $42M in value our client can capture? But even if we capture, say, half, we should have a 67% increase in revenue from car rental agencies.

Phase 3: Other considerations to explore

Interviewer: What considerations would need to be made in considering restructuring the way we currently partner with rental car companies?

This should be a conversational brainstorming session.

Candidate: In thinking how to pick agencies to partner with (particularly if we're considering moving to an exclusive arrangement) we could do an auction, base it on geographical coverage, survey our frequent flyer customers for preference or go with existing market shares among our frequent flyer customers. I'd also want to think about:

- Do customers have loyalty to particular rental agencies, such that the total number of rentals might shrink under an exclusive partnership agreement?

- Actual fixed vs. variable cost for the rental car agencies to get a better sense of profit. By assuming all costs are variable we may be underestimating the profit impact of our program.
- Do we price the new partnership based on a higher price per mile, or do we mandate that the exclusive partners offer a minimum number of ff miles per rental day?
- If it is profitable to have fewer partners in the rental car space? Could we profit from similar exclusive agreements with hotels?

Recommendation
Interviewer: Our client has just walked into the room. What is your final recommendation?

A good recommendation should sum up the facts and discoveries of the case. There is definitely a possibility to reverse the trend. The recommendation should also take into account the strongest other considerations from the last section, but wrap up firmly and positively.

24. RollingSloan Magazine (BCG R1, TMT, Operations, Balanced)

Stem: Our client is RollingSloan, a national magazine. Their CEO has asked us if they should consolidate their two plants. Is this a good idea? If so, which plant should they keep?

Let the Candidate make his/her structure. It should include sections on the firm's current process, proposed scenario, costs, and risks/options.

Phase 1: Cost Analysis

Information to provide the Candidate upon request:

- Plant locations are in Idaho and New Jersey
- Cost breakdown by option:
    - **Separate Plants**:
        - Paper – 40 cents/mag
        - Printing – 35 cents/mag
        - Distribution – 35 cents/mag
    - **Consolidated Plants (Idaho)**:
        - Paper – 40 cents/mag
        - Printing – 28 cents/mag
        - Distribution – 43 cents/mag
    - **Consolidated Plants (NJ)**:
        - Paper – 40 cents/mag
        - Printing – 28 cents/mag
        - Distribution – 37 cents/mag

Candidate should be able to see that consolidating to Idaho provides an increased cost of 1 cent/mag while consolidating to NJ provides a decreased cost of 5 cents/mag.

Interviewer: Great, so it seems like we'd save money by consolidating to NJ – are there other ongoing benefits or costs we should consider?

Candidate: Benefits to consolidating may include:
- Synergies
- Simplifying processes
- Labor cost reduction
- Overhead reduction
- Rent reduction
- Asset disposal gain (if we own both plants)

Other costs may include:
- Increased distribution costs
- Build out to increase capacity
- Labor/HR implications
- Timing

Interviewer: Great, so let's look at some of those items you mentioned. We had our analyst run some numbers and we know that moving to the NJ plant would cost us an extra $5-10M in labor per year, an extra $2M per year in NJ insurance, and upgrades to the plant of $10M per year. We also know that we'd gain $500,000 by selling the Idaho land, and $2-5M by selling the Idaho equipment.

Candidate: Well next I'd like to calculate their cost savings from consolidation and compare them to the increased costs you mentioned. Do we have any information on how many copies of the magazine are printed?

Interviewer: Yes, we know that currently, we print and distribute 12M magazines a week.

Candidate: Ok, so in that case, assuming we print 52 weeks of the year, we'd print (52*12M) = 624 million magazines/year. At 5 cents savings/mag from consolidating to NJ, that's total cost savings of (624 million*0.05) = $31.2 million. We also benefit from the sale of land ($500,000) and equipment ($2-5 million). Let's assume a conservative number for the sale of equipment of $2 million. That would give us $33.7 million in cost "savings". (A really good candidate will then go on to point out that the equipment and land is a one-time benefit rather than an actual ongoing cost saving).

So, next I'm going to look at the increased costs from moving our operations. To be conservative, we'll say we have increased labor cost of $10M. That plus an increase in NJ insurance of $2M and plant upgrades of $10 million per year, bring us to $22 million per year in ongoing increased costs.

Looks like we're going to save about $11.7 million by consolidating. (If you strip out the one time benefits, the savings are $9.2 million).

Interviewer: Great, so is there anything else you'd want to consider.

Candidate should brainstorm risks/other options. May include qualitative considerations like brand reputation, print industry declining in general, can NJ plant handle printing all 12 million magazines/week, does our distribution to the west coast slow down significantly now that everything is out of NJ, etc.

<u>Phase 3: Recommendation</u>

Interviewer: Our client's CEO has just walked into the room. What final recommendation do you give her?

25. Shoe Manufacturer Acquisition (BCG R1, CPG/Retail, Profitability, Quantitative)

Stem: Our client is a major global shoe manufacturer. They are currently #2 in the US and are seeking to dethrone the #1 shoe manufacturer. They have tried several strategies in the past and none have worked. They are now looking to purchase the #3 show manufacturer to see if combined, they can overcome #1. Manufacturer #3 has quoted a price of $480M preliminarily for the sale. Should they go forward with the acquisition?

Structure should include target attractiveness, economics of deal / financials, fit with acquirer (with factors like synergies, cannibalization risk etc.), and alternatives to acquisition.

The candidate should start methodically gathering data about the specific situation with questions about the three players and their target customer segments.

When asked by the candidate, the interviewer can release the following data:

- Both manufacturers make similar shoes (primarily dress shoes)
- Both manufacturers sell in roughly the same places
- The #3 manufacturer's shoes are perceived as being of lower quality
- Despite being one company, the two brands could remain separate, however they would not want to market against each other in advertising as they have been in the past
- There is a risk of market cannibalization, leading to total sales being lower
- If the brands were to be seen as being produced together, they could affect consumer perceptions, also affecting sales
- There is a possibility for synergies leading to more efficient operations and improved profit margins for both companies

The key part of the case is economics and valuation and the candidate should get there quickly.

<u>Phase 1: Valuing the company</u>

Interviewer: What would you take into account when going through a valuation of this deal?

Candidate: I would look at multiples/comparables, NPV of cash flows, book value.

Interviewer: Not bad suggestions. Let's actually do an aggregate cash flow analysis, like an NPV, but for simplicity we'll assume that the time value of the money is constant and no cost of capital needs to be taken into account:

- The payback period would be 8 years
- The current revenues/yr for the #2 manufacturer are $1B, with a 10% profit margin
- The current revenues/yr for the #3 manufacturer are $750M with a 8% profit margin

Candidate: So as the #2 manufacturer, our client is making $100M in profits per year ($1B * 10%). The #3 manufacturer is making $60M in profits per year ($750M * 8%). With an 8 year payback period, our client should be willing to pay $480M ($60M * 8 yrs) for the #3 manufacturer which, coincidentally, is exactly the preliminary quoted price.
However, the important question to ask is: Will the revenues and profit margins of each manufacturer remain at the same level after an acquisition? If the acquisition leads to a lot of restructuring costs, employee turnover, or other issues, sales and profit margins could go down in either or both companies,

and $480M would not be paid back in 8 years. However, if synergies are realized, costs go down, and sales are increased by a larger distribution network, $480M could be paid back much faster.

Phase 2: Synergies

Interviewer: OK, so let's try to quantify those synergies a little. What if our expectations were that the deal would increase the total profit for #2 by 15% and would increase the total profit for #3 by $10M per year?

Candidate: Increasing profits for manufacturer #2 by 15% would mean an additional $15M per year. Acquiring #3 would lead to new profits of $70M per year (previous level of $60M + additional $10M). Adding these together gives us $85M of additional profit per year from the acquisition. Applying the 8-year payback period, this suggests #2 should be willing to pay up to $680M for #3. Assuming the synergy expectations are reasonable, $480M would be a great deal.

Interviewer: Good, you seem a little skeptical of these synergy assumptions. What type of synergies do you think #2 might be hoping to realize?

Candidate: Revenue and cost, with more opportunities in cost. On the revenue side, there are volume pricing synergies and negotiation tactics with large retailers as a large manufacturer. On the cost side the value chain is Material -> Labor / manufacturing -> Distribution -> Retailer / Customer. On Materials, there's an opportunity to negotiate and consolidate. On manufacturing, we could potentially consolidate plants. I think I already mentioned getting a bigger client base for both products by combining distribution networks.

Interviewer: OK, so let's talk about consolidating plants. The client has 3 US plants and the target has 3, how would you determine how many to shut down?

Candidate: I'd evaluate the existing capacity in plants, the economics/profitability of each plant, the strategic rationale for their existence (e.g. distance to inputs, outputs), and the cultural and political underpinnings of each plant relative to the combined company. Also, the marginal cost to produce products from each plant is a key consideration: the lower the better. We could also even look at outsourcing to plants outside of those owned by #2 and #3.

Phase 3: Addressing the Risks

Interviewer: OK, let's move on to a discussion about possible risks of the acquisition.

Candidate: Sure, there could be some cannibalization or brand dilution due to lower quality of #3 manufacturer.

Interviewer: Cannibalization and brand confusion are actually two of our concerns. What could be done to mitigate these risks?

Candidate: You could get a representative focus group together to see how they would react to brand differences, or if they would care if the two were owned by similar companies. You could also send a survey to a larger group of customers, or the general population to assess the effects. It will be important to track sales and identify customer demographics.

Other reasonable answers equally valid. Overall, listening to the voice of the customer could give insight to how customers would react to the deal and the idea of the two shoe manufacturers are working together.

Phase 4: Recommendation

The candidate should remark that the company should go ahead with the acquisition at the price #3 has stated, as the potential profit given the synergy assumptions leads to a much shorter break even than #2 requires. The candidate should state that they need to make sure that the synergy assumptions are sound, and that market research should be done to make sure that customers will not have adverse reactions to the merger or that their brand awareness will be impacted so as to potentially damage sales.

26. Store Label Tissue Manufacturer (BCG R1, CPG/Retail, New Market, Balanced)

Stem: Our client is a paper manufacturing company specializing in store label tissue paper. This covers toilet paper, paper towels, napkins, and facial tissues. The client's key customers are grocery chains, in the Western US. They would like to double in size, but this is a slow-growing market; it's been growing at 8-9% a year, but has hit a plateau. They have hired us to see how we can re-accelerate growth and if this goal is attainable.

<u>Phase 1: Case Data</u>

Let the candidate go through the structure and ask for data. Give data only when asked for.

- The firm has two plants, one near Las Vegas, and one in Idaho
- The biggest customers are in the Rockies and in California
- The whole market for these products is 500M cases per year (all four kinds combined).
- 400M cases are branded (ie., not what this company makes) and 100M are store label.
- There are four types of customers for these 100M cases
    - 40 million sold in supermarkets
    - 30 million sold in mass market stores (ex. Walmart)
    - 20 million sold in club stores (ex. Sam's Club, Costco)
    - 10 million sold in dollar stores
- Customers (mostly chains) make their purchasing decisions regionally, not store by store.

Candidate: The firm is limited right now to the West Coast market because the plants are located there. There's no reason why these products wouldn't be popular in the east, especially since the same chains exist there. This could be solved either by opening new plants in the east or by shipping.

<u>Phase 2: Costs</u>

Interviewer: Let's look at the possibility of shipping to stores on the East Coast---how much it would cost and what kinds of margins we could expect. What would you need to know in order to calculate this?

Let the candidate ask for these, but if time is going by and a variable hasn't been hit on, give the data.

- Retailers pay $20 per case of product
- It costs $1 to ship a case from either plant to California
- It costs $750 to send a truckload of product to Boston, plus 75 cents per mile (the width of the US is 3,000 miles)
- 1,000 cases can fit in a truck

Candidate:

- $0.75 * 3000 + $750 = $3000 cost to ship a case to Boston
- 1,000 * $20 = $20K revenue per truckload
- $20K - $3K = $17K left to cover costs after shipping to Boston
- 1,000 * $1 = $1,000 costs to ship a truckload to California
- $20K - $1K = $19K left to cover costs after shipping to California

Shipping is too expensive to the East Coast to consider expanding from the current plants (lower profits on shipping to the East Coast). The client would need to open plants on the East Coast, possibly in less expensive areas.

<u>Phase 3: Product Mix & Marketing</u>

Interviewer: Now that we've looked into shipping and geography, let's talk about the product mix. Do you think it's split evenly between the four types, and if not, what percentages of each do you think are sold?

Possible answers: Facial tissues have stronger brands (Kleenex being an actual word, for example); paper towels seem almost as strong. Probably stronger sales in napkins and toilet paper, with weaker brand images.

Interviewer: You're right. Actually, the company sells a lot more of the napkins and toilet paper.

Candidate: Maybe manufacturer should make more of the better selling products and decrease production of facial tissues and paper towels.

<u>Recommendation</u>

Interviewer: So, what should we tell the CEO?

The answer should refer back to the goals stated in the stem of doubling size and re-accelerating growth. This can happen only by opening new plants further east to serve markets there without the high shipping costs. Redistributing the product mix is also key.

27. Big Data (BCG R2, TMT, Profitability, Balanced)

Stem: Our client is a big data firm that maintains a comprehensive database of information relating to consumer purchases linked by credit card numbers. The client creates profiles of consumers that are highly accurate and sells the data on buying patterns to retailers, financial service firms, etc. The company has seen its performance stagnate recently, and has approached BCG to help turn things around in the next 2-3 years.

If the candidate asks, the company measures performance by improving profitability. It does not have a specific target to reach. The client is US-based, and although they're located in the South East, they have a national client base. They are not considering international opportunities at this time.

Candidate should lay out a structure that discusses short-term strategies for improved profitability, and addresses the following areas for further evaluation:

- *Revenues –*
  - *Prices by product/data sold*
  - *Volume of sales to repeat customers vs new customers*
  - *Volume of sales by size of client*
- *Costs –*
  - *Fixed costs – data center facilities, servers for data storage, SG&A, etc.*
  - *Variable costs – Data collection costs, energy costs to power data centers, etc.*
- *Changes in the marketplace – competitors, alternative product offerings, demand changes, etc.*

Let the candidate drive the case, if they go into an area other than costs allow them to delve deeper with the rationale behind their suggestion before redirecting them to think of another way to improve profitability. When the candidate asks about costs …

<u>Phase 1: Brainstorm</u>

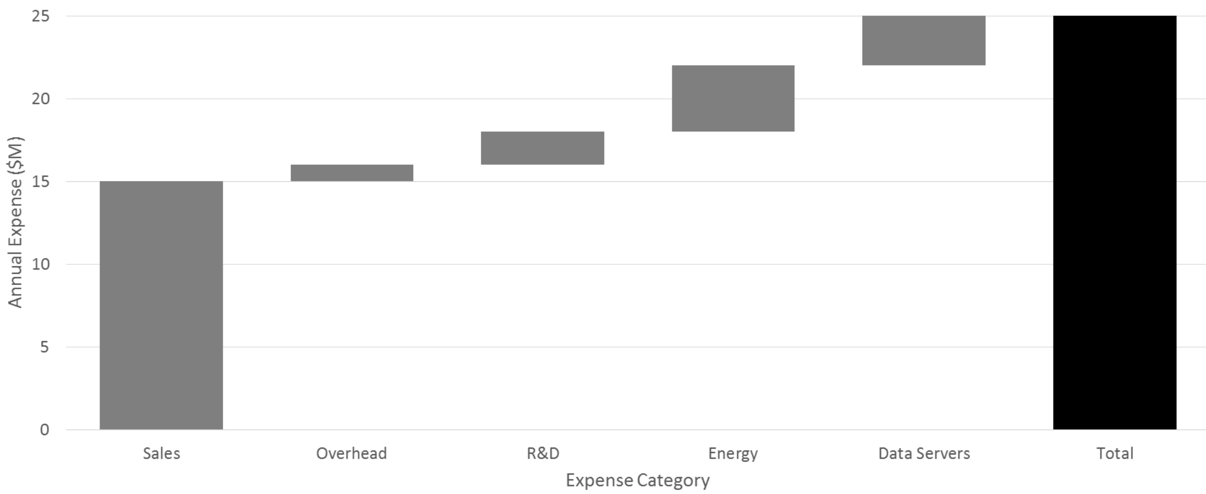
Candidate: I think this may be a scenario where we could improve near-term profits by lowering our costs, do we have any information on the operating costs for this company?

Interviewer: Yes, that sounds like a good place to start, why don't you brainstorm a few of the costs that may be important for our client?

Candidate can refer back to their stem if they've already thought of some, but should create a structured list of costs that the company may have. Make sure that they identify sales cost before moving on. Once the candidate has listed at least 4-5 costs present them with the following chart.

Phase 2: Analysis

Interviewer: This seems like a pretty comprehensive list, we were able to gather the following information from the client, what do you think given this data?



Candidate: It looks like 60% of our costs are coming from sales, although this is a revenue generating aspect of the business, I wonder if it isn't an area we can cut some expenses from. Do we have more information on our sales costs? Specifically, I'd like to know the size of the sales force so we can determine the cost per employee and determine the impact and feasibility of any cuts.

Phase 3: Additional Brainstorm

Interviewer: Good point, we do in fact have some information from the client. They break their sales force down by the size of the customers they sell to. They have three groupings: large, medium, and small. The large clients have a sales force of 50 employees, medium have 175, and small have 375. How should we go about prioritizing which area to look into?

Candidate can come up with multiple ways to gauge the value of each employee, let them brainstorm until they come to analyzing revenue per sales person for each segment.

Phase 4: Additional Analysis

Candidate: I think I would like to look at how much revenue each of these groupings is responsible for, and then I can calculate how much revenue each sales person generates for the company.

Interviewer: Yes, let's do that. Large customers are responsible for $40M in revenue, medium for $40M, and small for $20M.

Let the candidate structure this into a table, but before they calculate revenue per employee …

Interviewer: While we could calculate revenue per employee as it stands today, the client does have an idea of what an optimal revenue per salesperson would be. They think for large customers they should have $400K in revenue per employee, for medium $200K, and for small $80K.

Candidate should come to the following table and derive the # of employees to add/remove

	Sales Force	Revenue	Optimal Rev/Employee	Optimal Sales Force	**Implied +/-**
Large	50	$40M	$400K	100	**+50**
Medium	175	$40M	$200K	200	**+25**
Small	375	$20M	$80K	250	**-125**

Candidate: It looks like we can restructure where some of our sales force focuses their efforts in order to improve customer service, and we can also reduce overall headcount by 50.

Interviewer: What would be our overall annual savings as a result of this?

Candidate: I would need to know the annual cost per employee, do you happen to have that information?

(Candidate could have solved this on their own given the chart, but if they did not notice this provide them with the following)

Interviewer: Yes, we know that each person works 40 hrs/week and earns $12.50 an hour. You can assume 50 weeks in a year.

Candidate: We would save $25K per employee, or $1.25M annually. We would also want to consider any severance costs as well as morale on the rest of our sales force when looking into this option.

A strong candidate will refer back to the chart discussed earlier to provide context for how much savings this represents. If there is time left prompt them to do so, otherwise continue on to the recommendation.

****

<u>(optional)</u>

Interviewer: How much would this represent as a percentage of cost reduction?

Candidate: We had $25M in costs before, and we would eliminate $1.25M which represents 5%.

Interviewer: What about the impact on profitability?

Candidate: We had 75% margin prior to the reduction ($100M-$25M/$100M) and we now have a 76.25% margin ($100M-$23.75M/$100M; or preferably solve for the difference $1.25M makes) thus a margin improvement of 1.25%. We can see that the cost savings go right to the bottom line, which is meaningful.

(*they could also solve that 76.25%/75% ~ 1.5% increase*)

****

<u>Phase 5: Recommendation</u>

Interviewer: Very good, what would be your recommendation to the client?

Candidate should state their recommendation concisely and up front, provide relevant supporting information, and identify next steps.

28. Explosives Company (BCG R2, Industrial Goods, Competitive Response, Balanced)

Stem: Your client is an explosives manufacturer who offers ammonium nitrate, initiation systems, and setup services for large blasting projects. One of their long-term customers is approaching the end of a long-term contract and has decided to put the work out for a competitive bidding process. The client hired us to help determine how to handle the situation.

The Candidate's structure should include the basic industry landscape areas, competitive strengths, client's strengths, degree of differentiation in the product/service offerings, deeper dive into % of revenues derived from each stream and customer, pricing, and possible strategies for how to handle the situation.

Phase 1: Background Info

The following information may be given when requested by the Candidate.

- The demolition market is broken into 2 main areas:
    - Big players like our client handle large scale projects like mines, quarries, etc.
    - Small players handle buildings.
- There are 3 main players in large-scale projects, our client is 1 of them. The other 2 players do not offer setup services, and have lower quality initiation systems.
- The market is split up 30% for each of the top players; the remaining 10% is fragmented.
- The customer we are discussing owns 2 coal mines (one in Kentucky, one in Wyoming).
- The industry has been growing at about half the GDP growth rate.

Candidate*:* So, it is likely that when our client's customer opens the work for competitive bid, there will be 3 main bidders. We need to understand their pricing and offering.

Phase 2: Pricing Calculations

The candidate should proactively move from the background info to questioning the existing pricing structure currently under contract with the client and ways in which the competition may differentiate their offerings.

Candidate*:* So do we know what our client is currently charging vs. what their competitors are currently charging? I would also be interested to know our margins on each offering.

Interviewer*:* Our client charges $1000/ton for ammonium nitrate, and $250/ton for the required initiation systems (setup services are free). The customer we are talking about uses 40,000 tons of ammonium nitrate/year. Margins are 20% for ammonium nitrate and 80% for initiation systems. Our competition is charging $950/ton for ammonium nitrate and $150/ton for initiation systems.

Candidate*:* Well first of all, our client is overpriced when compared to its competition. We can calculate the total revenue and profit as shown on the next page.

Product	Price	Customer's Annual Vol.	Total Price	Margin	Profit
Ammonium Nitrate	$1000/ton	40,000	$40M	20%	$200/ton
Initiation Systems	$250/ton	40,000	$10M	80%	$200/ton

Candidate*:* Our client is charging a 2/3 higher initiation system price than its competitors and a slightly higher price for chemicals. This could hurt them in a competitive bid unless they have a value proposition to back up the higher price.

Interviewer*:* Why do you think they can realize such a high margin on initiation systems?

Candidate*:* Do they have a superior product and/or do they command a higher price because of their free setup services?

Interviewer*:* Yes. Ammonium nitrate is pretty much a commodity, but our client has superior initiation systems and setup services that allow them to provide better control of the size of blast fragments. This saves the customer $16M/year in post-demolition processing costs.

Candidate*:* Dividing $16M by 40,000 tons, shows that our client is saving our customer $400/ton in post-demolition costs. Therefore, the customer is getting an "effective" price of $850/ton (1000+250-400) vs. the competition's price of $1100/ton (950+150).

<u>Recommendations:</u>

Interviewer*:* So what would you recommend our client do to ensure they remain successful when the bid opens up?

Candidate*:* Our client should ensure that its customer is aware of the $400/ton ancillary benefit it receives from setup services and superior initiation systems. They also should consider adjusting their ammonium nitrate price to $950/ton to match the competition. Finally, they should continue focusing on R&D and setup services to retain their position as the technology and value-added service leader in initiation systems.

29. Ferret Rabies Vaccine (BCG R2, Healthcare, New Product, Quantitative)

Note: If candidate is practicing for 2nd round interview, the candidate should be driving the entire case. Candidate should be using any information from the case to draw concluding statements and takeaways. Otherwise, interviewer can push candidate to the different phases.

Stem: Our client is a large pharmaceuticals manufacturer, specializing in animal health care. One of their manufacturing plants makes a rabies vaccine. The client has found a new formula of the vaccine that also works on ferrets, in addition to cats and dogs. Currently, the plant is underutilized, and the client wants to know if they should bring the new updated vaccine to market.

Candidate should create structure and ask clarifying questions. The following information can be given upon request.

U.S. Industry:
Animal health industry: $4B
Total pharmaceutical industry: $50B

Competition: Client is one of the largest players, however, there are other players selling rabies vaccines for similar prices. Client's market share of veterinarians is 50%.

Customers: Manufacturer sells to veterinarians, veterinarians sell to pet owners.

Product: New vaccine is expandable to ferrets. Vaccines are given to pets only once.

Costs: Assume overhead costs to expand vaccine are $1M – assume this is all overhead, including changing labels, adding formula, etc.

Phase 1: Market Sizing

First estimate how many ferrets there are:

If candidate asks for any info about the pet market:
- 50M dogs
- 40M cats

Any logical assumptions are fine, but the intuition should be that there are much fewer ferrets than dogs/cats. Or interviewer can give market size as 1-2M ferrets, or 1.5M to average it out (the rest of the case will use 1.5M).

Interviewer can drive the candidate to estimate the total number of animals who need rabies vaccines per year:

- Avg lifespan for dogs/cats: 10 years
- Vaccines (dogs & cats): (50M dogs +40M cats) / 10 years = 9M
- Avg Lifespan for ferrets: 5 years
- Vaccines (ferrets): 1.5M ferrets / 5 years = 300K
- Total: 9M before (dogs & cats only), 9.3M after (dogs, cats, & ferrets)

Candidate: Based on a 50% of market share, the client serves 4.5M animals now, and would serve 4.65M with the new formula.

Phase 2: Profitability

Candidate should ask specifically for all data:

Current vaccine:

- Price of drug when client sells to veterinarians: $4 for old vaccine
- Price of drug when veterinarians sell to customers: $25 per vaccine
- Margin: 70%
- Total cost = $1.20 (per unit)
- Fixed cost = 75% of total cost
- Variable cost = 25% of total cost

Candidate concludes the following:

- Margin = $4 * 70% = **$2.80** (or = $4 - $1.20)
- FC = $1.20 * 75% = **$0.90** per vaccine
- VC = $1.20 - $0.90 = **$.30** per vaccine
- Profit = $2.80*4.5M vaccines sold = **$12.6M**

New formula:

Since the new vaccine expands the use and doesn't offer additional value to the dog/cat population, the candidate can conclude that the price remains the same. Candidate can also touch upon the value proposition of the new vaccine to veterinarians.

Candidate should then recalculate the fixed cost per vaccine, distributing the total fixed cost across the new volume of 4.65M vaccines (due to economies of scale).

- Total fixed cost = 4.5M vaccines * $0.9 fixed cost/vaccine = **$4.05M**
- Redistributed fixed cost: $4.05M / 4.65M = **$0.87** fixed cost/vaccine
- Variable cost remains at $0.30/vaccine, so total cost/vaccine = **$1.17/vaccine**
- Margin = $4 - $1.17 = **$2.83/vaccine**
- Profit = $2.83 * 4.65M = **$13.16M**
- Incremental profit from the ferret population: **~$560K**; break-even is **less than 2 years**

Interviewer: Knowing that animal health market is $4B and the total pharmaceuticals market is $50B, what do you think?

Candidate: Obviously ferrets are a small portion of the overall market. It is possible there are more profitable ways to utilize their excess plant space. Alternatives should be evaluated and considered. However, with a 2-year break-even and an increase in profits, this is definitely not a bad investment.

Interviewer: The manufacturing plant manager asks you what else he can do about the excess capacity. What do you suggest?

Candidate should brainstorm logical ways to use excess capacity. Lease or sell extra space, manufacture for another drug company, look for other new and compatible products, etc.

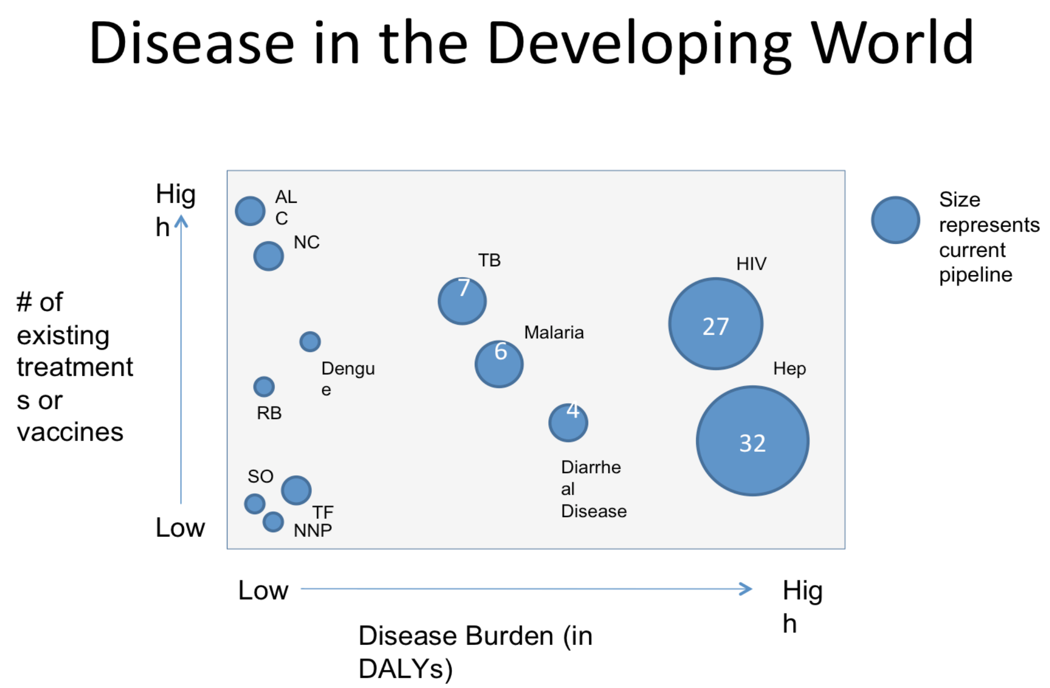
Interviewer: Given what we've discussed, what is your final recommendation?

Candidate should make a clear recommendation that gets to the point. Should include whether or not to expand, other uses for excess capacity, and overall market share. May discuss value to company and customers.

30. Global Health (BCG R2, Healthcare, New Market, Quantitative)

Stem: Our client is an organization trying to incentivize pharma and biotech firms to develop treatments and vaccines for diseases that are prevalent in developing countries. Their challenge is to identify where to focus as there are many possible diseases.

Interviewer: Please take a look at this graph.



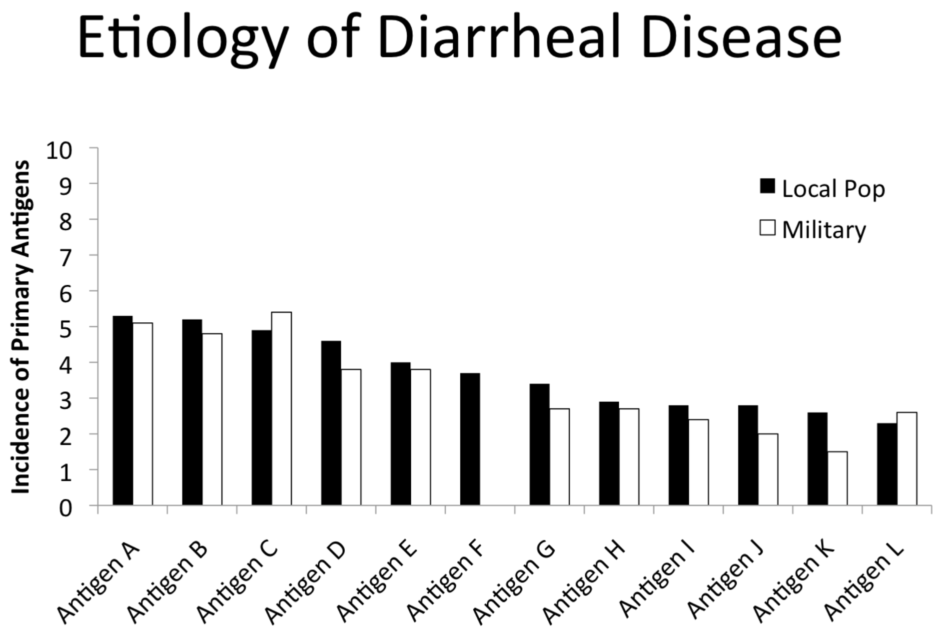
When asked, provide the following details:

- DALY stands for Disability-Adjusted Life Year and is a measure of how much impact a disease has on peoples' productivity. Diseases which cause people to die young or which cause disability starting in childhood have the highest DALY scores.
- Pipeline indicates the number of drugs that are currently under development.
- All these data are made up, as are some of the disease names.

Interviewer: Which diseases represent the best opportunity for our client?

Candidate: HIV and Hep represent the greatest disease burden for developing countries, but there are also many treatments already under development for these diseases, so our client probably doesn't want to focus there. (Hard to incentivize more development, as the competition looks tough) It probably makes more sense to focus on the three diseases with the next-highest disease burden, TB, Malaria, and Diarrheal Disease. Of these, I would recommend focusing on Diarrheal disease as there are the fewest products in the pipeline.

Interviewer: You're right about diarrheal disease: that is where the client decided to focus. What does this tell us about diarrheal disease? *Show candidate second graph.*



Source: Local population data (black bars) from field study surveys by a medical nonprofit in 7 developing countries. Military population data (white bars) from a sample of US soldiers stationed in Egypt.

When asked, provide the following details:

- Etiology means the causes of the disease.
- Antigen is a general term that can refer to anything which provokes an immune response, whether bacteria, virus, etc.
- The Y-axis scale, incidence, indicates that 5% of cases are caused by Antigen A, and so forth. If someone adds up all the bars, he or she will realize that they don't sum to 100%. This is because some cases are caused by antigens that have not yet been identified—so the picture is even worse…
- Data are recent (last year) and the sample sizes are large: n=1500 for the local population data and n=256 for the military data. Subjects in the local population data are children under 18 years old. Subjects in the military data are soldiers of all ages.

Candidate: It looks like diarrheal disease is not caused by a single primary antigen, but can be caused by a large number of different ones. I imagine this is kind of similar to the flu. Each year when I get a flu shot, there are different "strains" that it covers, and I might still get the flu if I catch a strain that wasn't included.

This means that developing a treatment or vaccine will be difficult because it can't just attack one of the antigens, it will need to be effective across a large number of them. This helps explain why there are so few current treatments and vaccines available to treat diarrheal disease.

Interviewer: Who do you think would be the main customers if we could encourage someone to produce a treatment or a vaccine for diarrheal disease?

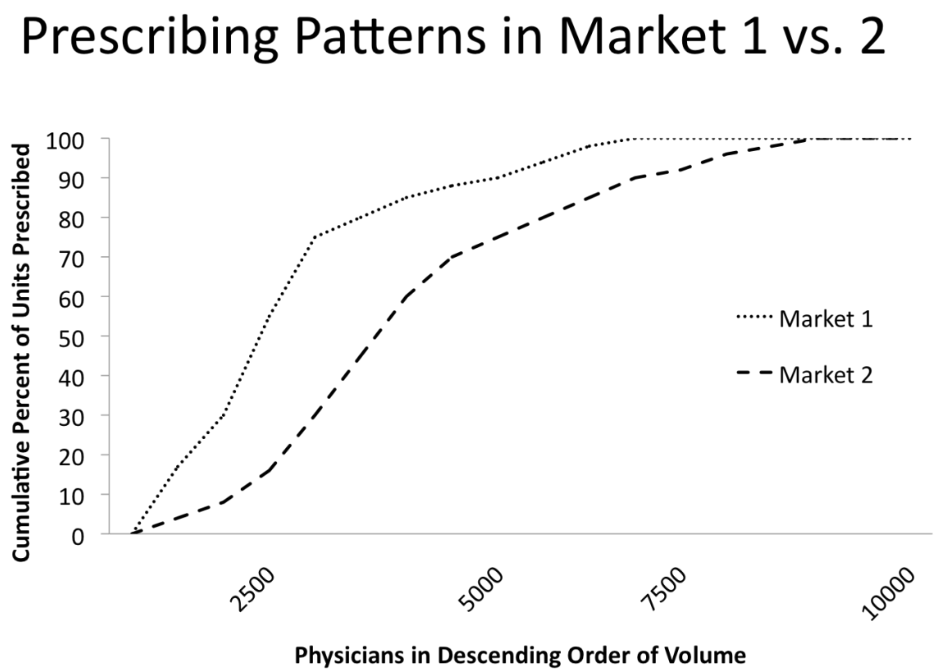
Candidates: Governments of the countries where this disease presents a major problem. Probably also some nonprofits who help provide healthcare in those areas: International organizations, such as the World Health Organization of the United Nations.

Keep asking who else and provide hints until the candidate realizes that foreign tourists and the military would also provide significant sources of revenue for such a product.

Interviewer: What are some of the issues or risks that the drug maker would face with each of these customers?

Candidates: Both governments and the military are attractive customers because they buy in large volumes, but because of that they have significant negotiating power. If the military decides not to buy, that single loss of a sale could cause the whole project to become unprofitable. The drug maker and the client should consider trying to set up pre-commitment contracts with the governments and the military.

Interviewer: OK, take a look at this graph and assume that this is the prescribing data for a product like the one that our client may help launch for diarrheal disease. Assume that market 1 and market 2 are two different geographic markets. What does this show and which market seems like a better target?



If the Candidate needs a little help with interpretation, the chart shows the physicians in each market arranged by their prescribing level of this product horizontally in descending order. So the physician who prescribes the most is on the left, and those who prescribe the least are on the right. The height of the line represents the cumulative total of all the units they have prescribed.

Candidate: Market 1 is more consolidated than Market 2. 80% of the units of this product are prescribed by about a third of the physicians in Market 1, but in Market 2 to account for 80% of the units we have to include closer to 60% of the physicians. This means that it is probably easier to sell in Market 1 because fewer physicians would have to be informed about the new product, so I would be a better target.

Interviewer: So, what is your recommendation?

Any well thought out recommendation based on the data presented will be fine.

31. Mobile Virtual Network Operator - Market Entry (BCG R2, TMT, New Market, Balanced)

Stem: The year is 2003. A client has asked us to evaluate whether or not they should enter the US wireless market. Our client is an international wireless carrier that successfully operates in Asia and is looking for international growth opportunities. They came to us to understand 1) whether or not they should enter and 2) what key challenges they might face upon entry.

Our client intends to enter the market using an arrangement known as an MVNO (Mobile Virtual Network Operator), in which they will lease network capacity from an existing wireless network operator in the US, referred to as an MNO (mobile network operator) or Host Operator.

Phase 1: Big Picture Analysis

Give out information as the Candidate asks for it. They should ask detailed questions about the market, growth, competition (interviewers should give the entire competition block at one time), and marketing.

Market:

- Forecast for 2004: 180M wireless subscribers in the US with an annual growth rate of 10%.

Competition:

- The market can be divided into three main categories:
  - National carriers
    - This includes larger network operators, such as Verizon (25% market share), AT&T/Cingular (25%), Sprint/Nextel (20%) and T-Mobile (15%)
  - Regional carriers
    - Includes smaller network operators, such as Alltel and Dobson
    - Represent 10% of the market in total
  - Other MVNOs
    - Includes Virgin Mobile, Tracfone, etc.
    - Represent 5% of the market in total.

Value Proposition / Target Customers:

- Other MVNOs have focused on targeting niche segments, such as low-credit consumers, teens, and ethnic groups, using no-frills prepaid services
  - Virgin Mobile was able to capture 4M subscribers

- Our client intends to leverage its existing assets and experience, specifically next-generation handsets from Asia and a platform for mobile applications, to target high-end consumers
  - These exclusive technologies are several years ahead of the competition
  - They already have a successful wireless application platform they can replicate in US
  - Although US wireless data is under-penetrated relative to Europe and Asia, new 3G networks and entertainment services are expected to accelerate adoption

- Between 10 and 20% of US subscribers would be willing to pay for a premium mobile handset with wireless data services

<u>Phase 2: Profitability and Breakeven Analysis</u>

Interviewer: How can we calculate the number of subscribers needed to cover the initial investment and the annual fixed costs?

Candidate: First, we would need to determine the contribution margin of each individual subscriber.

Interviewer: Here are some points that can help simplify this complex problem. First, you don't have to discount the cash flows. Also, you can ignore the $10/month for data services (with 60% gross margins). Finally, you can assume that you get all subscribers during first year of service due to pent up demand for this business. Now, knowing these facts, what data would you like me to provide in order do this calculation?

Let the Candidate ask for as many of these as he/she can think of. After the list has been exhausted, prompt questions that will let you give the rest. For example, make sure the Candidate asks about margins, fixed costs, investment costs, administrative costs, and customer statistics (such as tenure and minute usage).

- Average customer tenure = 4 years (48 months)
- Revenue
    - Price per minute = $0.06
    - Average monthly minutes of use (MOUs) = 900
- Costs
    - Initial investment = $25M (it will take one full year to develop and integrate new platforms with MNO before launching)
    - Annual fixed costs after launch = $25M
    - Per customer costs
        - Marketing and advertising cost per customer = $100
        - Sales commission per contract = $50 (for 24-month contract)
        - Subsidy per handset = $200
        - Average handsets purchased / contract period (every 24 months) = 1 (so 2 for 48 months)
        - Cost per minute = $0.04 (based on contract with mobile network operator)

Interviewer: Ok, now I think you're ready to make some calculations. We're looking for how many subscribers we need to get us to the breakeven point.

Calculations don't necessarily have to be done exactly as shown below, as long as the Candidate arrives at the answer.

Candidate:

- Customer Lifetime Value = (average monthly revenue – average monthly costs)* tenure – acquisition costs
- Revenue per month per customer = 0.06 * 900 * 48 = $2,592
- Customer acquisition/maintenance costs = [(200 + 50) * 2] + 100 + (0.04 * 900 * 48) = $636
- Lifetime value = $2,592 – $2,328 = $264
- Subscriber breakeven volume = Total Costs (initial investment + annual fixed costs) / subscriber lifetime value
- Total fixed costs = 5 x 25 = $125m (5 comes from 4 years of customer tenure and 1 year of development)
- Breakeven volume = $125m / $264 = **473K subscribers**

Candidate: The company will need to sell close to 500K subscriptions in order to break even. Given that this is only 1% - 3% of the premium market (36-18M) and Virgin Mobile was able to achieve ~8x that number, this seems reasonable (especially since we ignored some data services).

Phase 3: Critical Success Factors / Execution Challenges

Interviewer: What do you think are the potential challenges and other issues the company will face in this endeavor?

Let the Candidate brainstorm. A variety of answers are acceptable, but make sure he/she is thinking about this specific market, and not just saying generic things.

Interviewer: OK, and what kind of branding is necessary for this service?

Candidate: The company will need to invest heavily in marketing and advertising campaigns to develop a new brand in the US. They will need to establish a brand that can overcome the switching costs of changing carriers, including the loss of free in-network mobile to mobile calling. Once customers are in the door, they will need to reward loyal customers and encourage referrals.

Interviewer: The company has no existing relationships with customers and will likely have to rely on a 3rd party to sell on its behalf. Evaluate some of the tradeoffs between different options.

Candidate:

- Online: While an important, low cost channel, most customers will still want to experience the new handsets and data services in person
- Build Your Own: Maximizes brand control and customer experience, but requires significant capital investment, trained sales force, and locations in urban markets
- Carrier owned stores: Strong distribution capabilities, geographic footprint, and sales skills, but incentives may not be aligned to promote your devices/services over their own
- Big box retailers (e.g., BestBuy): While they have expertise in selling electronic equipment and data services, it may be challenging to stand out from all of the other electronic devices sold in their channel
- Non-traditional (e.g., high-end department stores, jewelry stores): Although these channels may help differentiate as a luxury good and target premium consumers, they may not have the technical expertise to sell wireless services

Interviewer: How do you think the company should go about developing content?

Candidate: First and foremost, they must understand the entertainment needs / preferences / habits of US consumers, which are likely different than current customers in Asia.

Once that is established, they could develop content in-house, license existing / new content from external developers, and begin to localize existing content (e.g., translate into English, etc.).

Interviewer: Are there any other issues you think need to be looked at?

Candidate:

- Customer service / billing
- Handset logistics / maintenance

- Extra charges for roaming, directory assistance
- Regulatory environment must remain friendly

Interviewer: What do you think are some issues to consider when partnering with an MVNO?

Candidate:

- Requires the ability to differentiate MVNO services from the network owner to avoid cannibalization
- Must target customer segments where network operator is less profitable (either through lower acquisition costs, longer tenure, or higher margin / month)
- MVNO arrangement avoids capital requirements for spectrum and network rollout, but requires excess capacity of partner's network
- Host network operator must be willing to accept some loss of customer control and offer competitive rate in exchange for improved network utilization
- Must also be willing to ensure network quality and customer support

Interviewer: OK, great, so what would you tell our client?

Candidate should concisely summarize findings, pointing out that this looks like an attractive market, and the potential for profit is high. The recommendation should also include some of the biggest issues/challenges to come out of the brainstorming phase, but overall, this seems like a good investment.

32. Pest Control (BCG R2, Other, Profitability, Balanced)

Stem: Our client is a major pest control company operating in the US South East. The client sells extermination services for the home and garden. The client is looking to improve their profitability, and is asking for specific recommendations to effect this. They do not have a target profit margin, but they are interested in exploring the full range of options presented to them. What areas should we consider?

Candidate should lay out a structure that looks specifically at profitability for this business. The structure need not follow a specific format, it is more important that it be logical, MECE, and specific to this industry/client. It should address at a high level how we reduce costs and increase revenues (e.g. assessing product offerings, efficiency of territory coverage, customer acquisitions/marketing, etc.)

It is important for this case to allow the candidate to brainstorm as much as possible. The goal is for them to be specific to the industry and to speak clearly and logically as to why their recommendations make sense. Ask them for the rationale behind their thinking frequently.

<u>Phase 1: Brainstorm</u>

*Once the candidate has presented their structure, guide them towards a discussion on revenues, specifically pricing and customer acquisition/retention. Make sure that they hit on these in some way (they are analyzing P * Q but it should be done in an industry specific way).*

Interviewer: These all seem like reasonable options to consider, but as we look at our client's revenues what aspects do you think are important for a pest control company?

Candidate: The price that they charge for their different services, for instance the charge for a one-time fumigation vs. routine sprayings, as well as their customer acquisition and retention.

Interviewer: Can you brainstorm some of the factors that would play into a customer's decision of whether or not to buy our client's services?

Candidate should brainstorm ideas with a logical structure. Allow the candidate to exhaust their list and then prod for one / two more.

<u>Phase 2: Analysis</u>

Interviewer: It turns out the client has seen their customer acquisition stagnate over the last year, although the market for pest control is growing at a healthy rate, they are currently operating at 0% customer growth (i.e. not gaining nor losing clients). We have information on the effectiveness of their call-center, which we'll assume covers all of their customer interactions.

Present candidate with the figure below.

Interviewer: On the left you'll see how effective the client is at turning a prospective caller into a customer, and on the right we have the turnover of the customer base. How many clients are gained/lost from each?

*Candidate should double check the right side is an annual figure if they are uncertain. Ask that they round the annualized calls figure to 50K from 4,200 * 12 = 50,400 once they complete the calculation.*

Call Yield
Monthly calls: 4,200
Yield: 20%

Account Turnover
Accounts: 500,000
Yield: 2%

Candidate: You had mentioned initially that we aren't gaining or losing customers, so I'd expect that the net effect should be 0, and after doing the math I see we would gain 10k from call-in's and lose 10k from our annual turnover.

Interviewer: Great, you had brainstormed pricing as one of the areas we should look into, can you calculate the average price that the client charges for their services?

Candidate: Yes, I know from the figure that we have 500K accounts, but I'll need the revenue of the company in order to calculate P.

Interviewer: The company generates $50M in revenue.

Candidate: In that case our average price would be $100 since $100 * 500K = $50M.

Interviewer: That's right, given all this information what could we hope to change?

Phase 3: Additional Brainstorms

Allow the candidate to list off ideas or brainstorm again. They should come to the conclusion that adjusting pricing would be difficult in this industry, and that 2% attrition is already rather low. Therefore, we should look to improve our 20% yield from calls.

Candidate: I think that we should look to improve the yield of our calls from prospective customers.

Interviewer: Yes this is an area that they can consider, how do you think they could improve their yield?

Candidate brainstorms further – ensure it remains structured.

Interviewer: The company has looked into the performance of their call center staff and found that 1/3 have a 30% yield, 1/3 have a 20% yield, and 1/3 have a 10% yield. Based on this, what would you suggest the company do to improve their overall yield?

Candidate brainstorms further, ideally on a new sheet to remain clear and not simply laundry list ideas. Should they ask, the employees within each bucket are indistinguishable from one another and it seems within the first week you can determine relatively quickly if an employee will be in the top bucket or the bottom bucket.

Phase 4: Conclusion

Once the candidate has concluded their list, end the case abruptly but in a friendly way. Do not accept a recommendation. The goal is that the candidate not get flustered, and remain engaged, potentially asking how the case ended or transitioning to the next talking point in a professional way.

Interviewer: Great, these all seem like solid ideas and I appreciate your continued interest in our firm. We think you're a great candidate and are really looking forward to potentially having you here this summer.

Candidate: Thank you, I've really enjoyed our conversation, out of curiosity was this a case you worked on? I'd be interested to know how it turned out.

Interviewer: Yes actually, this was the first case I ever worked on as a partner. We ended up implementing a training program where the top 1/3 coached new hires. We also turned over the bottom 1/3 in order to have more high-quality customer interactions.

33. TastySnack (Deloitte R1, CPG/Retail, Profitability, Quantitative)

Stem: Our client, TastySnack, is a global company with 4 distribution channels. Their stock price is down by 50% and has missed earnings for 3 quarters. They have not been able to focus on growth. They hired Deloitte to answer why TastySnack is unprofitable and what action steps they can take to improve the company's situation.

Interviewer: We have half an hour before meeting the CEO. What info should we ask her for?

Candidate: Industry (size, share, competitors, customers, growth/trends), revenue (product, channel), and costs (COGS, SG&A, PPE, etc)

Interviewer: Here's what she gave us: I'd like you to do some quantitative analysis.

Show all tables to the candidate at once.

Table 1

	2007	**2008**	**2009**
Revenue	$60M	$50M	$45M
COGS	$30M	$25M	$22.5M
SG&A	$8M	$9M	$10M

Candidate: Revenues have decreased significantly (25% over two years). SGA grew by 25% while COGS remained in proportion and fell 25%

Table 2

	Competitor 1	**Competitor 2**	**Competitor 3**
2007 Revenue	$9.9M	$18M	$29M
2009 Revenue	$10M	$20M	$30M
2009 COGS	$4.5M	$10M	$15M
2009 SG&A	$1.8M	$3.5M	$5M

Candidate: TastySnack is the only one losing revenues. Are there new entrants? SGA and COGS are in similar proportions to other companies but closest competitors still far away – potential for economies of scale?

Tasty Snack Revenue Breakdown by Market

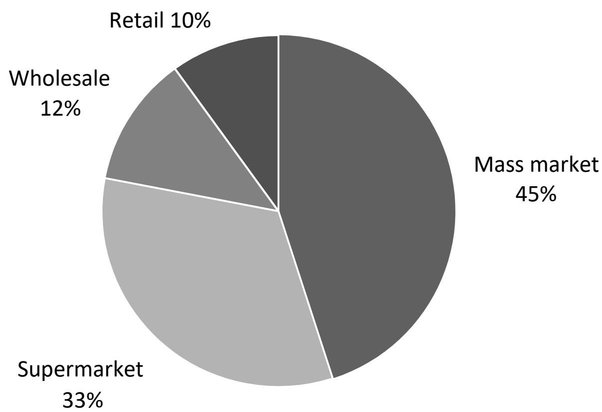


Table 3

	3 Year CAGR	Change in Price
Mass market	-15%	-2%
Supermarket	1.5%	1%
Wholesale	1%	1.5%
Retail	1%	2%

Candidate: Largest portion of the client's revenues is in the segment of the market that is shrinking. It may be important for Tasty Snack to refocus its marketing efforts on other segments if it has not already.

Table 4

	Supermarket	Mass market
Price to customer	$3.35	$3.33
Price to end consumer	$3.72	$3.45

Candidate: Margins for supermarkets are 10% ($0.37/unit) and margins for mass markets are only about 3.5% ($0.12/unit). The industry shift away from mass markets could be an opportunity for improved overall company margins if Tasty Snack can increase share in the supermarket segment.

Interviewer: If they decide to increase prices by 10 cents for their supermarket customers, what will be the impact on revenue?

Candidate: Assuming total unit sales remain constant despite the increase in price:

- Total Company Revenues = 45M
- Supermarkets = 33% of revenues or 1/3 = 15M
- % Increase in Unit Price = $0.10 / $3.35 = about 2.9% (rounding that to 3%)

3% of 15M = incremental revenue of $450K

Interviewer: Our client's CEO is ready to meet with us. What action steps can we recommend her?

Candidate recommendation should build on discussion and can include:

- *Channel – Determine feasibility of refocusing on supermarket business due to higher margins and positive CAGRs*

- *Customer – change pricing? (risks: competitor response, customer price elasticity, etc) Would supermarkets be able to pass the increase in price on to the end consumers as well?*
- *Product – bundle, new products, loss leaders*
- *Competitors – acquisition of competitor with large presence in supermarkets?*
- *Management – poach successful leaders from competitors?*

34. AgChem (Deloitte R2, Industrial Goods, Profitability, Quantitative)

(Note that this interview was an hour long)

Stem: Our client is AgChem, a private company in the U.S. with $5B in revenue in 2009 that manufactures and distributes crop protection products. They sell products in two ways: proprietary branded and vended manufacturer branded. Their revenues have seen strong growth but margins are falling. The company has 10% market share in both segments. The CEO called in Deloitte to ask why profits are falling and to develop a strategy.

Interviewer: What factors should we consider?

Note: if there is confusion over the term "vended manufacturer branded," explain that it is branded with the vendor's brand.

A structure should include the following: Market effects (size, share, competition, growth/trends, and barriers to entry/new entrants); Revenues (product mix, customers, geographies, etc.); and Costs (FC and VC – Candidate should brainstorm some for each).

Interviewer: What do you think of this data?

Show the candidate the below table only:

	Revenues	**Profit**
Proprietary	$1B	$80M
Total	$5B	$200M

Candidate should use the data to calculate the overall margin and margin on each of the proprietary and vended products. Upon noticing that proprietary products have a substantially higher profit margin, candidate should ask about trends by category over time or move into brainstorming ideas on how to grow the proprietary share of the mix. Otherwise, prompt them for this information.

Candidate should end up with the following information:

	Revenues	**Profit**	**Margin**
Proprietary	$1B	$80M	$80M/$1B = 8%
Vendor	$4B	$120M	$120M/$4B = 3%
Total	$5B	$200M	$200M/$5B = 4%

Interviewer: OK, let's brainstorm some ideas on how to grow the proprietary share of the mix.

Candidate: Sure, this could be done by looking at customers, distribution, and products.

Customers: Evaluate customers and determine whether they are segmented and targeted appropriately. Does this match the sales force strategy/resources?

Distribution: Look at distribution channels and determine whether existing partnerships could be revamped, new partnerships could be made, and whether the internet is an appropriate distribution tool.

Products: Is the proprietary product differentiated enough from the vendor-branded product? Is the price of the products in line with those of competitors? Invest in a new marketing campaign to promote the proprietary products.

Interviewer: OK, I have another table for you. Estimate the profit (in $) for FY09-11 if the client is able to obtain this revenue structure.

Provide the following data:

	Revenue from Vendor ($B)	Revenue from Proprietary ($B)	Total Revenue ($B)
FY09	4	1	5
FY10	4.34	1.86	6.2
FY11	4.2	2.8	7

Candidate should notice that the proprietary products are going up as a percentage of total sales (20% in 2009, 30% in 2010, 40% in 2011) and therefore the overall profit margin is increasing.

Candidate should recall that vendor margins are 3% and proprietary margins are 8% and should therefore be able to calculate the following profit numbers:

	Vendor Profits ($M) = 3% of Revenues	Proprietary Profits ($M) = 8% of Revenues	Total Profits ($M)	Total Profit Margin
FY09	120	80	200	4%
FY10	130.2	148.8	279	4.5%
FY11	126	224	350	5%

Interviewer: Please calculate the incremental profit that AgChem will receive if they are able to successfully shift their product mix so that it reflects the FY11 numbers.

- 2011 without changed mix: $7B in profit with initial 4% margin = $280M
- 2011 with changed mix: $7B in profit with 5% margin = $350M
- The difference (incremental profit) is $70M

Candidate should discuss the significance of the $70M; i.e., this represents 35% percent of the 2009 profit of $200M and this is the amount that AgChem should be willing to spend to shift the product mix (depending on their time horizon).

Interviewer: If instead they choose to expand geographically, how would this change marginal profit?

Provide the following data table to the candidate.

	Market size	AgChem share of market
Canada	$10B	2%
Brazil	$8B	2%
California	$5B	3%
Minnesota	$5B	1%

Candidate should calculate expected revenues from each new market and multiply by the original 4% profit margin:

(200M + 160M + 150M + 50M) * .04 = $22.4M

Candidate should reflect on the difference between the $22.4M earned by geographic expansion compared with the $70M earned by shifting the product mix. Additionally, there may be risks associated with geographic expansion such as uncertainties surrounding new markets or industry growth trends by region which are relevant.

Interviewer: What other factors would affect their ability to change product mix?

Candidate should brainstorm factors such as: competitive response, customer satisfaction, speed to market for new products/promotions, ability to finance different options, geographical/cultural barriers, and operational capacity. The best brainstorms are done categorically (internal vs. external, etc)

Interviewer: What is your final recommendation?

Candidate's response should be in line with prior analysis but will likely include a recommendation to shift product mix toward proprietary products.

35. Blue Chips (Deloitte R2, Industrial Goods, New Product)

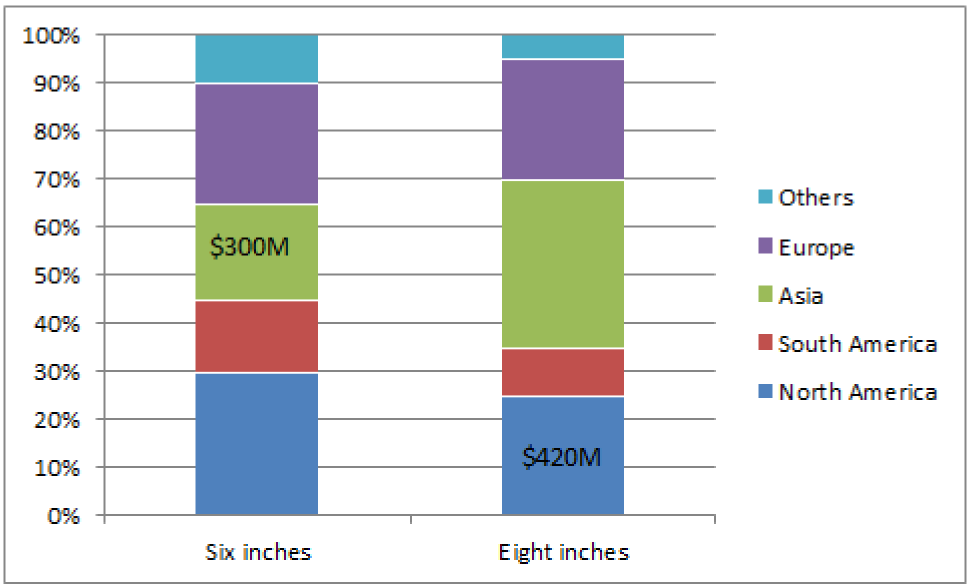
Stem: Our client is called Blue Chips. They run a silicon manufacturing business, specifically making the quartz that goes into wafers. They are thinking about expanding into the wafer manufacturing business. Wafers come in two diameter sizes – 6 inches and 8 inches. It would cost our client about $200M to expand their factory. Demand in the industry is expected to grow. Should Blue Chips get into the wafer business? If so, what size of wafer should they produce?

<u>Phase 1: Industry Landscape</u>

Give the candidate a few minutes to write out the structure. It should include industry landscape, investment size, expected revenue, and cost.

Interviewer: Let's start by calculating the market size for wafers.

Hand candidate exhibit.



Candidate to calculate total 6-inch wafer market size of $1.5B and 8 inch wafer market size of $1.68B. Total market size of $3.18B, round to $3.2B.

Candidate: That's a sizable market. In order to understand more about the attractiveness of each type, I would need to know more about the competitive landscape.

Interviewer: I have some data on that. For the six-inch wafer, the leading competitor has $700M in revenues, the second $350M and the third $220M. The rest of the market is fragmented. For the eight-inch model, there is only one big player with revenue of $1.4B. The rest is fragmented as well.

Candidate to calculate how much share of market is taken up by the top 3 competitors percentage-wise and give initial take on this number. Regarding the eight-inch wafer market, it seems challenging as it is near monopolized. The candidate should ask for data on profitability of each type before making any concrete decision. If he or she doesn't, prompt the candidate to do so.

Candidate: It seems like a six-inch market is more attractive, but it will depend on how profitable each business line is. Do you happen to have data on that?

Interviewer: I have some data on the profitability. It turns out that we are looking at 7% for 6 inch wafers and 15% for the 8 inch ones. Would that change your opinion of the situation?

Candidate should develop a view point on any of the two sizes with considerations on potential profitability and competitive landscape.

Interviewer: Do you think this is a good investment?

Candidate: It surely is profitable, and the demand growth is expected to be strong. I think it will all depend on how big of a market share we can potentially get.

Interviewer: Any idea on how to maximize that?

Candidate should list out a few ideas on how to enter the new market successfully. There is no need to ask for calculation here, this is meant to be a brainstorming exercise.

Interviewer: I like your ideas. Let's move on to choosing actual processing methodologies.

<u>Phase 2: Analyzing Different Manufacturing Processes</u>

Interviewer: There are two different ways to produce wafers – the Cz process and the Ky process. When it comes to the 6-inch Cz process, one can produce a high yield of chips, the process has been around for over 20 years and there are five other manufacturers producing the product in this fashion. The 8-inch Cz process has a very high yield, two other manufacturers are producing chips this way, it requires a complicated process with a high tech burning to finely develop each chip. The 6-inch Ky process involves low yields and is used by many other competitors. The 8-inch Ky process has low yields, is similarly made to the 6 inch Ky process without any high tech burning and two other manufacturers are producing chips in this fashion. Which process should they use for each chip size, the Cz or Ky process?

Regardless of which product the candidate chooses, he/she should identify the Cz process as the best way to produce chips given its competitive advantages. The candidate should also try to explore the cost differences between the two options. Feel free to say there is none.

Interviewer: Our client's CEO is walking in now. What is your final recommendation for her?

36. Airline Ice Costs (Parthenon R1, Transportation, Operations, Quantitative)

(Note: 30-minute case interview – actual case ended in 20 minutes)

Stem: Our client is a national airline looking to determine the total cost of ice it needs to purchase to serve its customers onboard for the entire fiscal year. How would you think about this?

Candidate should brainstorm a MECE structure in order to thoroughly evaluate an accurate cost calculation. At a minimum, this would include capacity, ice consumed per customer, and cost of ice consumed per customer. Let the candidate drive the case.

Candidate: In order to determine the total annual cost of ice consumed by the airline, I would need to know or assume a few things. First, I will need to determine the number of customers served by the airline. Second, I will need to know how much ice is served in every drink. And lastly, I need to figure out the cost of ice consumed per customer.

Interviewer: Ok. Where would you like to start?

Candidate: Let's start with the number of customers served. How many flights does the airline have daily? How many seats does each flight have and what is the occupancy rate?

Interviewer: The airline has 40 one-way flights daily, each flight has a maximum capacity of 120 passengers and the average occupancy rate is 80%.

Candidate: Assuming the airline operates 40 flights every day of the year, the annual number of flights is 40*365 = 14,600 flights. Average occupancy per flight = 0.8*120 = 96. Therefore, the total number of customers served annually is 14,600*96 = (14,600*90) + (14,600*6) = 1,401,600.

Interviewer: Great – what next?

Candidate: In order to figure out how much ice is consumed per customer, I need to know how many drinks are consumed by each customer and the amount of ice used per drink.

Interviewer: You can assume that on average, each customer consumes 1 drink. How would you go about estimating the amount of ice used per drink?

Candidate: Hmmm, one drink usually has about 4-5 small ice cubes on planes. Do we have any information on how much 1 ice cube weighs?

Interviewer: Well, what we do know is that a five-pound bag of ice can serve 25 customers.

Candidate: How much does this five-pound bag of ice cost?

Interviewer: $15.00

Candidate: Ok. So if each bag serves 25 passengers and there are 1.4M passengers flying in a year, you need 56K bags of ice. 56K * $15 = $840K.

Note: Sometimes the interviewer may not require you to calculate the final answer as long as they are satisfied with your thought process.

Interviewer: Great –thanks. Do you have any questions for me?

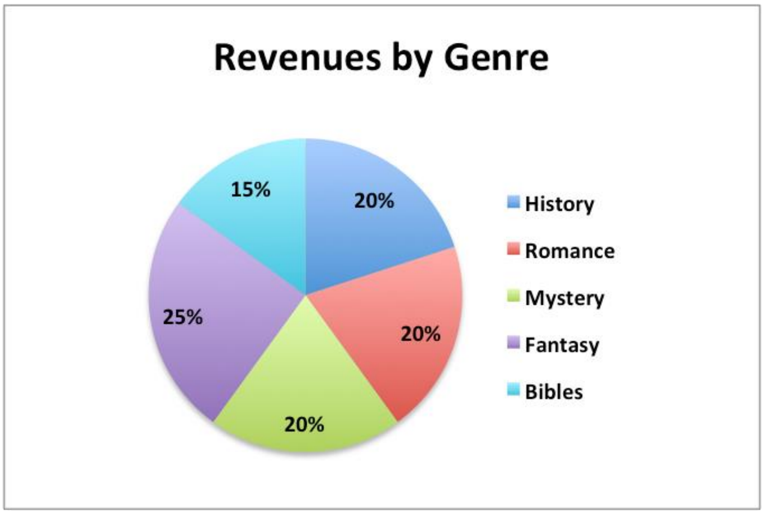
37. Publishing Company (Parthenon R1, Other, Growth Strategy, Balanced)

Stem: Our client is a major book publishing company. They've noticed recently that their revenues are down by 1% while the industry, on average, is up by 3-4%. They want us to help them figure out the cause for this reduction in revenue, and what they can do to reverse the trend.

Candidate should layout their structure which should include gaining an understanding of the company's profitability and product mix by book genre and trends.

When asked, interviewer should reveal the following data:

Revenue by Genre (product mix is the same as the competition):



Genre growth:

- History: no movement
- Romance: up 1%
- Mystery: up 1%
- Fantasy: ???
- Bibles: no movement

Interviewer: Can you tell me what is happening with Fantasy revenues?

Candidate: Sure. First, I'd like to clarify these growth numbers per genre. Are these the growth numbers for the total industry or the growth of our particular company? Although there is usually a positive correlation between industry growth and company growth, sometimes this does not hold.

Interviewer: Good point. These numbers are the growth for our client, not the industry.

Candidate: Great. Since overall revenue is down by 1% and there has been no movement in History or Bibles, all of the revenue shift is coming from the other 3 genres. Romance is contributing *positive* 0.2% (1% * 20%), as is Mystery. So, Fantasy must be pulling down overall revenue by (negative) 1.4% (0.4% + 1%). Since Fantasy contributes 25% of overall revenue, Fantasy revenues must have been down 5.6% (1.4% ÷ 25%).

Interviewer: OK, good, what customer segment do you think is the driver of Fantasy segment sales?

Candidate should brainstorm with interviewer.

Candidate: Well, a lot of segments come to mind, actually. More recently, books like *Twilight* have brought in a lot of teenage girls, and potentially their mothers. *Harry Potter* has an even younger audience, which means their parents are actually the purchasers. These books also appealed to teenagers and those in their twenties, albeit a little less so. More classically, I think of books like *Lord of the Rings*, which probably brings in predominantly males in their twenties and thirties.

Interviewer: Interesting thoughts. We've actually done a little market research and know that the main customer segment for Fantasy sales is women aged 22-40, specifically stay-at-home moms. So, with this information about the segment, what are some issues that could be driving the negative trend in sales?

Candidate: Perhaps this company has different authors or less attractive products than the competitors? Or maybe a less robust selection?

Interviewer: No, our company's selection/offerings are no different than the competition.

Interviewer should continue to push the candidate to brainstorm until the candidate arrives at differences in retail strategy.

Interviewer: Where does this customer segment buy books?

Candidate: Probably at malls, department stores, grocery stores, drug stores, anywhere a stay-at-home-mom would already be running errands. I would imagine they are also purchasing online at an increasing rate to get the best prices.

Interviewer: OK, well, it turns out that we are in all the same retail outlets as our competitors, but we are having far fewer sales in grocery stores and drug stores. Why might that be?

Candidate and Interviewer should brainstorm until candidate asks about where the books are located in the store.

Interviewer*:* Ah, good question. As it turns out, Fantasy books purchased by this customer segment are usually impulse buys. The retailers (grocery stores and drug stores, in this case) had not been locating the books near the registers, where impulse buys occur.

No formal recommendation is needed for this case. It is important that the candidate stays calm throughout these difficult brainstorming sessions, and shows his/her creativity in arriving at these conclusions.

38. Marlin Toys (Parthenon R2, CPG/Retail, M&A, Balanced)

Stem: Your client is a large toy manufacturer named "Marlin" (think of a company such as Hasbro or Mattel) with $3B in sales. They are interested in potentially acquiring a smaller company named "Dolphin" which sells educational toys.

Dolphin is different from Marlin since it employs a direct selling model. They hire independent contractors (ICs) to sell their toys for them: these ICs find people to hold parties for them, and invite about 8-10 people whom they sell these toys to. The ICs are paid 20% commission. If the ICs refer a friend to sell Dolphin products and does so, that sale still generates 20% commission for the new IC, but also an additional, smaller commission for the person who originally referred him. This process continues and you get an increasingly smaller cut of sales from members that were referred by those you referred, etc. This "down-stream" sums up to approximately 10% commission total.

Dolphin has been losing revenues lately. Two years ago, they had $35M in revenue, one year ago they had $28M, and this year they have $20M. This year they are operating at zero profitability - breakeven.

Although the cost of the acquisition is not significant due to their relative sizes, Marlin wants to have a company that can pay its own way. Two questions:

1. What do both parties have to gain from this acquisition?
2. Why is Dolphin losing revenues and what can it do about it?

One example structure is to include the following buckets for question 1: revenue synergies, cost synergies, Marlin itself, and the educational toy industry; and the following buckets for question 2: external vs. internal factors or decrease in price vs. decrease in quantity. Candidate should ultimately recognize question 2 as higher priority.

The following information can be given when asked for by the Candidate:

- The educational toy market is growing at a rate of 3%; overall toy market is flat
- Dolphin is the only company currently selling educational toys with direct sales method
- There were no recent competitor entries in educational toys
- Other educational toys are sold through retailers such as Target and Walmart
- Marlin does not have any educational toys now, but other large toy manufacturers do

Interviewer: Why might Dolphin be losing revenue?
Candidate: Perhaps Dolphin has reached market saturation, they have old or under-preferred products, their prices are too high, or the sales force isn't big enough or effective.

Interviewer: Good thoughts, but Dolphin products are actually in high demand, and while they do sell at a premium price, people are willing to pay it. In fact, many people have been complaining that they cannot find a party when they want to. This is because recently the number of ICs has been declining at a rate of 10%. Dolphin is proactively adding IC's, but more ICs are leaving than joining. Average party revenue has remained constant at $200.
Candidate: Dolphin's decline in revenue is not an external factor since the market is growing. There is demand for this product, but it is not being sufficiently distributed. We know that IC's are declining at a rate of 10%, but this does not account for the total decline in revenue (which is > 20% per year). Since revenue per party is constant, each IC must be putting on less parties.

Interviewer: Why might each IC hold less parties than before?

Candidate: Their compensation may not be using proper incentives or they may be having a hard time finding the right areas to hold their parties.

Interviewer: Correct, as I mentioned, Dolphin parties generate $200 on average. The IC commission rate is 20%, so $40 per party. Industry average (similar job functions) is 30% with party revenue of $300, so $90 per party. These sellers may pursue multiple jobs and prefer to hold parties for products other than Dolphin. Management believes that by increasing commission rate to 30% but maintaining the "downstream" rate, the number of parties will double. Assume these parties still have $200 sales on average. Will this solve their company's problems?
Candidate: The increase in commission will lead to $60 per party for the IC which, granted, is 1.5x more than they're currently getting with Dolphin, but is still considerably less than the $90 ICs get with competitors. I think the expectation that the number of parties will double is a little aggressive, but I'm happy to run the numbers. Can you tell me about the current cost structure?

Interviewer: COGS = 50%, Fixed Costs = 20%, Selling Cost = commission + "downstream"

The candidate should create the following chart:

	Before	After Commission Change
Revenues	**$20M**	**$40M**
COGS	$10M (because we know COGS = 50% of costs, and that costs = revenues since this is breakeven year!)	$20M
Fixed Costs	$4M	$4M
Selling Costs	$6M (20% IC; 10% downstream, therefore 30% of $20M revenue)	$16M (30% IC; 10% downstream, therefore 40% of $40M revenue)
Total Costs	**$20M**	**$40M**
Profit	**$0M**	**$0M**

Candidate: Increasing the commission rate to 30% gives us no difference in profitability, and the doubling of parties held seems unlikely. Perhaps we can increase commission further to determine impact on profitability or explore other distribution channels.

Interviewer: How do you think Marlin and Dolphin can help each other in this respect (i.e. revisit Question 1)?

Candidate: In terms of revenue synergies, Dolphin will benefit from using Marlin's current store locations and distribution channels. Because Dolphin products are in high demand, they should do well in stores. This will bring in additional revenue and help solve the profitability problem for Dolphin as a stand-alone business. Marlin can gain brand desirability and increased sales by adding educational toys to its product line and exposing Dolphin's education customers to its other products. The acquisition would ultimately improve Marlin's competitive position relative to other large toy manufacturers. In terms of cost synergies, most toys are made from similar physical materials, so an acquisition should allow both companies to enjoy economies of scale by decreasing raw materials costs, sharing manufacturing facilities, and streamlining operations.

Interviewer: OK, thank you.

No formal recommendation was required for this case

39. Premium Paint (L.E.K. R1, Retail, New Market, Quantitative)

Interviewer: Our client is a premium paint manufacturer based in the UK. They have an established brand and stable market share in the UK, but are interested in pursuing other markets. Although they currently do not have a presence in the US, they are interested in entering the market and have hired us to help. Specifically, the client has hired us to size the market opportunity for the residential interior paint market in the US as part of their overall decision to enter the market.

Note: if asked, the paint market is broadly divided into premium and value. Premium paint is typically ~4x as expensive and typically comes in curated colors. Residential includes places where people live (houses, apartments, etc.) and excludes commercial properties. Interior paint covers all locations inside a house and is less resistant to wear from weather.

Candidate: This is a market sizing question, so I'd like to structure my thoughts using the following structure. I'll then make some assumptions and we can work through the numbers to get the total size of the US residential interior paint market.

US Population

People / household

Households

Remodel / renovation	New housing (% of existing households)
Frequency of repainting	
Number of rooms / house	Number of rooms / house
Number of gallons / room	Number of gallons / room
Number of gallons (Renovation market)	Number of gallons (New market)

US residential interior paint market

Note: an candidate should lay out the approach and explain the reasoning. Then, reasonable assumptions should be made to get to the final market size. Alternative structures could include second or third homes, segment the market by apartments vs. houses, segment the market by rural vs. urban, etc.

Candidate: Painting a house happens either when you repaint a room or when you build a new house. I will make some assumptions to get to the US residential interior paint market. Starting with population, there are about 330 million people in the US. With a household size of **3 people per house**, that gives us **110 million households**.

Repainting a room happens every few years. I'll assume that on average, homeowners repaint every **five years,** which means in any given year, **20% of households are repainting**. That means that **22 million households** are repainted each year (110million x 20%). A typical house has a kitchen, living room, dining room, three bedrooms, plus 3 bathrooms that I will count as one full room for a total of **seven rooms** per house. It seems like a room might need two gallons of paint per room, so that would be **14**

gallons per household. Multiplying that by the number of households, that gives **308 million gallons of residential interior paint for renovations.**

New construction replaces some old housing and also accommodates the growing population. Assuming that new housing adds an extra 2% of housing to the market, that gives **2.2 million households**. Multiplying by the same **14 gallons per household** we found earlier, that gives **30.8 million gallons of residential interior paint for renovations.**

Interviewer: Ok, great. As you may know, the new housing market is very cyclical. Some years it can be more than 10% per year and others it can be near zero. Given that information, how cyclical do you expect the paint market to be?

Candidate: Since most of the market - >90% in these calculations – is made up of the renovation portion of the market, I would expect paint to be somewhat insulated from swings in new housing construction when compared with other building products like lumber. However, if the new housing market downturn happens at the same time as a general recession, homeowners may be less likely to splurge on repainting.

Interviewer: How should the client think about entering the US market?

Candidate: You can enter a new market organically or inorganically. On the organic side, the client could use existing capacity in the UK and ship material to the US market. This would have a low capital cost and allow the client to control quality, but potentially risk shipping heavy chemicals across the US and potentially have regulation issues. Inorganically, the client could either acquire or do a joint venture. An acquisition target would need to fit with the brand or be able to meet the quality standards our client demands, but would already have access to distribution channels and some brand recognition. A joint venture seems unlikely because our client does not have any assets in the US to contribute to the new entity. Given these, I'd like to explore entering the market organically more and see if we have the capacity or cost structure to allow this.

Interviewer: Can you give a quick summary of what we know so far and where you'd like to evaluate next?

Candidate: Sure. We've looked at the size of the US residential interior paint market as part of a market entry evaluation for our client, a UK based paint manufacturer. The market is about 340 million gallons of paint per year, more than 90% of which is used in remodels and renovations, which could reduce volatility in the market despite a housing market prone to swings. Pursuing an organic market entry might make sense as we can control the quality and product better, but a key area of concern is distribution and customer awareness. I'd also like to explore the marketing strategy – how we might actually get consumers to buy this premium product and who to target (such as interior designers and luxury homeowners).

40. Great Burger (McKinsey Mock, CPG/Retail, M&A, Other)

Interviewer: Our client is Great Burger (GB), a fast-food chain competing with the likes of McDonald's, Wendy's, Burger King, etc. GB is the fourth largest fast-food chain worldwide, measured by number of stores in operation. As most of its competitors do, GB offers individual food items and "combos" for 3 meals a day – breakfast, lunch, dinner. GB owns some of its stores, but it mainly operates under a franchising model, with 85% of stores owned by franchisees (individuals own and manage stores and pay franchise fee to GB, but major business decision like marketing and setting menu is controlled by GB).

As part of its growth strategy, GB has analyzed potential acquisition targets including Heavenly Donuts (HD), a growing doughnut producer with both US and international presence. HD operates under franchising model too with one difference – GB franchises restaurants, whereas HD franchises areas or regions where a franchisee is required to open a certain number of stores.

GB's CEO has hired us to advise him on whether or not they should acquire HD.

<u>Question 1:</u>
Interviewer: What areas would you want to explore to determine if GB should acquire HD?

Answer: A reasonable structure may include the following:

- Value of HD (donut market - size, growth; HD's market position – market share, growth; HD profitability, competition)

- Synergies/Strategic Fit (rev synergies – cross sell products, open new stores; cost synergies – sourcing inputs (COGS), combining overhead (SG&A), marketing)

- Fit/Implications (acquisition cost, cultural fit between management and employees, GB's ability to do post-merger integration)

Question 2:

Interviewer: Let's think about potential synergies that could be achieved by acquiring HD

Present Exhibit to candidate:

Stores	GB	HD
Total	5,000	1,020
North America	3,500	1,000
Europe	1,000	20
Asia	400	0
Other	100	0
Annual growth in stores	10%	15%
Financials	GB	HD
Total Store Sales	$5,500M	$700M
Parent company revenues	$1,900M	$200M
Key expenses (% of sales)		
Cost of Sales*	51%	40%
Restaurant operating costs	24%	26%
Restaurant property & equipment costs	4.6%	8.5%
Corporate general & administrative costs	8%	15%
Profit as % of Sales	6.3%	4.9%
Sales/Store	$1.1M	$0.7M
Industry Average	$0.9M	$0.8M

*Variable costs, mostly food costs

Interviewer: what potential synergies do you see?

Candidate: *Revenue*: open HD stores abroad (skills), cross-sell products (but possible cannibalization), transfer GB's skills in finding good store locations to HD, provide investment capital to HD to grow faster, group/package products and sell as combo

Cost: reduce COGS (inputs) through bargaining power and consolidation, combine overhead (SG&A), transfer skills related to property cost management

Question 3:

Interviewer: We think that with synergies it should be possible to double HD's US market share in the next 5 years. We also think that GB's access to capital will allow it to expand the # of HD stores by 2.5X. If these goals can be attained, what will be the resulting sales per store? You should assume:

- Doughnut consumption/capita in the US is $10/year today

Provide if asked:
- Doughnut consumption is projected to double in 5 years.
- Assume US population is 300M

(Candidate sets up table to do math calculations)

Candidate:
- Today's market share is $700M / $3B = **25% approximately**
- Expected US market in 5 years is $20/person *300M = **$6B**
- IF HD doubles their market share, they will have 50% market share, so their sales will be 50%*$6B = **$3B**
- They will also have 2.5*1000 stores = **2500 stores**
- So, their sales/store = $3B / 2500 = **$1.2M**

[A good observation is that this is a realistic growth target, because this requires store sales to less than double, since we already provided that per-person consumption of donuts will double]

Question 4:

Interviewer: One synergy to focus on is the idea of selling donuts in GB stores. How would you assess the impact of this move on overall profitability?

Candidate: I need to calculate the incremental profit from this move. I should:
- Calculate incremental revenues from selling donuts in GB stores (how many, at what price, etc.)
- Calculate incremental costs (additional staff, training, marketing, distribution)
- Additional store investment (extra space, new equipment, reconfiguring)

[A good answer will also include cannibalization – selling donuts might decrease sales of existing burger products]

Question 5:

Interviewer: What will be the incremental profit per store if we think we are going to sell 50,000 donuts/store at a price of $2/donut at a 60% margin with a cannibalization rate of 10% of GB's sales? Cannibalization rate = % of GB products we think will not be sold because they will be displaced by donuts.

Info to give when asked:
Current units of GB (burgers) sold per store: 300,000
Sales price/unit: $3
Margin: 50%

- Donut sales will bring in an additional **$60,000 in profit/store** ($2 price*50,000*60% margin)
- Cannibalization loss will be **$45,000** ($3*300,000*50%*10% cannibalization)

So, this will mean **$15,000 incremental profit/store**

41. Quentin Tarantino (McKinsey Mock, TMT, New Product, Quantitative)

Situation:

Your client received a call last night and was given the opportunity to make a bid for the rights to Quentin Tarantino's next movie. She has 24 hours to make a bid. How much should your client bid?

Do not disclose the following unless asked.

- Objective: 40% return threshold
- Description of film: low budget film, no famous actors

Question 1:

Interviewer: What do you think drives box office success?

Candidate should *brainstorm a list. Pause for a minute and come up with a few high level buckets, then go into subcategories (organized brainstorming instead of a "data dump"; try to be MECE). Possible answers include but not limited to:*

- Actor: famous actor
- Type of movie: special effects / 3D
- Studio: marketing, distribution
- Timing: seasonal effects, other movies to be released at same time frame

Many times it is good to have 1-2 out of the box brainstorms to show you are able to think from a nontraditional perspective. For example: positive could be special partnerships with advertisers that can further bring in publicity, negative could be if the movie is on a controversial topic or has explicit content.

Question 2:

Interviewer: How would you estimate film studio profits?

Candidate: By looking at the average of his past movie releases.

Interviewer: How else?

Candidate: By calculating (estimating) revenues and costs.

Interviewer: Ok, let's walk through that. What information would you need?

Have the candidate ask for information needed to calculate revenues and costs. Do not disclose data unless asked for it.

Box Office Revenue:

- # theatres: 2,000
- # shows: 5/week
- Capacity: 500 seats/show
- Occupancy: 50%
- Cost per ticket: $10
- Length of showing: 10 weeks

Costs:

- Film costs: $25M
- Marketing: $25M
- Distribution cost: 50% of box office revenue

Candidate: Box office revenue per movie: 2,000 theaters * 5 shows/week * 10 weeks * 500 seats/show * **.5** occupancy * $10/ticket = **$250M**

Costs: $25M film + $25M marketing + (0.5* $250M) distribution **= $175M**

Profit: Revenues – Costs = $250M - $175M = **$75M**

Question 3:

Interviewer: What are some additional sources of revenue?

Candidate: *Brainstorm, including the following:*

- DVD sales
- Merchandising
- Royalties
    - Video rentals (Netflix, Amazon prime)
    - Video OnDemand (cable companies, airlines)
    - Movie channels (HBO, Showtime)

Interviewer: Ok, let's incorporate that into our previous calculation. Assume profits from DVD sales and royalties are $25M and profits from merchandising are $25M.

Candidate: Ok so that would mean…

Total profits: $75M + $25M + $25M = **$125M**

Total bid: $125/1.4 = **$90M**

Note that the 1.4 comes from the 40% return threshold (objective).

Question 4:

Interviewer: What is your final recommendation for our client?

Note that the candidate should address the total bid (the original question). Final recommendation should be succinct but include a summarizing statement, key points to support it, and risks and next steps. Example statements are given but they do not necessarily need to be exactly this.

Candidate (Summarizing statement): I would recommend that she bid up to $90M for the movie.

Candidate (Support/Findings): First, we know that the movie will be low-budget with no big-name actors. Second, given our estimates of revenues from movie tickets sales and additional revenue from merchandising, royalties, DVD sales less the cost of the movie, we would see total profits of $125M. Targeting a 40% return, we would bid $90M.

Candidate (Risks/Next Step): However, a major risk is that movies often run over-budget, and given Quentin's past track record, the probability of this may be higher than normal. Also, we need to think about what other movies could be direct competition to Quentin's movie at the same release time. We should also consider who else may be bidding for this movie and what their risk and behavior profiles are. Next steps would be to work through these and other externalities to iterate on the bid within the 24-hour period.

42. Vitamin Universe (McKinsey Mock, CPG/Retail, M&A, Balanced)

Situation:
A private equity company has approached McKinsey to analyze whether to buy Vitamin Universe. Vitamin Universe has a chain of over 1,000 stores across shopping malls all over the country. They focus on selling vitamins, minerals, and nutrition, diet and herb supplements. It also focuses on food products, nutrition and diet drinks for sports and fitness enthusiasts.

Question 2:
Interviewer: What factors do you think our client should consider when determining when analyzing whether to buy Vitamin Universe?

Candidate should take a moment to put together a structure. Example structure:

- Market: size, share, growth, trends, customers, competition, cyclicality
- Company: core competencies, product mix, distribution/channel, management team
- Financials: revenue, cost, profitability, acquisition price, growth, exit strategy
- Other: synergy/fit within PE portfolio, risks & challenges.

Question 2:
Interviewer: Good. So, can you tell me who the main competitors for Vitamin Universe would be?

Candidate should take a moment to structure his/her answer instead of coming up with a random list.

Candidate: I see competition falling into 3 major buckets:

- Direct brick and mortar competitors such as specialty stores like BNC and Vitamin World who essentially have the same business operating model
- Indirect brick and mortar competitors who sell similar products such as grocery stores, general retailers, and drug stores
- Pure-play online and e-commerce businesses

Interviewer: That is a good list. So what would be some drivers for market growth in this industry?

This is another brainstorming question. The key is to be structured and then go deep with examples within each MECE bucket.

Candidate: I see 3 main drivers for growth and potentially a 4th.

- Economic: Supply & Demand
  - Raw materials (availability, pricing)
  - Population: demographic shifts particularly in prenatal/young kids and senior citizens
- Health Trends
  - Doctors/clinics/health journals
  - Media and cultural fads
  - Government policies, health campaigns
- Competition
  - Market saturation
  - Innovation and R&D
- Others: education, awareness

Question 3:
Interviewer: Okay. So, what would be some good ways to measure health trends?

Yet another brainstorming question. Interviewer should keep asking "what else?" until candidate has hit *major points below, as well as one or two more creative answers.*

Candidate: The key measures that come to mind are:

- Historical sales numbers for different types of vitamins and nutrition supplements
- Market survey and research
- Hospitals, physicians, nutritionist surveys and journals
- Gym memberships

Question 4:

Interviewer: Okay, shifting gears now. I would like to understand customer profitability. Here's what we know. 1/4 of men aged 18-34 are heavy users of supplements and spend $50/month on average. Currently 30% of these men shop at Vitamin Universe. What would be the effect on profitability of a 5% increase of share of this segment? Assume a profit margin of 50%.

Candidate: I'd like to start by finding the total number of men that are heavy users.

- I know there are about 320M people in the US.
- The male/female split is about 50/50 so there are about 160M men in the US.
- Our age range of 18-34 covers 16 years of an average life span of 80.
- This means approximately 1/5 men fall into this age bracket, bringing us to 32M young men in the US.
- Only 1/4 of these are the heavy users, which is 8M. Of these 8M heavy users, Vitamin Universe has a 30% market share which implies 2.4M customers

(320M people in the US)(50% men)(16 years in segment/80 years in life)(1/4 of men in segment)(30% market share) = (160M)(1/5)(1/4)(3/10) = **2.4M heavy users**

- A 5% increase in this segment would mean bringing in 120,000 new customers (2.4M*5%) to Vitamin Universe.
- Knowing the profit margin is 50%, the profitability of each heavy user is $25/mo ($50/mo*50%).
- Therefore, a 5% increase in these customers would bring in an additional 120,000 * $25/mo = $3M in profits per month.
- So, in a year, we're looking at a **$36M** ($3M * 12 months/year) increase in profits.
- Achieving this increase in market share would be very profitable for Vitamin Universe but it depends how we would achieve this 5% growth in the customer segment (aka the cost of customer acquisition).

Question 5:

Interviewer: The team has completed additional research that indicates the cost of acquiring new customers can sometimes be quite high. How can we increase our margins in order to justify a high cost of acquisition?

Candidate: There are two levers when it comes to profit margins, the revenue side and the cost side. In terms of revenue, we can certainly look at ways to either increase price and/or increase quantities of products sold. Profit margins probably vary a lot by product as we have hundreds/thousands being offered, so perhaps we can offer promotions and look for ways to sell more of our higher margin products (improve product mix). Finally, we might want to consider looking into opening new stores in high traffic locations of our target demographic.

In terms of cost reduction, we can consider the following:

- Capital/Manufacturing: renegotiate real estate leases, close down cash-flow negative stores
- Labor: reduce sales force and/or manufacturing personnel
- Distribution/Channels: possible consolidation

- COGS: reduce cost of procurement
- Marketing/Advertising: reduce campaigns or ads.

Question 5:

Interviewer: Do you think the threat of mass retailers such as Wal-Mart is substantial enough to push out specialty stores such as Vitamin Universe?

Candidate: When it comes to competition from mass retailers `like Wal-Mart, you really need to think about the value proposition that a store like Vitamin Universe offers. The main ways to compete in retail are through: price, product offerings, convenience, customer service, and cost control.

I do believe there are certain mass appeal products, such as basic vitamins and sports drinks, for which Wal-Mart will be able to offer better prices, have better overall cost control, and may prove to be convenient to a shopper who is already getting other things at the SuperCenter.

However, in terms of specialty products, Vitamin Universe should be able to maintain a competitive advantage. Wal-Mart has limited shelf space for vitamins and health-related products. By offering a huge selection of both basic and specialty products, along with a dedicated and knowledgeable sales force, Vitamin Universe is going to win out in the specialty space and doesn't face a real threat of being pushed out by mass retailers.

Question 6:

Interviewer: Great. So, what is your final recommendation for the PE firm?

Candidate: I recommend the PE firm go forward with its purchase of Vitamin Universe. There is certainly a market for products sold by Vitamin Universe. It has healthy profit margins of 50%, and a targeted increase (of 5% growth in the "heavy users" customer segment) in market share would increase annual profits by $36M. Additionally, we have identified ways Vitamin Universe could further increase revenues and cut costs, which would allow them to justify the cost of acquisition for this customer segment.

Next steps would be to understand the acquisition price and see if that is in line with the profit potential of Vitamin Universe. I would also want to take a deeper look at the risks and challenges of maintaining/increasing market share and the threat mass retailers pose on the more "mass appeal" products in the mix.

43. Airline Reward Program (McKinsey R1, Transportation, New Product, Quantitative)

Question 5:

Our client is a major global airline considering a co-branded credit card with a major bank. They've hired McKinsey to evaluate what the effects of this program would be, and whether or not they should revise their loyalty program to incorporate the co-branded card.

Interviewer: As the airline, what are the benefits and risks you would think about when evaluating the co-branded credit card?

Candidate should be sure to structure his/her response.

Candidate:

Benefits	Risks
● Reach the bank depositors and/or credit card holders to expand loyalty members ● Increased customer loyalty leads to increased revenues; customers will fly the airline more often to obtain more points ● Possible revenue-sharing opportunities with credit card company (i.e. 1% of interest payments, etc)	● Counterparty risk: one bank ● Large overlap between current loyalty customers and bank customers ● Mispricing of miles sold to credit-card company ● Who's going to cover marketing costs?

Phase 1: Pricing

Interviewer: Great. The way the program would be structured is the bank would purchase batches of miles from the airline to give away as rewards for purchases & promotions. How would you think about the price of a mile in this situation?

Candidate: Well, we could think about the price of a ticket, how many miles/points it takes to 'buy' a ticket, and use those to calculate the value of a mile.

Interviewer: Great. So, we know that the average purchase is about $50 and that a customer will make an average of 1,000 purchases per year. For every dollar purchased, a customer gains 1 point. Flights on average cost $500 dollars.

Candidate: Ok, so we know that on average, a customer will use the credit card for $50,000 ($50 * 1,000 purchases/year) in purchases, which translates into 50,000 points per year. We also know the flights cost $500 dollars each. However, we're missing one piece, namely the # of flights a customer could take per year with the 50,000 points. Do we know what the exchange rate of points to flights would be?

Interviewer: Yup, 10,000 points per flight.

Candidate: Okay, so with 50,000 points on average, a customer could redeem 5 flights. At $500 dollars each, the retail value of these 5 redemptions is $2,500. This translates into a retail value of about 5 cents per point ($2,500/$50,000). One quick clarification. I know I don't always exchange my miles at the end of every year, so do we know the probability that a customer will redeem their miles at the end of the year?

Interviewer: Yes, it's about 50%.

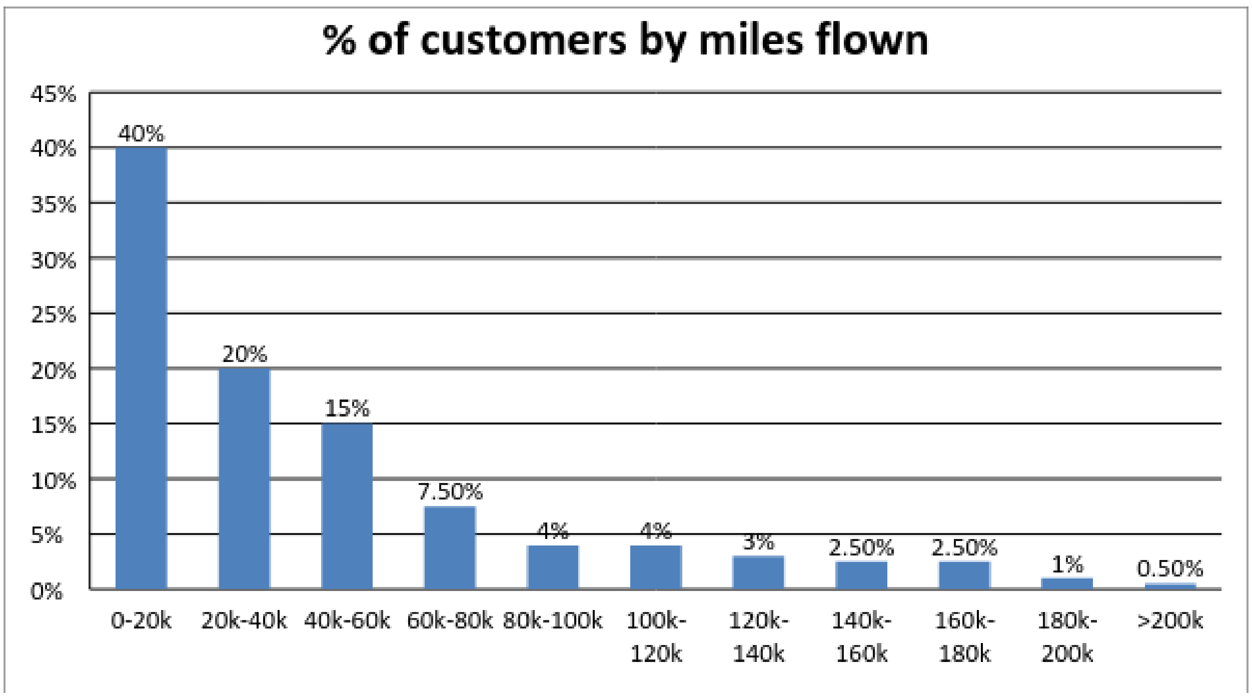
Candidate: Ok, so in expectation, a mile is worth 2.5 cents. So we would want to price the mile between 2.5-5 cents when selling it to the credit card company.

Phase 2: Frequent Flier Program

Interviewer: Great. Now let's switch gears a little. We previously talked about the airline's plan to overhaul their frequent flier mile program. Currently, the program looks like this:

Miles Range	Status	Benefits
0 – 25,000	Member	• Miles flown accrue to reward balance
25,000-50,000	Super Member	• Miles flown accrue at 25% bonus • Free upgrades when available after SAM & SDAM
50,000-100,000	Super-Awesome Member (SAM)	• Miles flown accrue at 50% bonus • Free upgrades after SDAM fliers considered • Free access to president's lounge on international flights • Free drink coupons in event of delays
>100,000	Super-Duper-Awesome Member (SDAM)	• Miles flown accrue at 75% bonus • Free upgrades when seats available • Access to president's lounge for free • Free drink coupons in event of delays

The airline is considering revising the program such that it takes 1,000 miles to gain 1 point. Also, once they reach a specific level, their points reset back to zero. Under the new point system, it will take 20 points to get to Super, 40 points to get to Super Awesome, and 60 points to get to Super Duper Awesome. Based on the airline customers, we know they fly according to this distribution:



So, can you calculate the impact on the customers in the rewards program?

Candidate: Sure, let me build a quick table for the percentage of customers that fall into each status under both the old system and the new. For the old system, I will assume that percentages are evenly distributed across the number of miles so that I can get approximate percentages. Under the new program, I am interpreting the resetting function as follows: It will take 20,000 miles to make it to Super. To get to Super-Awesome, it will take 20,000 miles + 40,000 miles = 60,000 miles, because the mile count resets to zero once the customer reaches Super. Following the same logic, to reach Super-Duper-

Awesome, it will take 120,000 miles (20,000 + 40,000 + 60,000). Knowing this, we have the new, compared to old, distribution as:

	Old System	Old Percentage	New System	New Percentage
Member	0-25,000	40%+ ¼ * 20% = **45%**	0-20,000	**40%**
Super	25,000-50,000	¾*20% + ½*15% = **22.5%**	20,000-60,000	20%+15% = **35%**
Super-Awesome	50,000-100,000	½*15% + 7.5% + 4% = **19%**	60,000-120,000	7.5%+4%+4% = **15.5%**
Super-Duper-Awesome	>100,000	100% - (45% + 22.5% + 19%) **= 13.5%**	>120,000	100% - (40% + 35% + 15.5% = **9.5%**

Interviewer: Great. So, what do you think this might mean for the airline?

Candidate: They're going to have to handle this carefully since some of their most frequently flying members are losing their status. However, they have made it easier to get to the Super level compared to the old system.

Interviewer: Exactly. So how might the airline go about communicating something like this?

Candidate: They want to promote the fact that they are making it easier to gain perks on their airline. But they don't want to lose their high-volume customers, as they may be a big contributor to profitability compared to the lower volume flyers. In order to do this, I think they need to consider revising the perks to make the initial change easier. Maybe they change the bonus percentages at which miles flown accrue, making things more attractive for the frequent fliers with higher status (so instead of 25%, 50%, 75%, maybe 33%, 67% and 80%). Another option might be to grandfather in current customers so that they are in whichever status is higher – current vs. original.

As far as the media used, they should definitely use e-mail, maybe personal mailing, calls to their high-volume customers, incorporate it into the pre-flight safety video, etc.

Interviewer: Great. So, you're sitting down with the CEO, what do you tell her?

Candidate: Link the rewards program to the segment of customers that are the most profitable (as this may not always be the highest volume customers based on the amount of perks they are receiving already).

44. Art Museum (McKinsey R1, Other, Profitability, Balanced)

Stem: Our client is an art museum in New York City that specializes in 17th and 18th century European art. They usually put $150K into a fund every year, with money in the fund going towards various future expenses. Last year, revenues decreased, and the client could only put 50% of what they normally put into the fund. They have asked us to figure out how to turn this around.

Interviewer: What are some potential reasons for this decrease?

Candidate: *Lay out revenue sources: membership fees, admission fees, sponsorships/grants*

Possible sources of revenue decrease:

- Membership fees: lapsed renewals, reduced number of new members
- Admission fees: lower visitor volume, increased competition from other museums
- Sponsorships/grants: budget crunches in sponsor organizations

Interviewer: If we lower the membership fee by 20%, what is the increase in membership volume needed to bring the fund's annual deposit back to its original levels?

Assume, as a simplification, that all revenues come from membership fees.

现在75k revenue, amount of $to fund / ppl=current # of members

- Current membership fee is $150/year
- 25% of membership fee is used to cover costs *(Candidate should deduce that this means that 75% of each membership fee is put into the fund)*

Candidate: With current membership fee ($150/yr)

- Current number of members = (50% x 150K) / (75% x 150) = 667
- With future membership fee = 80% x $150/yr = $120/yr
- Amount per member entering fund = 75% x $120/yr = $90
  Number of members required for annual deposit of $150K into fund = 150K/90 = 1,667
- Therefore, required increase in membership = 1,667 – 667 = 1,000
- 1,000 new members are needed for the membership fee reduction to be sufficient in helping us achieve our goal.

Interviewer: What do you think of that?

Candidate: It is hard to imagine that a mere 20% drop in membership price will cause member numbers to more than double. This strategy cannot stand alone.

Interviewer: What are the pros and cons of this strategy?

Candidate:

- Pros: Low cost strategy; if successful in increasing membership strength, will lead to sustainable revenue increases (recurring renewal fees, other complementary revenue streams like sales of special tickets or merchandise to members and discounted rates driving volume sales etc.)
- Cons: Risky; if demand for memberships is price-inelastic, it can backfire horribly. Also, certain beneficiaries/donors of the museum may be strongly opposed to a low-cost strategy.

Interviewer: What other strategies can the museum employ?

Candidate: Revisit original structure. Suggested answer: revisit each alternative revenue source in a systematic fashion, and lay out ways to boost revenue and therefore annual deposits into that fund

Membership fees

- Investigate real source of reduced membership fees.
- Are new members' joining rate declining? If so, boost advertising for new members (and increase perks which are low-cost), without necessarily lowering fees.
- Are existing members letting their memberships lapse? Release early bird renewal specials, to encourage more renewals.

Admission fees

- Analyze visitor patterns, and employ creative promotion and price discrimination strategies (e.g. weekend special rates, family specials, co-promotions with other museums or nearby entertainment/restaurant spots)
- Boost other revenues associated with admission, such as food and merchandise sales on museum premises. Improve gift shop and cafeteria operations to attract more dollars.

Sponsorships/grants

- Court sponsors more aggressively, and persuade them that 17th/18th century European art is the right artistic cause to invest in for the betterment of New York cultural life!

Other potential sources

- Rent out museum grounds after-hours for private parties/functions
- Loan art pieces to other museums

Interviewer: What is your final recommendation?

Candidate should present a short and concise answer based on their findings.

45. Baby Food (McKinsey R1, CPG/Retail, New Product, Balanced)

Stem

Our client is BabyInc, a global producer of baby food.

The overall market is segmented into Premium, Mid-line, and Value (high, middle, low). Our client competes in the premium and mid-line product categories. The baby food products consist of mashed up fruits and vegetables. The market has two players – BabyInc and YumYum, and BabyInc controls 90% of the market. However, last year profitability slipped, as YumYum and generic brands have been aggressively entering and competing in the Value segment. The CEO has asked us if it's a good idea to launch a BabyInc value-targeted product, and if this can reverse the profitability decline.

Structure (possible):

- **Market Dynamics of Baby Foods**
  - Competition by segments
    Which firms compete in the high/middle/low value groups?
    What differentiates these products to customers?
  - Growth Opportunities
    What does future market look like? Growth from additional children being born? Will baby food replace formula or another product?
- **Profitability of value targeted product for Baby Inc**
  - Revenue
  - Costs
- **Risks of adding value product and other opportunities**
  - Do we risk cannibalizing our current products by introducing a lower value product?
  - Will a profitable value product necessarily reverse the profitability decline?
  - Are there other ways we can increase the profitability?

Present exhibit to Candidate

QUESTION 1: What does this tell you – are you excited about the possibility of launching into the Value segment?

Industry overview

Revenue ($M)	3 years ago	2 yrs ago	1 yr ago
Premium	550	650	800
Midline	600	550	500
Value	480	560	650
Price ($)	3 years ago	2 yrs ago	1 yr ago
Premium	$2.25	$3	$4
Midline	$1.75	$2.40	$2.50
Value	$1.30	$1.30	$1.30
Profit ($M)	3 years ago	2 yrs ago	1 yr ago
Premium	200M	250M	270M
Midline	165M	150M	135M
Value	100M	100M	100M

Key takeaway: Revenue and market size are increasing, but profits are flat. Therefore, there's a cost issue, as costs are increasing.

Possible answers: No, market players are fighting over fixed profit pool. Better answer: Does BabyInc have a superior cost position to other market players? If so, they can compete effectively.

QUESTION 2: OK, can you brainstorm what the major costs of this business are?

FC
- Advertising
- SG&A
- PP&E – factory, machinery

VC
- Food inputs
- Jars
- Labor
- Inventory / Warehousing
- Distribution

QUESTION 3: Our client, the CEO, has promised the board that she will be able to capture 30% of the value segment this year (in units). How many units will need to be sold to hit this goal? Our client also believes that a BabyInc value-focused product could be priced at $1.50.

If candidate asks: Value segment will grow 8% from last year to this year.

650*1.08 = $702M
$702M/$1.50 price = 468M units.

30% of 468M = 140M units.

[A good takeaway should be a comment on the difficulty of this goal and how exactly Baby Inc will achieve it]

QUESTION 4: What percentage increase in total units shipped (across all 3 segments) will BabyInc see, if it hits its 30% of value segment target? Assume that units of premium and midline shipped do not change year over year.

Last year: Units of Premium + Midline = X, units of Value = 0.
This year: Units of Premium + Midline = X, units of Value = 140M (from previous question).

You can calculate units of premium and midline from:

$800M / $4 = 200M * 90% share = 180M *(90% market share given in stem)*

$500M / $2.50 = 200M * 90% share = 180M

Increase = (140+360) /360 = 38%.

Takeaway: Huge increase in capacity, unlikely to be able to meet using existing production facilities. Unlikely target.

Recommendation: Any well-justified recommendation is fine. However, it is important that the recommendation answers **both** whether or not the value targeted product should be launched **and** whether or not that will reverse the profitability decline. A discussion of risks, including cannibalization is also important.

46. Carpet Manufacturer (McKinsey R1, Industrial Goods, Operations, Quantitative)

Stem: Your client is a carpet manufacturer that sells to both commercial and residential customers. Your current production process is as follows:

> Buy dyed/pre-colored yarn → Load yarn spools in a specific order onto machine → Weave yarn into carpet → Run carpet through carpet backing machine → Cut, roll, and store the finished carpet

You are considering investing in a new technology that will cost $25M (initial investment). With the new technology, your production process will change to the following:

> Buy un-dyed yarn → Spool yarn → Weave yarn into carpet → Die carpet through a printing process, much like an inkjet printer → Cut, roll, and store the finished carpet

The client wants to know if he should invest in the new technology.

Candidate: If I may clarify, will the carpet made with the new technology be different in any way from the current product?

Interviewer: We can assume that the new carpet will have a better texture and can therefore be sold at a higher price point. Now, how would you expect this new technology and process to impact our costs?

Candidate:

- Yarn costs likely decrease because you would buy un-dyed yarn
- There is a new cost for ink/dying
- Required labor decreases since spools no longer need to be loaded by color
- New machine will have different maintenance requirements
- Electricity costs may increase
- Training costs for new machine
- Warehousing costs decrease from ability to quickly make to order

Interviewer: OK, not a bad list, so what would you take into account to decide if this was a good investment?

Candidate: I'd like to dig a little deeper on the costs and try to actually quantify the potential cost savings. Additionally, we discussed that these could potentially be sold at a higher price point. So, I would like to look at incremental revenues as well to get a good idea of how this will impact the bottom line.

Interviewer: We have aggregated the changes in costs, and it turns out that we will save 25 cents per finished yard of carpet. How would you value the investment?

Give the following information when asked.

- 10M yards of finished carpet is produced per year
- The new machine has a 10-year useful life

Candidate: 10M yards * .25 savings ➔ $2.5M savings per year.

$2.5M per year * 10 years = $25M savings over the lifetime of the machine.

Conveniently, that's exactly what the new machine costs. However, there are some things this number doesn't take into account. The time value of money for one: so, the price of the machine is not justified by these savings alone, at least in today's dollars. Additionally, I would imagine the aggregated cost savings number you gave me addresses variable costs, so there might be some other things we're missing like machine maintenance and training. I'm still curious about what we might see in incremental revenues.

Interviewer: So, what would you have to believe in order to justify this investment?

Candidate: That in addition to these cost savings, we would also be able to increase revenues somehow, whether that's by selling at a higher price, winning market share from competitors, serving new markets. We would be able to be more flexible in our offerings, since we can dye the yarn on demand, instead of forecasting which pattern will be the most successful.

Interviewer: Turns out we can sell the new, higher quality carpet for $20/yard, which is a 25% premium over the standard carpet. We would still be able to produce and sell the standard carpet as well. What types of things would you think about in this scenario?

Candidate: Knowing that we could sell both means we can still potentially reach new customers, but that there could also be some cannibalization of old/current customers. We were previously at 10M yards of the standard carpet. How would our capacity increase and what would the split be between premium and standard?

Interviewer: Let me give you some numbers to help you out with that. We expect that 30% of our existing customers would upgrade to the new carpet. Also, there is a 70M yard/year market for higher quality carpet that we couldn't sell to previously. We estimate we could capture 5% of that market. What would the incremental revenue be given we start selling the high-quality carpet?

Candidate: Standard carpet price must be $16/yard (if the higher quality is sold at a 25% premium of $20/yard).

- With current production of 10M yards, assuming we can sell all that is produced, new production levels will be → 30% are cannibalized → 7M yards of the standard carpet
- New sales and market capture (high quality): 3M yards moved from standard + (5% of 70M) of new market = 6.5M yards of high quality
- Old revenue: 10M*16 = $160M
- New revenue: 7M*16 + 6.5M*20 = 112M + 130M = $242M
- Incremental revenue: 242M – 160M = **$82M**

Interviewer: Given this new information, what would you say about the NET incremental revenue from this machine?

When asked, the following information can be provided.

- The cost per yard of the original carpet was $10/yard

Candidate should recall that the new carpet saves $0.25 per yard and is therefore $9.75/yard.

Candidate: We are selling 3.5M yards more than before so there would be an additional production cost. This would be the difference between the production cost of 10M yards of standard carpet, and 7M standard and 6.5M new carpet.

- Old production costs: 10M * $10/yard = 100M
- New production costs:
    - Standard carpet: 7M * $10/yard = 70M
    - New carpet: 6.5M * 9.75/yard = (roughly) 65M – 1.6M = ~63M (exactly 63.36)
    - Total new costs: 133M
- Net incremental costs: 133M – 100M = 33M
- Net Incremental Revenue: 82M – 33M = **$49M per year**

Interviewer: OK, so what is your recommendation to our client?

Candidate: I would suggest going forward with the acquisition of the new machine. By tapping into a new high-end market, the client can make an additional $49M in net revenue per year with an initial investment of only $25M. To ensure the reliability of these numbers I would further analyze our market capture and cannibalization assumptions, as well as look into the expected maintenance costs, and the potential variability and cost trends for the ink itself.

47. Education in Burma (McKinsey R1, Other, Growth Strategy, Quantitative)

Interviewer: Our client is the minister of education in Burma (Myanmar). School attendance rates have decreased approximately 10% over the past five years and the minister has been charged with reversing this trend. Through a combination of public funds, grants, and donations, the education budget has increased by an additional 150MM MMK (local currency) this year. The minister has hired McKinsey to help him allocate these funds to improve both the attendance and quality of the country's schools. What are some areas you would first explore to determine why attendance rates have been decreasing?

Note: Candidate should develop a MECE structure. One possible structure is as follows:

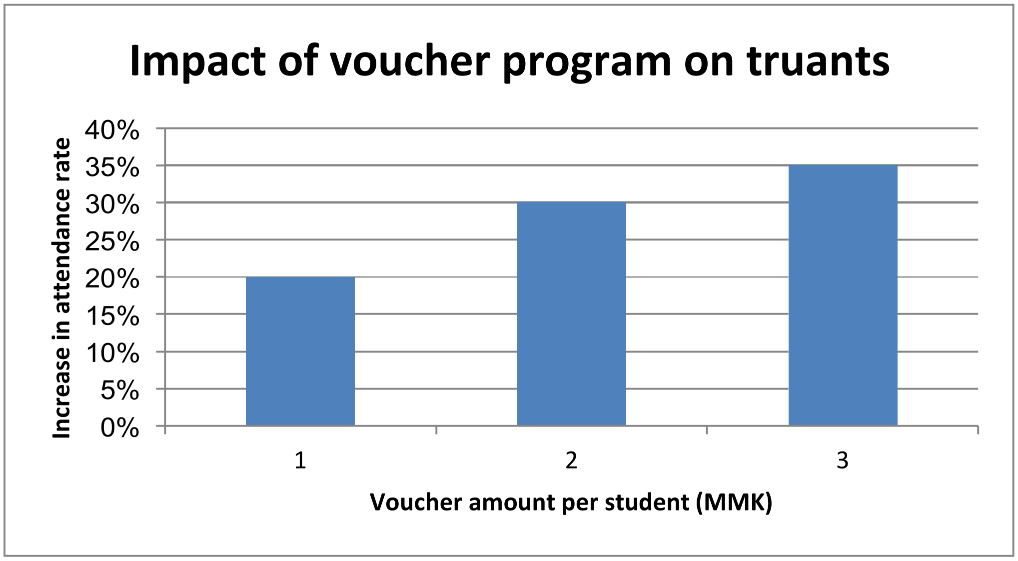
1) *Customer / Demographics*
    a. *% of population that is of school age (possible that overall school-age population is decreasing)*
    b. *Child employment rates (families could be opting to have their children work rather than attend school)*
    c. *Crime rates (possible that crime/gang prevalence has increased)*
    d. *Drug usage rates*
2) *Infrastructure*
    a. *Transportation issues (there could be a lack of access to schools)*
    b. *# of schools (school closures could prevent access)*
    c. *Teacher/administration quality*
3) *School conditions*
    a. *Number and quality of teachers*
    b. *Student/teacher ratio*
    c. *Extracurricular and tutoring options*
    d. *School lunch offerings*

Interviewer: That's a great list of ideas. You touched on an interesting point about child employment rates. In fact, we've learned that child employment has increased over the past few years due to higher overall unemployment rates. Families are in tough situations and therefore need their children to contribute to the household incomes. One idea we have discussed in problem solving is to incentivize families with a cash voucher per student which would be sent to homes at the end of the month if a student reaches an attendance goal. We'd like for you to assess whether or not this is a good idea. First, let me give me you some important information.

Population of school aged children: 10MM

Current population regularly attending school: 6MM
Assume that students are in school an average of 10 months each year.

We tested the voucher system on a sample set of schools and found the following results:



Candidate: I'd like to calculate the total cost of each voucher program as well as the overall impact on attendance rate.

<u>Impact on overall attendance rate and total cost</u>

Current attendance rate: 6/10 = 60%

$1 voucher calculations:
Additional students attending: 20% × 4MM = 0.8M
New attendance rate: 6.8/10 = 68% (8% increase)
Total cost = 6.8MM * $1 * 10 months = $68MM

$2 voucher calculations:

Additional students attending: 30% × 4MM = 1.2M
New attendance rate: 7.2/10 = 72% (12% increase)
Total cost = 7.2MM * $2 * 10 months = $144MM

$3 voucher calculations:

Additional students attending: 35% × 4MM = 1.4M
New attendance rate: 7.4/10 = 74% (14% increase)
Total cost = 7.4MM * $3 * 10 months = $222MM

Overall, the $1 voucher seems to have the best ROI (can argue intuitively based on data or calculate cost per incremental student = $85/student per 10-month period, lowest of all three options)

There are definite pros and cons to each of these programs. The pros are that attendance rates increase significantly – this could reverse the trend moving forward.

Cons: Difficult to implement and distribute funds, long-term sustainability is questionable, total cost is quite high over 10-month period, quality of education is not necessarily improved, many students being paid are already attending school

So far, I would not recommend the $2 or $3 voucher as they are very expensive relative to the budget. I would consider the $1 voucher, but would do so in combination with other investments.

Interviewer: Got it, OK. Now that you mentioned it, what other additional areas would you consider for potential investments?

Candidate: I would definitely make investments at the actual school level. Here's a way we can think about this list

Note: candidate should have a MECE list of investments. One possible solution is below, however, there are many other possibilities.

1) Classroom related
    a. Teacher training
    b. Teacher salary increases or overtime for outreach
    c. Additional school supplies or equipment (SMART boards, projectors, etc)
    d. Books
2) Non-classroom related related
    a. Outreach programs
    b. Logistics (bus services for children)
    c. Meal plans for schools (important for children who live in poverty)

Interviewer: Great list. We actually identified a few of the same investments and did a pilot in a similar sample size of schools. Here's what we found in terms of attendance rates.

Making a one-time investment to schools of $10 per child who currently attends school results in a 50% decrease in the truant population. You can assume that the proportion of truants/non-truants holds at the school level.

What do you think about this plan relative to the cash voucher program?

Candidate: Let's do a few calculations first to determine what the impact of this program will be overall.

Cost of program = 6MM * $10 = $60MM

Current number of truant students = 4MM
Increase in students attending from investment = 4MM × 50% = 2MM
Total # of students attending = 2MM + 6MM = 8MM
New attendance rate = 8/10 = 80%

Benefit = 80% - 60% = 20% increase

It looks like this program is definitely better than the cash voucher system. With a smaller overall investment ($60M vs $68M), you get a 20% increase in student attendance as opposed to an 8% increase with the $1 voucher system. In addition, since you are directly investing in schools and infrastructure, you will likely get a higher quality of education. I would definitely recommend going with this investment program instead of the cash voucher. Moving forward, I would look into other types of investments I could make with the remaining $70MM in budget. Examples relate to my initial list, such as logistics, or perhaps co-op program where students can earn household income while attending school.

Interviewer: Great. The client just walked in, how would you summarize your recommendation?

48. French Groceries (McKinsey R1, CPG/Retail, Competitive Response, Quantitative)

Interviewer: Our client is a large grocery store chain owner in France. The chain operates 150 stores across France, through two types facilities, large grocery stores and small convenience stores. The client's annual revenues are €45B a year, 85% of which is through large grocery stores. Our client, Jean-Paul LeTrouc has indicated that recently, sales have been declining. Jean-Paul believes that online grocery sales may be one cause for the decline in sales, and has asked McKinsey to look into it.

Interviewer: What are some key areas for Jean-Paul to consider when thinking about an entry into the online grocery market?

Possible structure:

External:

- Size of French grocery market
- Size of online grocery market
- Online penetration trends
- Competition

Internal:

- Incremental revenues
- Incremental costs

Candidate: Do we have any information on the size of the market for French groceries, both through traditional channels and online?

Present the candidate with the following information.

Online grocery penetration rate for select countries

	Population (In Millions)	Online Grocery Sales / Year (in Millions of Euro)	Penetration Rate (% of groceries bought online)
U.K.	60	6,000	4%
Spain	50	750	1%
Sweden	9	175	1%
France	65	?	?

Candidate: I'd like to calculate the size of the online market for France. To do that, I'm going to calculate the per capita consumption, and then estimate a penetration rate for France.

Per Capita Consumption:

UK: 6,000/60 = 100 €/Year/Person

Spain: 750/50 = 15 €/Year/Person

Sweden: 175/9 = ~20 €/Year/Person

It looks like the UK is spending much more per capita. Do we have an estimate for where France's per capita consumption will land?

Interviewer: We know that it will be less than the UK, but more than Spain / Sweden. Feel free to estimate it given your knowledge of the countries.

Candidate: Ok. If we double that of Spain, we get a per capita consumption of 30 €/Year/Person (any reasonable esimtate is alright). Multiplying that by France's population of 65M, we get an annual market size of € 1,950M.

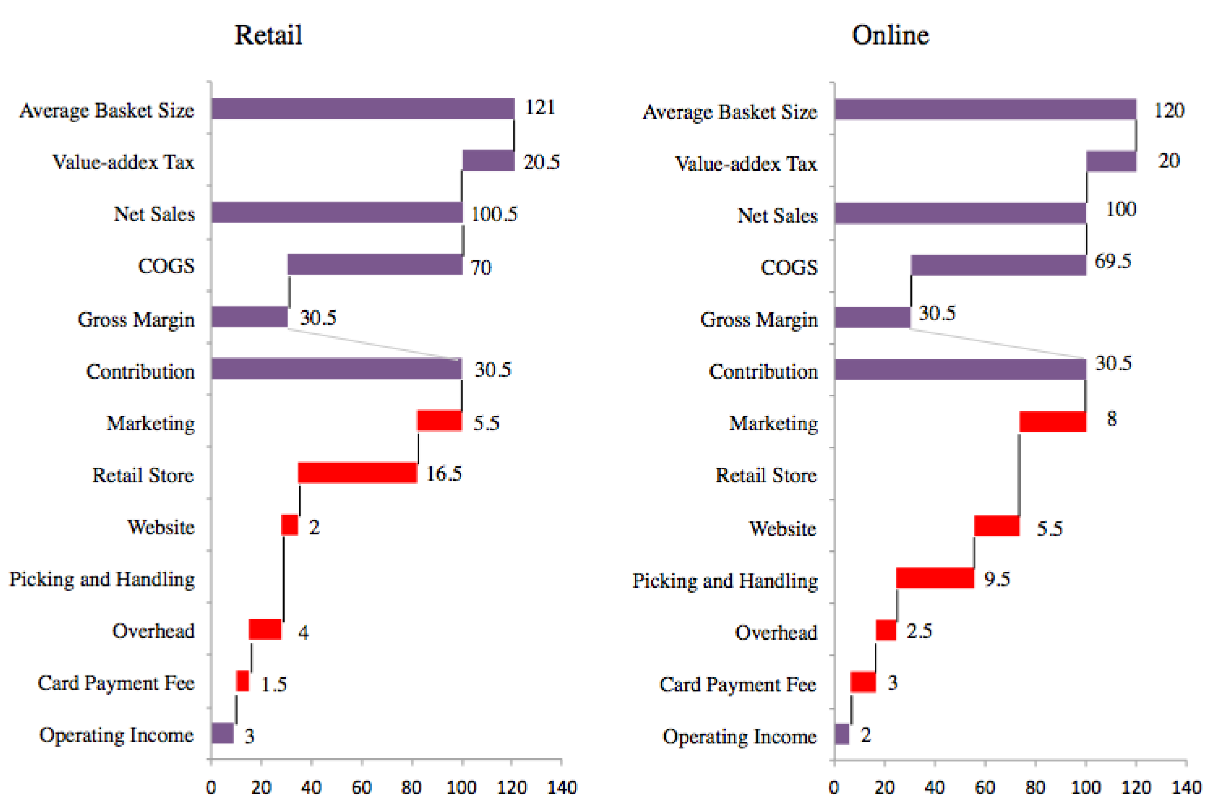
Interviewer: Great. Do you think our client should enter the market?

Candidate: Based on the market information alone, I would say yes. Even at a conservative estimate for per-capita consumption, there is €2B in top line revenue for online sales. I would also imagine that the penetration rate will increase as more consumers get comfortable with making purchases online, driving up per capita consumption. As a next step, I would want to understand the economics of the decision to determine if we are more or less profitable in the online space.

Interviewer: Our client agrees and asked to determine the difference in profit between the retail-only model and a retail and online model.

Present the candidate with the following information:

Retail versus online grocery models in France (in Euros)



Candidate should point out that contribution is roughly 25% of the average basket size. Candidate should also make note of the differences in contribution makeup, and note that the retail store operating income (consider this profit) is €3, and the online store operating income is €2.

Interviewer: Based on the given information, will our client be more profitable if they move online?

Candidate: To determine an overall profit impact, I would want to understand what share of the €1950M our client is going to take, and how much of that is new sales versus cannibalization of existing sales.

Interviewer: Let's assume that our client is going to take the entire online market, and that 70% of the online sales are taken from retail stores, and 30% of them are new sales.

Candidate:

To determine if the client should enter the market, I'll look at the net impact to operating income from changes in retail and online sales mix.

- Retail sales:
    - Decline by €2B * 70% = €1.4B
    - Operating margin = 3/120 = 2.5%
    - Operating income decline by €1.4B * 2.5% = €35M
- Online sales:
    - Increase by €2B
    - Operating margin = 2/120 = 1.66%
    - Operating income increase by €2B * 1.66% = €33M

The net effect on income is €33M - €35M = - €2M.

Interviewer: Ok. What are some other key areas to consider for the store to move online?

There is no right answer for this question. If the candidate says that the client may be able to close physical stores, push them and ask them if that is a good idea given that 85% of current sales come through brick and mortar stores. The candidate could discuss other ways that the cost position may improve as online sales scale. The candidate may also discuss risks associated with the online business, such as an unproven market, unwilling French consumers, or competitive threat.

There was no formal recommendation at the end of this interview.

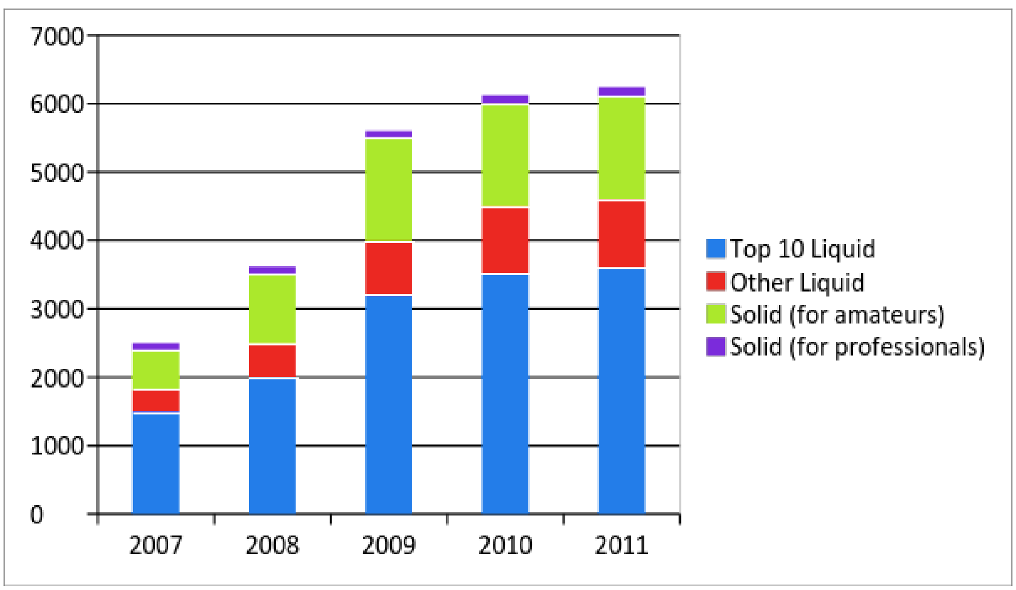
49. Golf Club Producer (McKinsey R1, Other, New Product, Quantitative)

Stem: Our client is the CEO of a family owned business called GCP, which produces golf clubs in the United States. They used to produce clubs that were easy to use, so most of their customers are beginner players. They recently received a patent for a new club that would enhance the performance of amateurs and professionals alike. Product innovation is paramount in this industry and they want help capitalizing on this development with a strong product launch.

The interviewer did not give the candidate time to come up with a structure and instead presented to chart right away.

1st phase: Analyzing the market

Interviewer*:* There are two main ways to produce clubs: liquid and solid production. GCP currently uses liquid production only, but some competitors use solid production. The chart below represents the number of golf club sets sold in each year. We have historical data from 2007 and 2008, and estimates for 2009 and the next two years. What do you see?



Give the candidate 20 seconds to look at the chart. He/she should begin to share insights. If candidate doesn't answer questions 1 and 2 below, push for it.

1) What do you think of this market?

2) Does being one of the top producers matter? Why do you think so?

Candidate: The market has been growing rapidly: more than 100% in two years, which certainly makes it attractive. The top 10 liquid producers have a huge market share, so being at the top is clearly important. I would imagine they enjoy economies of scale in production, distribution, and advertising. They are probably also better able to invest in product innovation.

2nd phase: Should we build a new plant or expand ours?

Interviewer*:* OK. I have some more information for you. We estimate demand for our new club to be 60,000 sets next year. Given the following information, do you think we should build a new, additional plant or expand the current plant? (All machines are equally durable)

You can give all information at once, rather than waiting for questions. The intent is to give all information quickly and let the candidate work with it.

Building a new, additional plant:

Initial one-time investment of $2M.

Two types of machines are available:

Machine line I: 2000 sets/month, costs $12.5M

Machine line II: 1250 sets/month, costs $8M

Restriction: Can only have total of 3 lines operating there.

Expanding the current plant:

Initial one-time investment of $2M

Two types of machines are available:

Machine line I: 1250 sets/month, costs $8M

Machine line II: 7500 sets/year, costs $5.5M

*All machines last for exactly the same time.

Candidate*:* Ok, let's compare the total costs in each case. The one-time investment is the same in either case so we can ignore it when comparing:

For building a new plant:

Machine line I produces 2,000 sets/month which is 24,000 sets/year

Machine line II produces 1,250 sets/month which is 15,000 sets/year

Since we can only have 3 total lines, in order to hit demand and produce at least 60,000 sets/year, we can either have:

a) two type I and one type II (for a total of 24k + 24k + 15k = 63k sets/year)
    i. cost of 12.5 + 12.5 + 8 = $33M
b) three type II (for a total of 24k * 3 = 72k sets/year)
    i. cost of 12.5 * 3 = $37.5M

Option a) at **$33M** is the most cost effective.

For Expanding the existing plant:

Machine line I produces 1,250 sets/month which is 15,000 sets/year

Machine line II produces 7,500 sets/year

Type I is doing twice the output at much less than twice the cost. We should use all type I machines. In order to hit target, we need 4 machines (15,000 * 4 = 60,000). This will cost **$32M** ($8M * 4).

Candidate: Costs are roughly the same (the extra million for a new plant could be offset by future capacity needs), so we need to include further considerations to decide what to do.

3rd phase: Other issues in deciding which project to pursue

Interviewer*:* Given that the calculated costs are roughly the same, what other issues would you want to analyze? What are the pros & cons of each of them? Which would you choose?

This is a brainstorm session. Keep asking "what else" to get the most out of the candidate. If candidate runs out of ideas, you can help by saying "what about … how do you think that impacts the decision?", but that clearly hurts candidate overall performance in the case.

Candidate*:*

- Management/Admin: Lower labor and G&A costs if you only have one plant
- Product quality: easier to have a standard if you only have one plant
- Distribution: might be cheaper if you can distribute from two different locations
- Event risks: insurance would be cheaper with 2 plants (diversifying event risk)
- Capacity for future: new plant has higher capacity (3k club sets per year more)
- Impact of implementation on current production capacity for other club lines
- Time to implement

4th phase: Possible problems:

Interviewer*:* So, the CEO actually decided to expand, and there are two main issues regarding the expansion project that don't allow him to sleep at night. Assuming our market estimates are 100% right, what do you think these issues are?

This is, again, a brainstorm session. If candidate is stuck, ask something like "have you ever remodeled your house? What were your main concerns?".

Candidate*:*

- Timing: We said product innovation is important and the market is quickly expanding, so it's important to launch the product on time.
- Costs: It's important to guarantee that construction costs won't raise after he decides to go for the expansion project.

Interviewer: And how might the CEO protect himself against these things?

Candidate*:* The CEO could protect himself by buying an insurance policy.

5th phase: Insurance Price

Interviewer*:* OK, what do you think the insurance price will be? What information do you need in order to calculate that?

There is more than one way to come up with a price, so let the candidate ask for information first, but guide the candidate to calculate it through the data we provide.

Interviewer:

- GCP has contracts to sell 60,000 sets for $500 each.
- If GCP can't produce more than 90% of the 60 thousand in the next eight months, they lose 10% of the contracts. This happens with probability 20%.
- If GCP produce 90% or more in the next eight months, they don't lose anything.
- The insurer operates with 10% margin.

If candidate asks whether he/she can simplify the calculations, the answer is no.

Candidate*:* From the insurer perspective: with probability 80% they have zero loss, and with probability 20% they have a loss of 10%*$60,000*500 = $3M.

Therefore, the expected expense is 20%*$3M = $600,000

Since they operate with 10% margin, this expense should represent 90% of their price.

Therefore, the price charged is $600,000 / 0.90 = $666,667.

<u>Wrap-Up</u>

There is no need to do a wrap-up in this case, but it doesn't hurt if the candidate proactively comes up with a conclusion/summary.

50. Maldovian Coffins (McKinsey R1, Other, M&A, Balanced)

Note: this case is on the longer side - so you may want to allow extra time or stop the interview after 30 minutes has elapsed. ***Also note, this case is not recommended to be given as a candidate's first few cases.***

Stem: Our client is a coffin maker in the Eastern European country of Maldovia. He has seen substantial change in his market in recent years and is contemplating the future of his business. Up until now, he has been in the business of building high-quality, hand- crafted coffins largely by hand with a skilled labor force. Recently, however, he has become aware of technology that would allow him to build machine-made coffins with much less labor. Should he invest in this new technology, and should he even remain in the coffin business in the first place? What strategic alternatives should the owner consider?

Most candidates will want to dive into the industry and the market – ensure that they spend time at the beginning outlining a sound structure.

Candidate: We need to decide firstly whether to stay in business at all and if so, whether he uses the new technology:

- Continue Operating
  - Do not invest in new technology
  - Invest in new technology
- Exit the business
  - Sell the business to a third party
  - Sell the assets of the company and shut it down

Potential Stem might include:

- Market: industry trends (e.g. declining profitability), competition (e.g. entering or exiting the market), total market size, market share, we know technology has begun to disrupt the market
- Our client: competitive advantages (e.g. skilled labor), profitability (e.g. margins compared to competition, declining or increasing, etc.), total assets (e.g. property, equipment, buildings, etc.)

Interviewer: First, let's go ahead and calculated the market size. What would you need to know?

Provide the following information when asked, ensuring that eventually the candidate gets all the facts.
- Population of Maldovia: 4M
- Population Growth: 0%
- Life Expectancy: 75 years
- Age Distribution: Assume a flat distribution (i.e. the same number of people at all ages)
- Burial Customs: 75% of deaths are buried in coffins

Candidate: 4,000,000 people x 1/75 people * 75% of people = 40,000 coffins purchased / year.
The candidate needs to realize that every year, 1/75th of the population will turn 76 and therefore (on average) will die.

Interviewer: What would you like to know about the industry? *(Interviewer can also choose to let the candidate guide the conversation to the next step)*
- Competition – Maldovian Coffins has a 10% market share and a relative market share of about 1 *(if asked, you may explain that relative market share is the ratio of the company's market share to that of its nearest competitor)*
- Market Trends, Regulation, etc. – If asked about any exogenous factors, simply tell the candidate to assume that the market is expected to continue as it currently is.

Interviewer: Would you mind telling me what the value of the business is both with and without the new technology?

Provide the following:

- **Price** – Coffins are priced at $5,000 for a hand-made coffin.
- **Current Costs** – Material accounts for 10% of the direct cost, while labor accounts for the other 90%. COGS is $4,800 per coffin. Fixed costs for the business are $700,000 per year. Assume all assets are fully depreciated and ignore taxes.
- **Investing** in the new technology will cost $1M. Material costs will remain the same, but labor costs will be reduced by 50%.

Provide the following when asked about the investment:

- **Proprietary Nature of Technology** – The new coffin-making technology is currently offered for sale by a machine tool company, who holds the patent. They are not offering exclusivity to any customers (i.e. they will sell to Maldovian Coffin's competitors if possible).
- **Competitive Threat** – It is not known whether the competitors have acquired or are planning to acquire this technology.
- **Customer Preferences** – While the machine-made coffins are not "hand-made", the quality perceived by the customer is the same or better. It is believed that the customer will be indifferent between the quality and appearance of a hand-made and a machine- made coffin.

Before the candidate begins diving into the calculations for the new technology…
Interviewer: How might competitors react if our client adopts the new technology?

Candidate: Since Maldovian Coffins has no proprietary control over the technology, it is likely that ***competitors will also acquire it, resulting in an overall lowering of the industry cost structure***. If this is the case, price will also fall as competition cuts price in an attempt to gain share.
If need be provide guidance on the following.

Interviewer: Let's assume that the pricing for the coffins in an industry with new technology conforms to the same gross margin as in the current case (e.g., 4%).

Gross Margin = $200 / $5,000 = 4% Labor Cost = (4800 x 90%) x 50% = $2,160 Material Cost = $480 COGS = $2,160 + $480 = $2,640, Price = $2,640 / (1 - 4%) = $2,750

	Current	**With new technology**
Price	**5,000**	**2,750**
COGS	**4,800**	**2,640**
Labor Costs	4,320	2,160
Material Costs	480	480
Contibution Margin	**200**	**110**
Gross Margin	**4%**	**4%**
Units Sold	**4,000**	**4,000**
Market Size	40,000	40,000
Market Share	10%	10%
Contribution	**800,000**	**440,000**
Less Fixed costs	700000	700,000
Profit	**100,000**	**-260,000**
Discount Rate	10%	10%
Perpetuity	1,000,000	-2,600,000
Less Investment Cost	0	-1,000,000
Value of Option	**1,000,000**	**-3,600,000**

Assuming a discount rate of 10%, a perpetuity with cash flows of $100k / year has a PV of $100,000 / .1 = $1M. So, the **current business is worth $1M** whether they keep it or sell it. It clearly does not make sense to implement the new technology.

Brownie Points for candidates who realize that: The introduction of the technology to the market might be expected to reduce industry profits, making this entire business completely unprofitable. Therefore the $1M is likely untenable going forward.

Interviewer: So now what would be the value of the company if it were shut down and its assets sold? *(Interviewer can also choose to let the candidate guide the conversation to the next step)*

Information to give if asked:

- Assets – Since the firm has been building coffins by hand, the fixed assets are essentially only the land and improvements. The company owns assets outright.

When the candidate asks for the value of the land, have them brainstorm ways that they might determine this. They should come up with at least 3 good ways, such as:

- Look for comparable real estate and determine recent selling price
- Find comparable commercial real estate and determine the rent per square foot, then discount the cash flows generated by renting the property
- Determine rate of appreciation for property in the area and then apply to book value of current land and improvements

Give the candidate the following information and have them calculate the value of the property:

- Book Value of Land: $20,000
- Book Value of Improvements: $80,000
- Years Owned: 48
- Avg. Real Estate Appreciation: 6% / year

Candidate: Using the "rule of 72," a 6% growth rate will double the investment every 72/6 = 12 years. Since the property was held for 48 years, the current value will be $100k * (2 ^ 4) = $1.6M.

Since the assets ($1.6M) are higher than the value of the discounted cash flows ($1M), then it would make more sense to liquidate the business and sell the assets.

Interviewer: What is your final recommendation for our client? *(Liquidate the business)*

51. School District (McKinsey R1, Other, Operations, Balanced)

Part 1: Brainstorming

Interviewer: Our client is a mid-size school district with 150 schools, serving grades 1st through 12th. The district has had poor performance over the past five years and recently hired a new Chancellor to improve performance. In turn, the Chancellor hired McKinsey to identify ways to improve the district. What are some of the key drivers that may be affecting performance?

Candidate: First, has the client shared what type of performance needs to be improved? For example, does he want to drivers that affect student performance as measured by standardized tests, or budgetary performance?

Interviewer: Just student performance.

Candidate: The drivers could be bucketed into internal factors within the school districts control, and external factors beyond their control. Some of the internal factors would be facilities, back-office support (IT/Finance/HR), curriculum, enrichment programs, teacher quality, and management quality. Some of the external factors would include the proportion of well-educated parents in the school district compared to the national (or state) average, student engagement, poor student preparation prior to beginning 1st grade, and the social environment (crime rate, drug use prevalence, alcohol abuse prevalence).

Note: Candidate should generate a MECE structure, for example, internal/external. If candidate does not have a MECE structure, press the candidate. When the candidate is done ask for a few more drivers!

Part 2: Back-office Support

Interviewer: The Chancellor believes a key driver affecting performance is back-office support from central headquarters. Below is a chart, what insights does it provide?

Function	% of Principals Surveyed identified function as key factor affecting performance	Average # of requests per Principal per month	Average days of effort for the function to answer per request
Finance	15	1.5	2.5
Human Resources	60	2.00	5.0
Facilities	50	2.00	4.0
Information Technology	44	1.75	3.5
Counseling	19	1.25	3.0
Food Preparation	26	1.00	3.0

If asked by candidate, provide the following clarifications:

- Functions are related to central headquarters
- Average # requests are requests or complaints made by the individual school principals to HQ
- Days effort is equal to the amount of time required for the HQ to respond to the principal's' request or complaint

Candidate: Clearly Principals believe HR, Facilities, and IT are the most important functions affecting performance. Interestingly, Facilities and HR are also the functions most utilized by the principals and take the longest to respond to their requests. So, I would prioritize improving HR and Facilities.

Interviewer: The Chancellor agrees and would like to focus on improving the Human Resources function. He estimates that additional training will reduce the number of days it takes for them to respond to a request by 20% on average. However, the Principals will see this improvement and add an additional 10% requests. How many days of effort will be saved per month?

Candidate: We can calculate that by comparing the number of days HR spends answering requests before and after the new training:

	Before	**After**
# of Principals (= # of schools)	150	150
Requests/Principal/month	2	2*1.1 = 2.2
Days/Request	5	5x0.8 = 4
Total Days of HR Effort/month	150*2*5 = 1,500 days	150*2.2*4 = 1,320

Thus, total days saved will be 1,500 – 1,320 = 180 days/month.

Note: Before/After tables are particularly powerful, and will keep you from making a mistake. Try using them in other cases!

<u>Part 3: math curriculum</u>

Interviewer: The chancellor also noticed a dramatic improvement in the 8th grade class at one of the schools, which improved math performance by 10% this year. A teacher there implemented a new math curriculum. On average, the school district is scoring at 65% for 8th grade math, where 85% is the national average and our target. If this 10% performance was sustained and replicable across the school district, how long would it take for the school district to catch up to the national average?

Candidate: Can we assume similar 10% gains in 9th, 10th, and 11th grades?

Interviewer: Yes.

Candidate: After 1 year, performance would be 65%+10%*65%=71.5%. After two years, it would be 71.5%+10%*71.5% = ~79%. After three years, it would be ~87%. Thus, it would take slightly less than three years to catch-up to the national average.

Interviewer: Great, the Chancellor has decided he wants to implement this improved 8th grade math curriculum across the school district. Which next steps would you recommend he take?

Candidate: First, he should speak with the 8th grade teacher who implemented it and get his perspective on the new curriculum (e.g. challenges he faced, etc.). Next, he should acquire licenses and rights to use the new curriculum. Third, he should communicate this change to all impacted stakeholders –

parents/teachers/principals/students. Finally, he should consider a pilot/experiment before expanding all at once across the 150 schools to ensure this is the right approach.

Interviewer: Great, so why do you want to work for McKinsey?

52. Simple Insurance (McKinsey R1, Financial Services, Profitability, Quantitative)

Stem: Our client is a market share leading insurance company called Simple Insurance. They have three business units, auto (50%), fire (30%), and engineering (20%). Currently the ROE is 10%, but the CEO would like to find out if they can make it 15%.

The candidate should ask for a moment to structure his/her thoughts. He/she should write ROE = Profit/Equity with the structure containing market, revenue, cost, options, and risks.

Interviewer: First, how do insurance companies make money?

Candidate: Well, they sell policies to different customers across a range of products (like car insurance, renter's insurance, etc.). These policies are priced best on risk associated with the policy holder's profile. Risk is spread out across all policy holders and the insurance company makes a margin off the top.

Interviewer: I like your idea on revenue and cost from your structure, what do you think are the main revenue streams and cost components?

Candidate: Revenue should be from premium and investment return (insurance companies invest payments made by policyholders). Cost should be mainly claims, SG&A, PP&E, and Labor (e.g. claims agents, actuaries, etc.).

Interviewer: Great, let me give you this data.

Business Unit	Claim Ratio (claim/total premium)	Expense Ratio (non-claim expenses/total premium)
Auto	40%	60%
Fire	50%	30%
Engineering	60%	20%

*Key:
- Claim-the expense from a policy holder on a yearly basis (e.g., the amount charged for repairs on a damaged car)
- Premium-the amount a customer pays on a yearly basis

The candidate should notice that our biggest business, auto, is not making any profit (the Claim Ratio plus the Expense Ratio equals 100%), and the expense ratio is disproportionately high compared to other business units.

Interviewer: Why do you think we are still offering the auto insurance when we are not making money?

Candidate: We are not making money directly but we might be making money off the investment return. Specifically, because auto insurance is so common, it helps drive branding and perception, so the company is willing to not make any profits because is it driving brand value.

Interviewer: That's the correct answer. Let's move along to only focus on the auto business. Currently we have 10M policyholders. We have a 6% claim rate and each claim costs us $6,000. If we could reduce each claim to $4,000, what would that do to our ROE, assuming we have $30B in equity.

Candidate: The claim payout at 10M*6%*$6000 = $3.6B. This number is going to come down by 1/3, therefore the additional profit would be $1.2B. Currently we have ROE of 10%, which means our profit is

$3B. The new profit of $4.2B would give us (4.2/30) = 14% ROE -- still short of our 15% goal. Let's explore back to the high expense ratio of auto business.

Interviewer: Great idea, one of the main reasons the expense ratio is so high is that we are using 15 companies for our dispatching service. They are being paid a flat rate to be on the ground and assess the damage. The car is then sent to the garage where we pay at most $6,000 for each claim (depending on what the dispatcher's estimate is). Is there any way we can reduce this cost?

The candidate should come up with the list that includes, but is not limited to the following:

1. Renegotiate the flat fee
2. Align incentive between the estimate and the fee paid
3. Reduce the number from 15 companies
4. Build our own, in-house dispatching service

Interviewer: So – given these options you have laid out, what would be your criteria to decide which option to investigate first?

The Candidate should provide sound logic behind their reasoning. Feel free to probe and pick at their response.

Interviewer: Okay now you have only 30 seconds to explain all of this to the CEO, what do you tell her?

53. Spanish Trains (McKinsey R1, Transportation, New Market, Balanced)

Stem: The railway company of Spain (RENFE), a former monopoly, is now opening to competition. RENFE has been divided into two separate companies: RENFE (train operation) and ADIF (company that manages the tracks, train stations and traffic control). A friend of yours has 90M € and has approached you for advice on starting a new train operation company to compete against the new RENFE. In particular, he wants to start by opening a new high-speed train route between Madrid and Barcelona. Should your friend go ahead and launch the business?

Phase 1: Industry Overview

Let the candidate to lay out his framework and start brainstorming about the current situation in the industry: competitors, and competitive situation. Give the following information when asked the proper question. Let him or her focus on competition, and the differences between this new venture and the competition.

Provide the following information if asked:

- Main competitors: RENFE and air travel. Evaluate price, time and convenience.
- Us vs. RENFE:
  - We are less expensive
  - We are more efficiently run (as a former monopoly, RENFE is very inefficient)
  - Equal travel time
  - We are equally convenient (same stations and tracks) Us vs. air travel

Candidate: As a result of this high-level analysis, it is possible that we have a chance in this market. Now let's evaluate profitability.

Phase 2: Business Overview

Interviewer: Now that we have identified the main issues in the market, it is time to see whether we can be profitable. How would you evaluate the viability of your friend's business? What do you think the main costs and revenue streams are?

Candidate: Possible forms of revenue: tickets (main revenue driver), ads in trains, food and drinks, and any others are good for the brainstorming but should be ignored for the calculations.

Costs: Marketing, Operations and maintenance, trains, personnel, IT, etc.

Interviewer: Great. Now, before moving on let me tell you about operations. You can travel by train between Madrid and Barcelona in ~ 3 hrs. Trains run from 8am until 9pm. Taking into account all different factors, we can run two round trips per day. We will need three trains, as well as one for backup in case of breakdown, i.e. total 4 trains and 4 trips per day (per train).

Phase 3: Break-even Calculations

Interviewer: What do you need to calculate expected profits? Keep in mind that the company only has 10 years to pay back the investment.

The candidate should ask specifically for all the costs needed.

- Trains: 30M € per train (tell the candidate to think of this only at the end)

- Marketing: 45M€ per year (for entire company)
- Operations/Maintenance: 10M€ per year per train
- Train fares: Trains have a capacity of 500 people
    - If tickets cost 40€ at 95% occupancy
    - If tickets cost 50€ at 80% occupancy
    - If tickets cost 60€ at 60% occupancy

Interviewer: Given this data, how much do you think the tickets cost?

Candidate:

- 40€ at (.95 * 500) * 40 = 19,000€ per trip
- 50€ at (.8 * 500) * 50 = 20,000€ per trip
- 60€ at (.6 * 500) * 60 = 18,000€ per trip

Key Insight: It is most profitable to set prices at 50€.

Interviewer: Now figure out the profits per year (assuming above costs are per train)

Candidate:

- 365 days * 20,000€ per trip * 4 trips per day = 29.2M€ in revenue per year
- 29.2M - 25M (marketing and operations) = 4.2M€ profit per year per train
    - 25M is 10M operations per train plus 15M (45M/3) for marketing
- Because we on average operate only 3 trains we disregard the cost in opex and maintenance for the fourth train. Total estimated operating profit is therefore 12.6M €.
- Key Insight: This does not look great – it would take almost 10 years to recoup the 120M€ investment in 4 trains.

<u>Recommendations</u>

Interviewer: What would you recommend to your friend? What options could you consider to make the business more profitable?

Candidate: He should not invest under the current circumstances, but may also explore options such as leasing trains, additional revenue from onboard sales and advertising, JV with a foreign operator with excess capacity, etc. (ask for brainstorming ideas)

54. Zippy Snowmobiles (McKinsey R1, Transportation, Profitability, Quantitative)

Stem: Our client is the president of Zippy Snowmobiles. It makes snowmobiles for recreational users only. Zippy has faced falling sales over the past 7 years, of 7% per year, or about 40% over that period. Zippy's president has hired McKinsey to investigate and reverse this trend.

Interviewer: What areas would you like to explore?

The candidate may outline the following high-level issues:

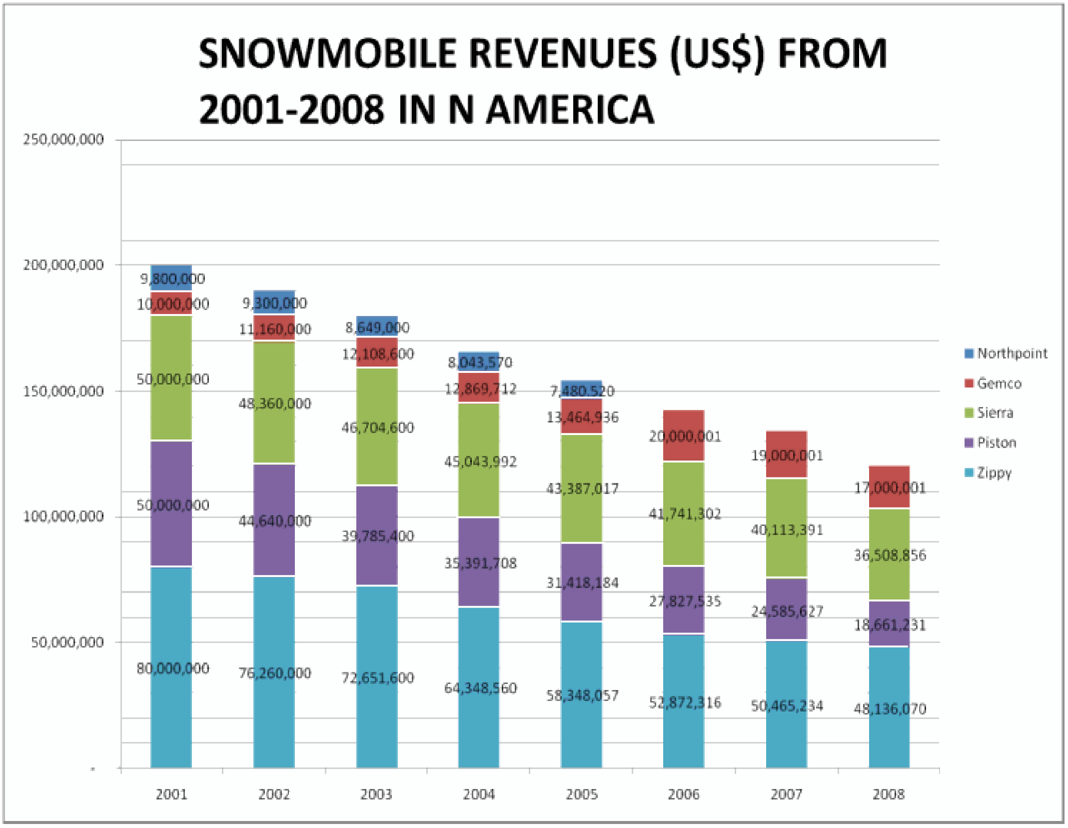
- **Market**: Extent of market, Size/Growth overall, Competition, Criteria for Success
- **Revenue**: Pricing, Volumes, Product Mix & Seasonal Balance
- **Costs**: While addressing revenue issues, make sure solutions do not overextend costs (e.g. diseconomies of scale if there is rapid growth) and hurt profitability
- **Risks**: Stress-test any sales improvement proposal by considering potential risks/barriers

<u>Phase 1: Examine the Market</u>

The interviewer should lead the conversation and show the candidate Exhibit 1.sk for an assessment. Suggested candidate answers:

- Overall market has shrunk about 40% over 7y period. Zippy's problem reflects industry-wide problem.
- One player Northpoint has disappeared. It could have been acquired by Gemco, which had a revenue spurt after Northpoint was gone. It might be a good idea to study Northpoint's demise for cautionary lessons.
- Sierra's market share has actually increased in a declining market. This firm's strategies may offer clues as well on best practices.

Case continues on next page.



Interviewer: Can you consider some revenue growth strategies?

Suggested answers by Candidate:

- M&A with other players
- Organic growth strategies (iaw Ansoff Matrix)
- Maximize revenues per sales e.g. use bundling, tying, loss-leader strategies
- Extend product line in current market (create seasonal balance; produce complementary products that can sell well in summer months when snowmobiles do poorly)
- Extend same product line to new markets (overseas, more regions etc).
- Potential segmentation strategy: Seek out customer segments that have specialized needs (children? Physically challenged?) and try to reach them (carve out blue-ocean) before other competitors

Interviewer: The CEO wants to know what increase in market share is needed in 2009 compared to 2002, in order to maintain the same revenue dollars as in 2002.

Only when asked, indicate that the overall market is expected to decline 8% from 2008 to 2009.

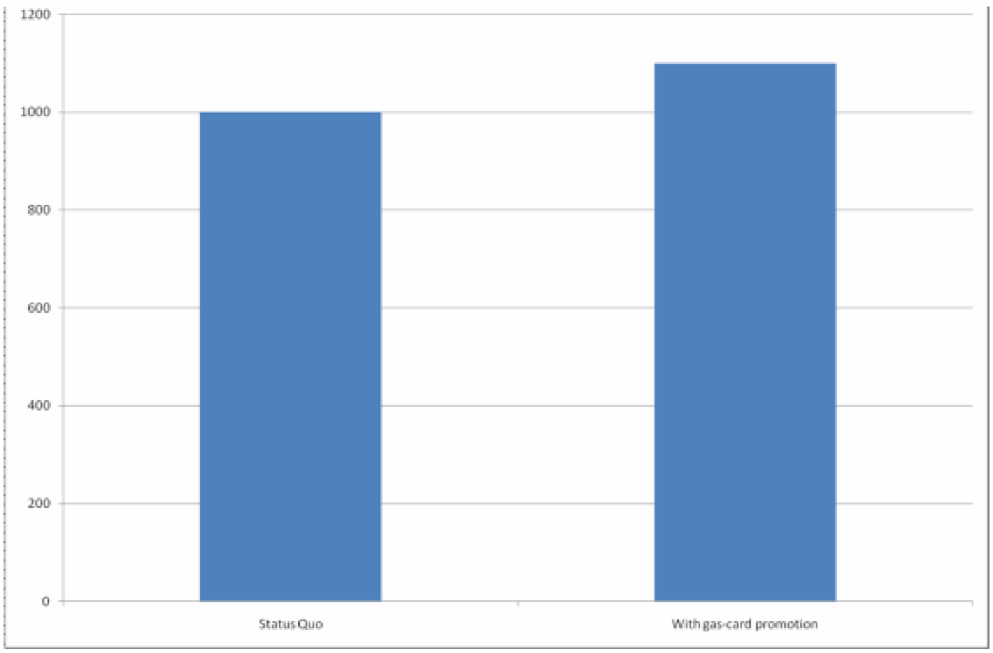
<u>Calculations:</u>

- Total Market in 2002 = $190M
- Zippy Revenue in 2002 = $75M
- Zippy 2002 Market Share = 40% (approx.)
- Total Market in 2009 = (1-8%)*120M = 110M (rounded is fine)

- Share required in 2009 = $75M / $110M = 70% (approx.)
- Increase in '09 market share vs. '02 = 70% - 40% = **30%** (Or about 75% when taking a percentage of the percentage)

Interviewer: The Chief Marketing Officer has come up with ideas to increase sales. He would like our team to access the incremental profits generated by his plan. (See Exhibit 2)

NUMBER OF ZIPPY SNOWMOBILES SOLD IN ONE YEAR



Interviewer should provide the following facts:

- Snowmobile buyers will get a $200 gas card with every Zippy snowmobile purchase. This entitles them to pump $200 worth of gas.
- The expected redemption rate is 30%.
- Zippy bears full costs of redeemed gas dollars.

Interviewer can provide these extra facts only when prompted:

- Retail price of each snowmobile = $50,000
- Variable cost of producing each snowmobile = $20,000

<u>Calculations:</u>

- Incremental profits from promotion
- = Additional customers x (Price – VC) – Cost of Gas Cards
- = 100 x (50,000-20,000) – (30% x $200 x 1,100 cards)
- = 3,000,000 – 66,000
- = **2,934,000 OR $2.93M**

Interviewer: What will you tell the President of Zippy's?

Candidate:

Recap objective: “We were asked to investigate and reverse the trend of Zippy’s falling revenues.”

Answer first: “Zippy’s falling revenues mirror a decline of the industry as a whole. Reversing Zippy’s falling revenues require a mix of organic growth measures and likely strategic M&A moves.”

Elaborate: “Under organic growth measures, Zippy can extend its product line to improve seasonal balance, or extend to new markets. The gas-card promotion is one means of boosting revenue growth and plough in profits that can finance future growth.

Under strategic M&A moves, we will need to conduct due diligence and valuation on possible candidates, such as Sierra which appears to be a strong company albeit smaller than Zippy’s. The McKinsey team would be happy to study such options further.”

55. Dinosaur (McKinsey R2, Other, M&A, Balanced)

<u>Part 1: brainstorming</u>

Interviewer: Our client is an explorer in the Amazon rainforest. He just discovered the last living dinosaur, and has hired us to price it for him.

Candidate: If I understand correctly, we are going to help the client price a living dinosaur. Let's first brainstorm who the potential buyers of the dinosaur might be, then identify the potential sources of value the dinosaur would provide each buyer, and finally decide on a pricing strategy.

*Note: Candidate *should*ask a clarifying question very early on as to what type of dinosaur it is – a Tyrannosaurus Rex would probably sell for much more than an iguana-sized plant-eating dinosaur. If the candidate does not, don't mention it now. Instead, at the end of the case, ask the candidate what type of dinosaur it is – then give him a hard time at the end of the case by showing how his answer could change depending on what type of dinosaur it is.*

Candidate: Ok, let's divide the potential customers into a couple of different categories: Public/government institutions, Private collectors (rich people!), Research institutions/scientists/other non-profits, and Corporations (theme parks and zoos).

Note: Candidate should try to generate a MECE structure. When the candidate is done, ask the candidate for a few more ideas.

<u>Part 2: revenue sources</u>

Interviewer: Great! Let's assume that the most likely buyer for the dinosaur will be the Disney Animal Kingdom. How do you think the Disney Animal Kingdom could generate incremental revenue after purchasing the dinosaur?

Candidate: There are several categories of revenue that the dinosaur could help generate, both inside the theme park and outside the theme park:

Inside the park:

- Tickets – the change in quantity of tickets sold plus any change (increase) to the price of the tickets
- Apparel (in-park sales)
- Concessions

Outside the park:

- TV/Internet – Disney could develop a "Dinosaur Channel" and sell subscription streaming video
- Apparel (online and in third-party shops)
- Naming rights – Disney could sell the naming rights to the dinosaur. For example, AT&T might pay a lot to brand the dinosaur as the "AT&T Rex".
- DNA licensing

Note: Candidate should try to generate a MECE structure. When the candidate is done, ask the candidate for a few more ideas. Candidate should incorporate information from their prospective customer list; for example, Disney could license DNA to other corporations

Interviewer: Excellent. Let's focus on the increase in revenue from tickets. Can you estimate that for our client?

Candidate: We will calculate the increase in revenue as the sum of the increase in revenue from incremental ticket sales at existing prices plus any increase in average ticket price times the total number of tickets sold. Do we know how many visitors there are currently (before the dinosaur), the average ticket price, and how those will change if the dinosaur is added to the park?

Interviewer: The average ticket price is $40, and will double once the dinosaur is added. The number of visitors to the park (= tickets sold) will increase by 25% after the dinosaur is added, but you will have to estimate the baseline ticket sales. Restrict yourself to considering tickets sold to those in the United States.

Candidate: I'm not too familiar with theme parks, but let's assume that approximately 25% of people in the US will be able to afford visiting the Disney Animal Kingdom at some point in their life. There are approximately 300M people in the US; thus, 75M will be able to visit at some point. Assuming an average lifespan of 75 years per person, there will be on average of 1M people visiting the Disney Animal Kingdom each year.

Therefore, ticket sales will increase from 1M to 1M*1.25 = 1.25M/year, while average ticket prices will increase from $40/ticket to $80/ticket.

Therefore, revenue will increase as follows:

- Current revenue (without the dinosaur): 1M visitors * $40/ticket = $40M/year
- Future revenue (with the dinosaur): 1.25M visitors * $80/ticket = $100M/year
- Increase in revenue = $100M/year - $40M/year = $60M/year

Note: Candidate should structure this as a table, with one column for "before" and one column for "after", with visitors/year, price/ticket, and revenue/year on the left

We can use this information to price the dinosaur if we are able to estimate the risk associated with purchasing and housing the dinosaur, plus the risk that it might die, by modeling the increase in annual revenues as a perpetuity.

Note: Let the candidate remember to link back to the original question. If the candidate is unable to do so, ask how their answer relates to the clients request in order to get them back on track. If they do not think to use an NPV or perpetuity to value it, prompt them.

Interviewer: Assume a discount rate of 40%, inclusive of all the risks you mentioned.

Candidate: In that case, the value of the dinosaur would be $60M/40% = $150M. Note that this is only considering the increase in revenue from ticket sales, but does not consider the other revenue sources we discussed such as Apparel or Concessions, nor does it consider the costs of housing the dinosaur.

Interviewer: Ignore all those factors. How would you summarize your recommendation for the client?

Candidate: We recommend that the client aim to sell the dinosaur to a theme park such as the Disney Animal Kingdom with an initial price of $150M. $150M is the value that the dinosaur would provide in terms of ticket revenue, presumably there is additional value that the dinosaur could provide to Disney – such as selling tissue samples to scientists, or naming rights to sports teams – that would provide upside to the purchaser.

Interviewer: Excellent job. Now tell me, what are your two biggest weaknesses?

56. Treasure Island Communications (McKinsey R2, TMT, Comp Response, Quantitative)

Stem: Our client is the CEO of Treasure Island Communications (TIC), a telecommunications company on Treasure Island which has enjoyed a government-protected monopoly for many years. TIC provides mobile services as well as fixed-line services for both international and domestic lines.

In a year's time, the government will deregulate the industry and invite other companies to enter the Treasure Island market. Our client has engaged McKinsey to discuss ways to deal with this new environment.

Candidate: OK, just a clarifying question, what are the government's motivations for deregulating this industry?

Interviewer: There are two reasons: (1) The government will collect more revenues in the form of spectrum licensing fees, and (2) Allowing for more competition will reduce prices, which is better for consumers.

Now, our client would like help in drawing up some possible scenarios. What information would you need in order to flesh out realistic scenarios?

Candidate:

- Market Size / Structure: Given the market size and number of customers, is the market more likely to remain a natural monopoly or evolve into a duopoly / oligopoly / monopolistic competition?
- Characteristics of Potential Competitors: What are their capabilities and which segments (mobile, domestic/international fixed) are they likely to target?
- Entry Barriers: What entry barriers can TIC use or muster?
  - Natural barriers include high set-up costs, high fixed costs etc.
  - Artificial barriers: TIC could lobby government to set higher spectrum-licensing fees etc.

Interviewer: Could you tell me more about the financial information on TIC that you'd like?

Candidate: Yes, I would like to know:

- Revenue: How is pricing done for the different service segments? What are the volumes? What are the trends across time?
- Costs: What are the set-up costs, recurring fixed costs, and variable costs?

Interviewer: I will give you some data on the international fixed-line services.

Latest revenue = $90M
Total Costs = $30M (all annual fixed costs)

Assume that with new entrants and competition, prices will drop 50% but usage volumes do not change. What market share does TIC need to maintain in order to break even?

Candidate:

New Market Size	=	50% * 90M	=	$45M
TIC's break-even revenue			=	$30M
TIC's required Market Share	=	30 / 45	=	2/3

Given that TIC is currently serving the entire market, it can afford to lose only 1/3 of its market share to competition.

Interviewer: OK, Let's use more realistic assumptions this time. Assume that volume of usage does increase when prices fall 50% due to competition. Please take a look at the following data and tell me what you see. Then tell me what market share is needed in order for TIC to break even.

INTERNATIONAL FIXED LINES

Usage	**Revenues ($)**	**Total User Minutes**
2009 (latest)	90M	90,000,000
2008	120M	60,000,000
2007	120M	60,000,000
2006	160M	40,000,000

Candidate should use the information to derive prices charged in the past and the price-volume (demand) relationship.

Usage	**Revenues ($)**	**Total User Minutes**	***Price (Candidate's Calculation)***
2009 (latest)	90M	90,000,000	***$1/min***
2008	120M	60,000,000	***$2/min***
2007	120M	60,000,000	***$2/min***
2006	160M	40,000,000	***$4/min***

Candidate may draw a demand curve to predict volume based on a price of $0.50, but the trend can also be stated as below.

Candidate: So, it looks like each time the price is cut in half, the volume increases by 50%. Therefore, with a price of $0.50/min, we would expect to see 135M user minutes.

New Mkt Revenue	=	$0.50 x 135,000,000	=	$67.5M
Break-even TIC Revenue	=	$30M		
Required Market Share	=	30M/67.5M	=	44%

This suggests that with more competition, user volumes will also rise and TIC's required market share to break-even is not as high as initially assumed.

Interviewer: OK, thank you.

No formal recommendation was requested.

57. UK Banking (McKinsey R2, Fin Services, Profitability, Balanced)

Part 1: brainstorming

Interviewer: We are consulting for a UK consumer bank in 2010. The client offers products including credit cards, debit cards, insurance, mutual funds, checking accounts, and mortgages. Its mutual fund business, called Mutual Co., has experienced a decline in profitability over the past 5 years. It sells to new accounts through both its direct channel of in-house tele-sales representatives and indirectly cross-selling its mutual fund products through its insurance business. Mutual Co. earns revenue by charging an annual fixed percentage management fee times each account balance. Mutual Co.'s new CEO has hired McKinsey to identify why profitability has declined within the unit and to recommend specific actions to improve it.

Candidate: Let's identify what is causing the decline in profitability and then figure out what actions can be taken to reverse the trend.

Note: Candidate should generate a MECE structure, such as internal/external or revenue/cost. If candidate does not have a MECE structure, press the candidate. When the candidate is done ask for a few more drivers!

Example MECE structure:

1) *Revenue might be falling; this could be caused by a decline in assets managed or a reduction of the fee % charged per asset. A decline in assets could be caused by a reduction in the number of accounts or in the average balance per account.*

2) *Alternatively, costs could be increasing. Fixed costs that could be increasing could be compliance costs caused by recent financial reform legislation including Dodd-Frank, or by general SG&A increases. Variable costs could be increasing due to increase exchange fees/transaction, paperwork costs/transaction, or customer service costs (which in turn could be caused by an increase in the time spent per customer service call or the number of customer service calls).*

Note: Only provide the following pieces of information in response to questions from the candidate:

- *Variable costs have not increased*
- *Fixed costs have not increased*
- *The number of accounts hasn't decreased*
- *Competitors have experienced a similar decline in profitability*

Note: The candidate should identify that the only remaining factor is that the average balance per account must have decreased. If after several minutes of brainstorming the candidate does not identify this is the cause, guide him to this cause (or state it explicitly) and move on to the next section.

Part 2: account balance

Interviewer: Over the past five years, the average account balance has decreased. Why do think that might be?

Candidate: One cause might be the financial crisis. On average, US equity prices are lower than they were in 2007… it's probably the same in the UK.

Interviewer: Yes, the client believes that is the primary cause and would like to know what the average account balance would need to be to have a 10% profit margin.

Note: Only provide the following pieces of information in response to questions from the candidate:

- *Management Fees are 0.5% of the account balance*

- *There are 1,000,000 accounts*
- *The average account balance is currently $5,000*
- *The costs of managing each account are $20 (these are the variable costs)*
- *All other costs are $35M in total (these are the fixed costs)*

Candidate: First, I will calculate the costs per account. Then, I will multiply by 1.11 to calculate the revenue necessary to achieve a 10% profit margin. Finally, I will divide that by the management fee percentage to find the average account balance necessary to achieve that profit margin.

Interviewer: That seems like a logical approach.

Candidate: Fixed costs are $35M, supporting 1M accounts. Thus, each account has on average $35 of fixed costs. Since variable costs are $20/account, total costs per account are $55. To achieve a profit margin of 10%, there would therefore need to be an average of just over $61/account of management fees. Since management fees are 0.5% of the account balance, that means the minimum average account balance needs to be $61/0.005 = $12,200.

<u>Part 3: profitability</u>

Interviewer: Great job! Next, the client would like us to help them think of specific actions they can take to increase profitability. Have any ideas?

Note: Candidate should generate a MECE structure, revenue/cost. If Candidate does not have a MECE structure, press the candidate. When the Candidate is done ask for a few more ideas! Example ideas include: Revenue: review/improve the incentives that the parent company's indirect sales force have to sell Mutual Co.'s products, have a new promotion, see whether the management fee percentage is below industry average and can be safely raised depending on demand elasticity, and expanding geographically. Variable Costs: ensuring the client is using electronic communications rather than paper costs ($20/account seems like a lot of variable cost!) and using 3rd party mutual funds rather than those managed in house (may be cheaper). Fixed Costs: consolidate support functions (HR, IT, Finance) with the parent company, consolidate locations to save on rent expenses.

Interviewer: Wonderful. So, tell me about an achievement you are particularly proud of?

58. Universal Healthcare Revamp (McKinsey R2, Healthcare, Comp Response, Balanced)

Stem: Our client is the health minister of a small country. The country is small and on the upper end of the GDP spectrum for countries of its size. The country's health system is completely free to its citizens, and is funded by taxpayer money. The way that the health care system works is that patients can visit one of 30 clinics spread throughout the country for a primary care visit, and then get referred to one of 2 larger hospitals if more intensive procedures are required. There are a few private systems for the richest citizens, but they are so small in comparison to the public system that they won't be considered at all in our study. The GDP, and thus the tax returns for the country have been growing at a 5% rate. However, the healthcare budget has required 10% growth to keep up with demand. The health minister of the country is concerned that at this rate, the healthcare system will become unsustainable. The health minister has hired us to figure out why the healthcare budget is requiring this level of growth and what can be done to reduce it.

Phase 1: Examining possible reasons for budget growth

Interviewer: What factors do you believe are going into the budget growth?

The candidate should come up with a framework that should explore:

- Demand-driven growth reasons such as
  - demographic changes leading to a larger number of people visiting hospitals
  - changes in health perception or awareness in the population such that citizens go to the doctor in response to problems for which they formerly stayed home
  - the incentive systems of doctors and hospitals who may be encouraging patients to come in so that they get paid more for more visits or who may be referring more patients to the 2 bigger hospitals than is necessary

- Supply-side effects such as
  - shortage of doctors or resources bidding up prices for the same services
  - a lack of preventative care services making patients less healthy and thus needing of more healthcare when they actually do get ill

Interviewer: Now that you have identified some reasons for budget growth, let us address how we can cut costs. What are some of the things they could do and what would be the potential risks associated with those?

Candidate: There are a few things I can think of.

- Transparency: if physicians don't currently know what various treatments cost, making them aware and helping them take that information into account would be a first step
- Quotas/Rules: We can require that physicians prescribe a certain number of generic drugs rather than branded, or that simpler, outpatient procedures be used when possible rather than allowing people to stay several nights in the hospital
- Risks: We need to ensure that the rules don't reduce the quality of care overall, so physicians need to be involved in crafting the rules.

Phase 2: Forecasting Healthcare Needs Growth

Interviewer: The client's census bureau has printed out some information. What do you make of this?

Age	% of population today	% of population in 10 years	Average HC cost per person per year
0-21	20	10	$1000
22-65	70	70	$500
65+	10	20	$4000

Candidate: The population will be redistributed, with the percentage that is 65+ actually doubling in 10 years. This group is by far the most expensive, and this shift will increase the overall costs to the healthcare system. Healthcare spend will increase by an even greater rate than what we are currently seeing, which is bad news for the health minister. It would be helpful to quantify exactly how bad the problem will become.

Interviewer: Could you figure out how much the country currently spends on health care, and how much they are projecting to spend in 10 years?

Candidate: Yes, do we have an estimate for the population now, and what it will be in 10 years?

Interviewer: Yes, the population is currently 1M and the census estimates it will grow by 30% in 10 years.

Candidate: OK thank you, let me run the numbers.

[(20% * 1000) + (70% * 500) + (10% * 4000)] * 1M = $950M in current spend

[(10% * 1000) + (70% * 500) + (20% * 4000)] * 1.3M = $1.625B in future spend

With costs staying the same, the expected increase in population, along with its redistribution, is expected to create a 71% [($1.625B – $950M) / $950M] increase in spending.

Push the candidate to calculate this percentage if he/she doesn't do it on his/her own.

Phase 3: Copayment Idea

Interviewer: OK, let's change gears. Before we started on this project, the health minister was toying with the idea of beginning a $5/visit copayment. This would cover all individual visits regardless of specialty. Currently, the average citizen goes through the healthcare system 5 times a year, at an average cost of $50/visit. What do you think would be the impact of the copayment?

Candidate: This means the government's costs should go down to $45**.** Additionally, if visits are no longer completely free, patients may start going to the doctor less frequently, and visits per citizen will decrease.

Interviewer: You are right, we estimate that visits/citizen/year will go down to 4.5 as a result.

The candidate should drive to figuring out what percent of the budget will be saved by this change, but if not, make this suggestion.

Candidate:

Current costs: 5 * $50 * 1M = $250M

New costs: 4.5 * $45 * 1M = $202.5M

This change will lead to a 19% [(250 – 202.5) / 250] decrease in spending on these visits. With total spending of $950M, this $47.5M decrease represents about a 5% reduction in overall spending.

Phase 4: Copayment Risks

Interviewer: Although the copayment seems like a good idea, do you think that there are any risks to the idea? How could those risks be alleviated? Are there any other ideas that come to mind aside from a copayment that could help out the situation?

Allow the candidate to brainstorm. It is important to remain structured.

Candidate:

Risks:

- Looking out for the poorest citizens – perhaps they can't afford the $5 copay. Care should be taken to make sure that it's affordable for all, and perhaps, there can be a sliding scale based on per capita income
- Public unhappiness in response to the copayment – The public will probably be unhappy with this change, which could have political repercussions for the health minister. Perhaps a survey could be taken to gauge how unpopular this idea would be.
- Will the copayment be enough to affect anyone who may abuse the system – Is $5 enough of a deterrent for people who go to see the doctor for superfluous visits? Perhaps there should also be a sliding scale based on frequency or visit type.
- Emergency attention – Could the $5 copayment make it difficult to obtain care in an emergency? Perhaps the fee should be waived in emergency situations.

Alternatives to copayment system:

- Limiting types of visits – Some regulation could be put in place for types of visits that really only need to take place once a year, like eye exams.
- Increasing spending on preventative care – If people lead healthier lives, they will need less healthcare. More attention could be placed on encouraging preventative care habits for the general population.

Phase 5: Recommendation

Interviewer: Ok, wrapping up, what should we tell the healthcare minister?

In this answer, the most important thing is for the candidate to be structured and concise.

Candidate: We've looked at the healthcare spending situation, and we estimate that there will be a 70% increase over the next 10 years, driven by two factors: a population increase and an aging population.

A copayment is a good way to immediately address the healthcare spending situation, as it could decrease overall costs by roughly 5% from initial estimates. However, more analysis needs to be done to make sure that the copayment will not have adverse effects on quality of care delivered, and that it will be politically feasible.

From a long-term perspective, the population's healthcare needs will grow substantially, and more thought must be given to creating a sustainable system. Initiating visit type regulations and focusing on preventative care are two good places to start to make sure that the healthcare system can continue to meet the needs of the population at a reasonable cost.

59. Wildcats Lacrosse (Roland Berger, R1, Retail, Balanced)

Interviewer: Our client, Wildcats Lacrosse, is a leading US sporting goods company. They manufacture, market and sell two primary products: 1) women's lacrosse masks, 2) women's lacrosse sticks. They sell these products exclusively to the US market. Wildcat masks sell very well and are the market leader. Their lacrosse sticks, on the other hand, do not sell well despite Wildcats' best efforts. Wildcats is worried that they are missing out on an opportunity with their lacrosse sticks. They have discussed a number of options including discontinuing the sticks and instead focusing on making only masks. They would like to better understand their options and have come to us for guidance.

The candidate should investigate the comparative profitability of both of Wildcats' products to develop a plan to determine whether Wildcats should keep producing sticks and how overall profitability of the firm can be improved.

Candidate: I understand the main question we want to answer is what to do about these lacrosse sticks, but it sounds like our client may also be concerned about their firm's overall profitability. Is that correct?

Interviewer: Your intuition is correct. While the main question we must answer is about the lacrosse sticks, Wildcats has come to us to improve their performance generally.

Candidate: Got it. Is it OK if I take a moment to organize my thoughts?

Interviewer: Of course.

Candidate should take a moment to organize a framework exploring the profitability of Wildcats' business, exploring the revenues and costs associated with both lacrosse sticks and masks.

Information to provide candidates only if asked:

- *We can assume little to no market growth*
- *There have been no new entrants into the markets for either Masks or Sticks and the products are not substitutes for one another in the market*
- *Wildcats has not seen its market share change in the near term and expects it to be steady into the future*
- *Wildcats does not have any information on price elasticity*
- *Wildcats uses a cost plus pricing scheme (10% above total cost)*
- *Wildcats has a single manufacturing facility, assume there is some reasonable utilization rate below 100% to allow for some production increases without the need for capex*
- *Variable costs include transportation/logistics*
- *Masks are very equipment intensive, have high R&D spend, change rapidly and must meet stringent safety requirements*
- *Sticks are very labor intensive (stringing the "pocket" of the stick is time-consuming and requires skill), have fairly low R&D spend, has fairly long product life cycles with high quality expectations.*
- *Wildcats sources the crosse portion of the lacrosse stick (the "shaft") from a third party. This is usually a metal alloy (e.g., aluminum) or carbon fiber. Final painting is completed by Wildcats.*
- *Wildcats is able to sell all products that they manufacture*

Candidate: I'd like to start by examining the revenues associated with each of the products that Wildcats manufactures and sells.

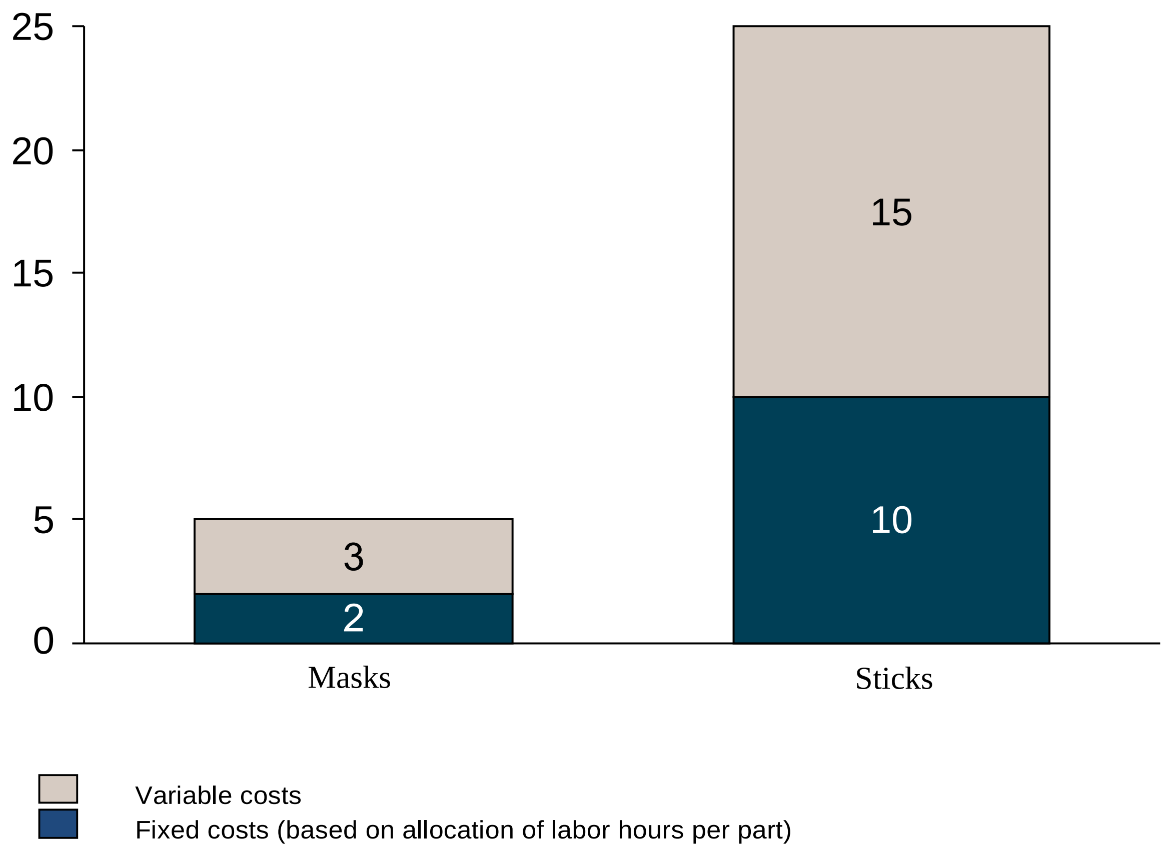
Interviewer: The revenues of both products is important, but let's start with the costs first.

Candidate: That sounds great. We can think about the costs associated with both the products that Wildcats produces as being broken out between fixed costs (like PP&E) and variable costs (like materials and labor). Do we have any information about Wildcats' current costs position?

Interviewer: Yes. Take a look at this and let me know what you think.

Interviewer presents Candidate with Exhibit 1.

Exhibit 1
Production Costs (USD)

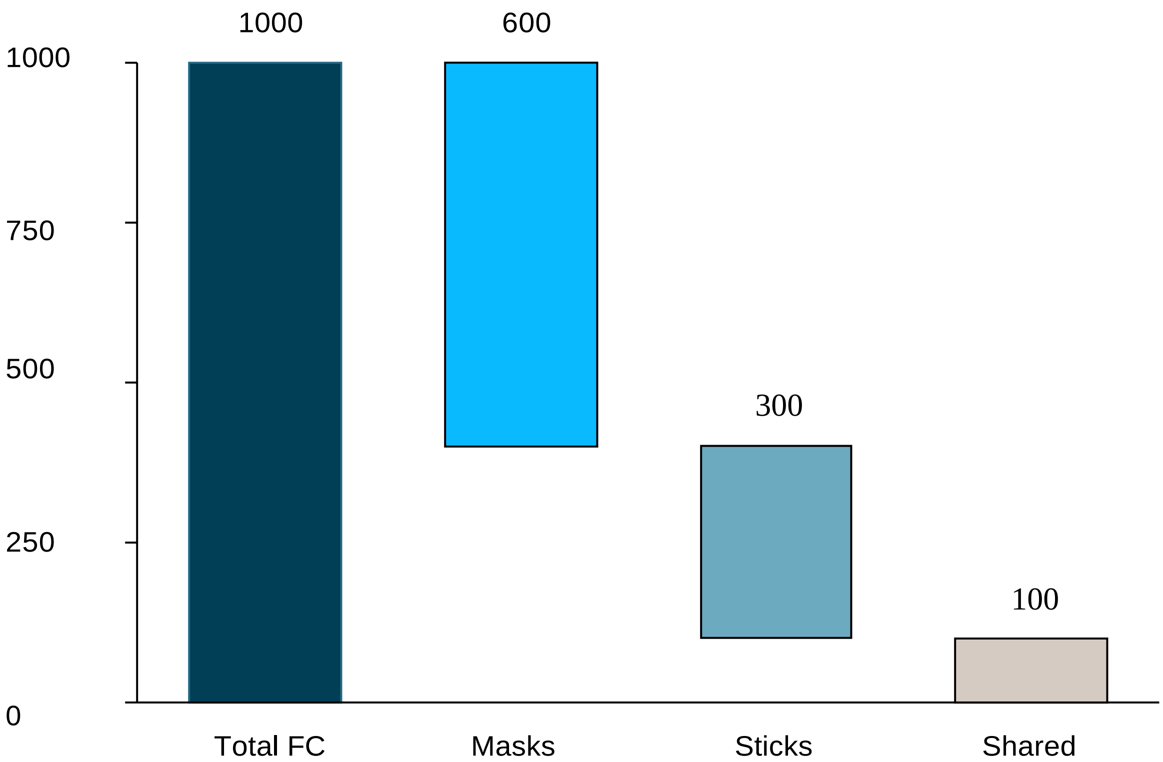


Candidate: It's interesting to see that both the fixed and variable costs associated with sticks are 5x those of masks.

Interviewer: Absolutely. Take a look at this as well.

Interviewer presents Candidate with Exhibit 2.

Exhibit 2
Fixed Costs allocation based on Capital Spending (USD, k)



Candidate: That's really interesting. Based on actual capital spending, masks account for twice the fixed costs of sticks (not including the shared portion of fixed costs). That might be a good area for us to investigate. Perhaps using labor hours to determine the fixed cost allocation across these two products isn't the best course of action.

Interviewer: That's a good point.

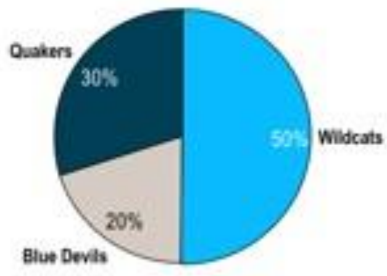
Candidate: Thank you. Of course, these numbers cannot tell us the whole story. We also need to think about the volume of production associated with these products.

Interviewer: Good point. Take a look at this.

Interviewer presents Candidate with Exhibit 3.

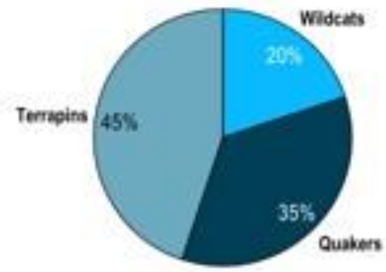
Exhibit 3

MASKS [market size = 500k units/yr]



	Price
Wildcats	USD 5.50
Blue Devils	USD 7.50
Quakers	USD 7.00

STICKS [market size = 250k units/yr]



	Price
Wildcats	USD 27.50
Quakers	USD 23.50
Terrapins	USD 21.00

Candidate: OK. So each year Wildcats produces 250K masks and 50K sticks.

Interviewer: Correct.

Candidate: If we look at actual costs per product with overhead allocated by actual usage (assuming a 50/50 split for the shared costs), we get:

- Masks: $650k OH / 250k units = $2.60
- Sticks: $350k OH / 50k units = $7.00

Candidate: That is different from the actual allocation we saw in Exhibit 1. If we were to use these fixed costs in addition to the VC we saw earlier, we would get the following costs for each product:

- Masks: $3 in VC + $2.60 in FC = $5.60 (old cost $5 so a 12% increase)
- Sticks: $15 in VC + $7 in FC = $22 (old cost $25 so a 12% decrease)

Interviewer: What are some potential difficulties in adjusting the cost allocation scheme to more of an activity-based system?

Candidate: Some challenges that could arise include Wildcats' ability to track activities accurately, their data quality, and the constant potential for changes in volume. Of course, while this new cost allocation may make sticks look more appealing, it will not change overall profitability for the firm. That said, there are advantages to more accurately allocating costs such as better transparency into true product profitability.

Interviewer: Good. Let's move on to look at revenues and profitability.

Candidate: Sounds great. Do you have any additional information for me about Wildcats' revenues?

Interviewer: I think you have all the information you need.

Candidate: Good point. Using the information from the exhibits you've already shared, I can calculate:

- Masks:
    - Revenue: 250k units * $5.50 = $1.375m
    - Profit: ($5.50 - $5.00) * 250k units = $125k
- Sticks:
    - Revenue: 50k units * $27.50 = $1.375m
    - Profit: ($27.50 - $25.00) * 50k units = $125k

Candidate: That's interesting. Using this new cost allocation method, it appears that sticks and masks are equally profitable, quite contrary to our client's initial hypothesis.

Interviewer: That's right. Now, Wildcats has historically priced at 10% above costs. If they were to use the new cost structure you calculated, what should they price at?

Candidate: Given the costs we found earlier, we can calculate:

- Masks: $5.60 * 1.10 = $6.16
- Sticks: $22 * 1.10 = $24.20

Candidate: This is interesting because the previous exhibits made it seem like Wildcats is competing in a fairly price sensitive market. It might be beneficial to look at the price elasticity of demand among Wildcats' customer base.

Interviewer: That's a good point. Wildcats has not determined price elasticity for either of its products to date and I can confirm that Wildcats' products are fairly undifferentiated from those of its competitors, though there are some brand loyalists.

Candidate: In that case, price levels should play a big role in determining the share that each firm is able to capture. If Wildcats were to change their prices to reflect the new cost allocation, that would likely change its sales volume as well.

Interviewer: Yes. Would you mind estimating what the new volume levels might look like if Wildcats were to adopt the new price levels?

A reasonable estimate might look something like this:

Masks

	Price	Market Share	Volume
Wildcats	$5.50	50%	250,000
Blue Devils	$7.50	20%	100,000
Quakers	$7.00	30%	150,000
			500,000

Masks

	Price	Market Share	Volume
Wildcats	$6.16	40%	200,000
Blue Devils	$7.50	25%	125,000
Quakers	$7.00	35%	175,000
			500,000

Sticks

	Price	Market Share	Volume
Wildcats	$27.50	20%	50,000
Quakers	$23.50	30%	75,000
Terrapins	$21.00	50%	125,000
			250,000

Sticks

	Price	Market Share	Volume
Wildcats	$24.20	26%	65,000
Quakers	$23.50	28%	70,000
Terrapins	$21.00	46%	115,000
			250,000

The candidate should recognize that total volume for Wildcats decreases *in this instance and so total OH coverage per part should* increase*. The interviewer can direct the candidate to ignore this for the purposes of the case. With different assumptions, total volume may increase, it is merely important that the candidate recognizes that OH coverage must either increase or decrease.*

Candidate: Shifting these volumes of course would have an implication on Wildcats' overall profitability. Comparing the current state to the projections associated with these estimates and assumptions, we can calculate:

	Current State	Projection
Product A	125,000	112,000
Product B	125,000	143,000
Total	**250,000**	**255,000**

Candidate: Reallocating costs and keeping Wildcats' cost-plus pricing strategy could result in moderate improvements to overall profitability, but dropping the cost-plus approach may be more beneficial. Under our new cost allocation system, masks are still much less expensive than the second place offering. If Wildcats were to raise the prices of masks (independent of any cost considerations), they could raise profits. A simple calculation verifies this:

- Assume $7 price and 35% market share (conservative) = ($7-$5.50 – assuming original price structure) * 175k units = $262.5k (original profit = $125k).

Interviewer: Great. The CEO of Wildcats just walked into the room. What do you say to her?

Candidate: Despite being the market laggard, Sticks are quite profitable for Wildcats and there is no immediate need to discontinue their production. However, pricing should be reevaluated for both products. Cost-plus is not providing the maximum overall profitability and they should consider breaking from this strategy. Additionally, cost allocation should be reevaluated. While labor-intensive, Sticks are not responsible for large portions of the fixed costs (e.g., floor space, equipment), and it may be possible to adjust cost practices to provide Wildcats with a better overall picture into actual profitability of each product type.

60. A Proposal You Can't Refuse (Other, Financial Services, Competitive Response, Balanced)

Stem: Our client is a large international financial service organization. Among its many divisions, it offers commercial banking services, investment management, wealth management, treasury management services and foreign exchange. Over the past year, our client has seen a decline in RFP (requests for proposal) wins. They have hired us to figure out why and help come up with a plan to reverse this trend.

Candidate: May I have a minute to structure my thoughts?

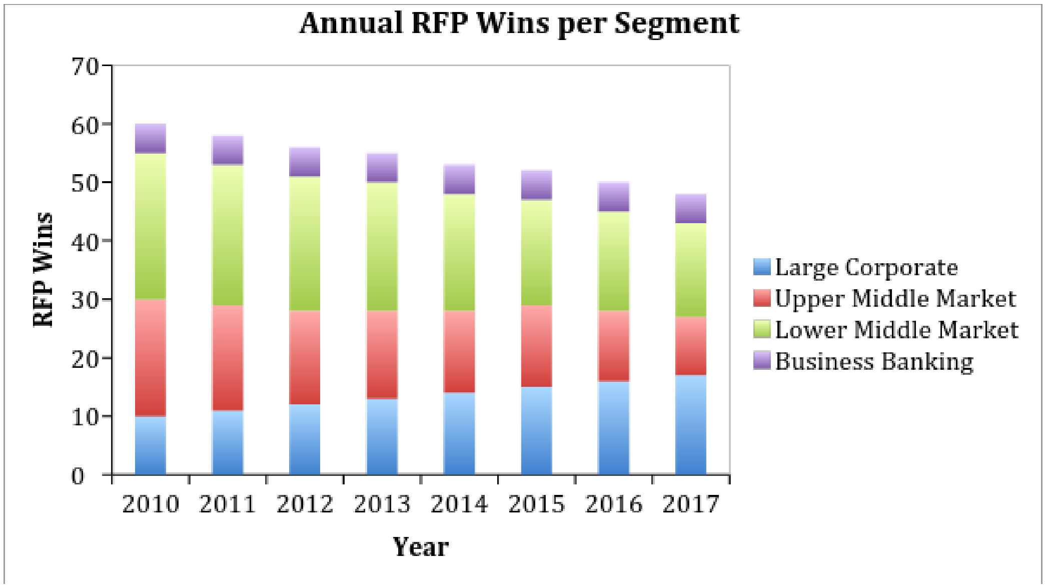
Structure should include the following:
- Banking Industry/Market: Client's top competitors (whether or not they are also seeing decline in RFP wins), new entrants into market (potentially super-regional bank expanding into client's markets) market segmentation, industry trends (increase in technology, international focus of clients, etc.)
- Our Client: Current product offering (compared to competition), pricing (again compared with competition), competitive advantages (if any)
- Other Considerations: Regulatory changes that may impact our client, media or reputation hits recently, economic conditions, competitor responses to any changes we make, etc.

Candidate should start with market, if they don't please steer them in this direction.

Market (Interviewer should provide the following information when prompted/asked):
- Our client has 4 primary competitors of a similar size and international reach
- While there are no new market entrants, some super-regional banks have begun to target some of our client's client segments
- Our client has 4 main client segments:
    - Large Corporate (companies with more than $3 billion in annual revenue)
    - Upper Middle Market (companies with $500 million -$3 billion)
    - Lower Middle Market (companies with $50 million - $500 million)
    - Business Banking (companies with less than $50 million annual revenue)
- Trends: increases in technology and ease of access to international markets have caused many firms that did not originally have international banking needs to require such. These banking needs could be foreign currency options, international bank accounts, letters of credit or other trade products, etc.

Candidate: Is the decline in RFP wins consistent across all 4 client segments?

Interviewer: That's a great question, let me show you some segmentation information and let me know your thoughts.



Candidate: (Insights should include)

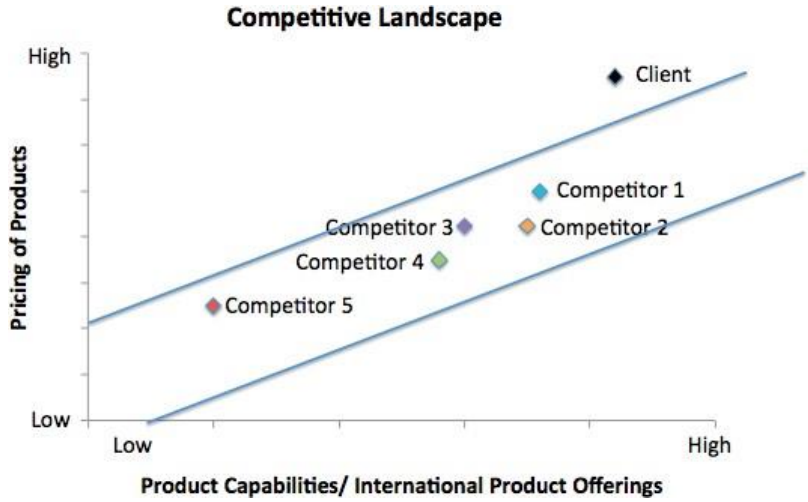
- Not all segments are seeing a decline
- Large Corporate has been steadily increasing so our client appears to be doing well with clients above $3 billion in annual revenue
- Business Banking remains flat year over year so it might not be a target segment for our client
- Middle Market (both lower and upper) appears to be declining in RFP wins though so this is where our client should focus.

Interviewer: So, looking at this segment information, why might our client be seeing a decline in RFP wins in the middle market?

Candidate: (should create a bucketed list with the following ideas)

- Economic shift that could be effecting this segment (although an economic downturn would also hit small businesses so we would expect to see a decline in business banking too)
- Competition (clients in this segment might be moving over to a competitor, a competitor might be targeting our clients specifically, etc.)
- Pricing (did our client increase prices over this time-period that cause a decline in our competitiveness)
- Product Offering (does our client's products compare to that of our competition)
- Other…

Interviewer: Those are good ideas. To give you a little more background, our client's product offering is not lacking and there has not been an economic shift to impact our clients recently. Let me show you the following and you can let me know your thoughts.



Candidate: (Insights should include)

- Our client's product capabilities/international product offering appears to be better than its competitors
- However, the price of our capabilities lies outside of what is perceived acceptable to clients
- In order to be more in line with competition, our client can either choose to decrease the price or invest in additional capabilities

Interviewer: Do you think our client needs to increase capabilities given they are already ahead of competition?

Candidate: In the long-run yes, but short-run it's probably not the cause of the decrease in RFP wins so no.

Interviewer: Ok, so how about the decrease in pricing of current products. What are some of the risks that our client might face if they decrease price?

Candidate: (Bucketed structure should include the following risks)

- Decrease in price may cause decrease in overall revenue among all 4 client segments (this isn't good since we aren't having any issues with large corporate clients)
- Competitors may decrease price in response (potentially causing price wars)
- Other

Interviewer: So, what could our client do instead of decreasing the price of its current products? (If the candidate struggles with this question, ask them if they think all four segments require the same level of product capabilities?)

Candidate: While our client may be able to offer all the bells and whistles to all 4 customer segments, some clients may not be as sophisticated as the large corporate clients. As such, our client could offer some form of "lite" version of the same international products to appeal to the middle market and even business banking clients. These products would have slightly less features, but would be priced lower as well. This would prevent our client from cutting into the large corporate revenue, as well as compete more competitively on pricing in the middle market space.

Interviewer: Great, so the CEO has just walked in, what is your recommendation?

61. Online Advertising (Other, TMT, New Market, Quantitative)

Stem: Our client is an advertising firm with $400 million in annual profits based in the United States with operations all around the world. The client primarily generates revenue through digital display format advertisements and is evaluating whether it should invest resources in alternative digital format ads that are emerging. What should our client do?

Candidate should recognize that this problem requires the emerging markets to be sized and that the client will have to do a forecast on the expected profitability for the alternative markets.

If asked, provide the following information for the candidate:

Digital display: Static image and/or text based ads found on web pages. One of the largest sources of online advertising revenue.

Client is a leading digital advertising demand and supply-side firm; that is, our client connects advertising brands on the demand-side (like P&G and Coca Cola) to online publishers on the supply-side (like ESPN and NYTimes.com).

Candidate: Can I have a few moments to structure my thoughts?

Interviewer: Sure.

Candidate walks interviewer through case framework. The framework should include data points that cover market sizing as well as expected resources and revenue breakdown for entering a new market.

Interviewer: Please take a look at this table and tell me what you think.

Candidate: Sure. I'd like to clarify whether these numbers are global or only cover the U.S.?

Interviewer: This is a global forecast.

Online Advertising Market

USD, bn	2012	2013	2014	2015	2016	2017	2018	2019
Display advertising	$10	$14	$18	$19	$19	$20	$21	$22
Search advertising	$5	$4	$5	$6	$7	$8	$8	$8
Mobile advertising	$3	$7	$10	$14	$16	$19	$24	$30
Video advertising	$1	$3	$6	$11	$15	$20	$25	$30

Candidate: It appears that the display advertising market has been the largest digital advertising market within the U.S. in recent years but that is no longer going to be the case in the coming years. In fact, growth will slow considerably in the display advertising market while video and mobile advertising will grow rapidly. Mobile and video advertising can represent a better opportunity for our client. Is there any overlap between mobile and video advertising?

Interviewer: Good question. Video is an ad creative format and mobile is a platform. Video ads can run on either mobile or desktop platforms.

Candidate: So that means that mobile advertising includes video advertising - so in fact, the video format market will be driving growth within mobile. I'd like to move on to understanding what it would for our client to enter the video advertising market.

Interviewer: Okay.

Candidate: Do we have data on what resources the client will need to invest in order to participate in video?

Interviewer: What would you like to know?

Candidate: I'd like the following data:

Fixed costs: up-front engineering cost of building out a video product, marketing costs for spreading awareness about the client's product

Variable costs: salaries for sales staff needed to acquire new customers that use video, salaries for new product or engineering staff needed to maintain the video product, contractual fees paid to ad supply exchanges to enable ongoing access to video ad inventory online

Interviewer: I have the following data that our analyst put together by reaching out to the various departments in our client's company:

Show candidate the following data:

Projected resources needed by department:

<u>Engineering and Product:</u> $50K for year 1, $20K - $30K for every year after

<u>Sales:</u> $300K for year 1, $300 - $400K for every year after

<u>Marketing:</u> $20K for year 1, $30K for every year after

Candidate: Interesting - it looks like we might already have much of the technological infrastructure built out to enter this new market but our client does not have the right industry relationships to actually sell this product and will have to hire new sales staff to bring in and foster those relationships.

Interviewer: That's right.

Candidate: Okay - I'd like to estimate how much revenue our client might be able to bring in by entering this market so that we can then figure out how profitable this opportunity will be.

Interviewer: Google and AOL will be the leaders in the global video advertising market, with expected shares of 40 and 25 percent, respectively. Given the nature of online ad inventory supply and the slow pace of change in media buying habits across large media buying agencies and brands, we can assume that those shares will remain constant throughout our forecast horizon.

Candidate: That leaves 35 percent of the global video advertising market. Do we have data on our relative market share with our closest competitors?

Interviewer: Yes - there are two other competitors in our peer group and our RMS is 1 with both. There is 10 percent of the market that we will not be able to compete in because of existing contractual agreements. It will take our client one year to build the commercial relationships that they need to operate in this market.

Candidate talks through her thought process while creating a neatly formatted table on a new slide that includes the information shown below.

	2016	2017	2018	2019
Video market size	$15 bn	$20 bn	$25 bn	$30 bn
Client market share	8%	8%	8%	8%
Client revenue	$1.2 bn	$1.6 bn	$2 bn	$2.4 bn
Client cost	$350 - $460k	$350 - $460k	$350 - $460k	$350 - $460k
Client profit	$1.2 bn	$1.6 bn	$2 bn	$2.4 bn

Candidate: The video advertising market is a very lucrative opportunity for our client, with the potential to quadruple our client's bottom line to $1.6 billion in year 1 of operation alone. Given the fixed cost and scalable nature of a software product based business, our client will have to focus efforts on expanding its sales force and building the right commercial relationships. For next steps, our client should identify the target verticals and brands and media buying agencies within those verticals that it should try to acquire.

Interviewer: Great, thanks. Let's talk more about your experiences prior to Sloan.

62. You Drive Me Crazy (Other, TMT, Competitive Response, Balanced)

Stem: Our client is a large international software technology provider. News has just surfaced that the US Congress is preparing to pass a bill that will take effect in 6 months and will legalize unmanned, self-driving cars and trucks, as long as the vehicles do not carry any passengers. Our client is one of two vendors that, within this window, will be poised to deliver the Simultaneous Localization and Mapping Technology (SLAM software) which is needed to operate any and all self-driving vehicles. Their only competitive vendor is a large international computer chip manufacturer. While there are many technologies that enable self-driving cars to work, we are only focused on the mapping and car intelligence software, again known as SLAM. SLAM software runs “in the cloud”, meaning that it runs on large servers connected to the internet and not on the vehicles themselves.

The client has contacted us to propose the best go-to-market strategy for their SLAM technology. How would you approach this problem?

(Note for questions: It is not important to know how the SLAM solution works; all the candidate needs to know is that it is a software program that runs on internet servers. All other technologies for self-driving cars, besides SLAM, are also expected to be ready for sale at the time of the legislation passing. The marginal cost to retrofit a vehicle to work with SLAM will be assumed to be negligible discounted over the life of the vehicle.)

Candidate: Okay, I have broken the problem up into three areas: the customers, the competitor, and our client. First for the customers, there are many types of customers from small carrier and delivery companies, to large freight trucking companies. Each of those customers would have different needs, have different number of vehicles, and have different willingness to pay. Next, I would want to understand what their competitor, the large chip manufacturer is doing? What price are the selling the solution for? How many customers can they capture? What are their costs? And finally, I would want to know what our client’s options are for pricing and margins, and how that will affect units sold. To know that I would want to understand the fixed and variables costs associated with their solution.

Interviewer: Great! To start, let’s think about the customers. Who do you think would be the potential customers for this solution right from the start?

Candidate: Well since no people will be in these vehicles, I think the major customer segments are all in logistics: trucking companies, package companies like UPS, food delivery services, store drop-off services, mining and oil companies, and even some construction services like laying road could probably be automated.

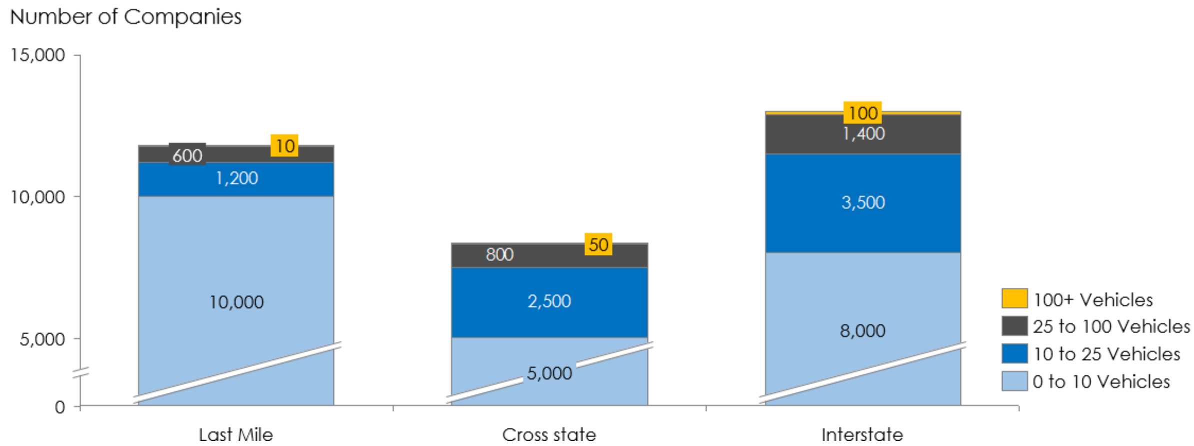
Interviewer: And what would you want to know about the customers to begin thinking about how to productize the SLAM technology?

Candidate: Yes, I would like some information on the number of potential customers and how many vehicles each owns.

Interviewer: Great, so our client has broken the customer groups into three segments, Large interstate freight, cross state mail and package delivery services, and last mile drop off services (e.g. delivery from a local warehouse to the end user – think Amazon Fresh!).

Take a look at figure 1 and tell me what you think?

Market Research on Vehicle Count per Company

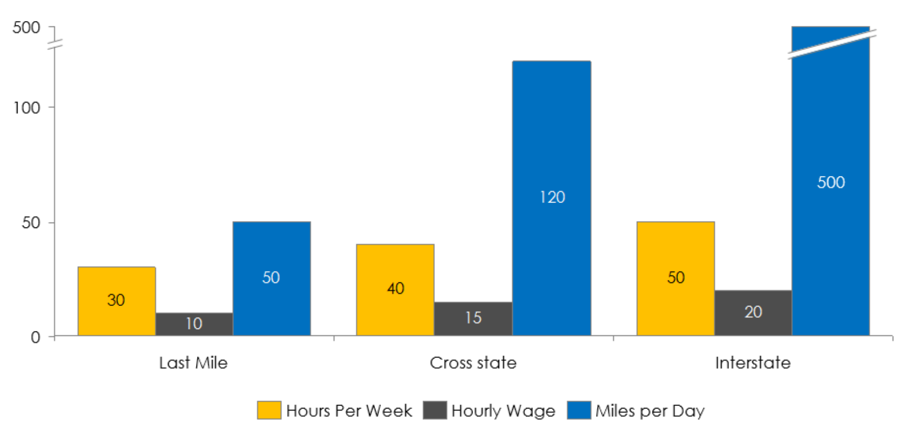


Candidate: Okay, we can see that the vast majority of companies have less than 10 cars in total, with a decreasing number of companies in each category as we observe increasing fleet sizes. We can also see that interstate companies have a larger proportion of bigger fleets in comparison with the other two.

Next, I would like to know about what these customers are willing to pay? So, it would be good to understand these companies cost for drivers today. Something like the number of drivers, their working hours and their pay.

Interviewer: Great! Take a look at figure 2 and tell me what you think.

Market Average Driver Statistics by Group



Note: Industry average work week is 50 weeks per year across all groups

Candidate: As expected, the longer route interstate drivers demand higher wages as compared to the last mile drivers who drive less and work fewer hours on average.
(Note: the candidate should begin calculating the cost per driver per year based on this data, if not, prompt them to do so)

Okay, to figure out the willingness to pay, I can calculate the total cost per employee by segment:

	Hours per week	Hourly wages ($)	Weekly wages ($)	Weeks per year	Annual wages ($)
Last mile	30	10	300	50	15,000
Cross state	40	15	600	50	30,000
Interstate	50	20	1,000	50	50,000

Interviewer: Great, now before you continue, I have some competitor information for you. Our client's competitor, the only other company in the market with a SLAM solution is planning to sell their product to customers for $14.4 million each. Each product can support up to 500 vehicles. Industry experts expect that the hardware will have a shelf life of 4 years.

Candidate: Got it, since it's only going to be useful for 4 years, the annual cost is $3.6 million. Let me quickly figure out how many cars you would need to have to justify that expense.
Last mile $3.6M/$15K = 240
Cross state $3.6M/$30K = 120
Interstate $3.6M/$50K = 72

So right away we can see the majority of the market is priced out of being able to afford this hardware device. If only the largest players make this purchase, they should only expect to sell a few hundred units to the largest companies. So, this means that there should be a large market opportunity here. Do we know how much our client's device costs to make?

Interviewer: Yes, we do. Our client's device costs $14 million to make, but can support up to 1,000 vehicles. However, it's also expected to be have a shelf life of 4 years but only if it's run at 50% of its total vehicle capacity, and only a 1-year shelf life at 100% capacity.

Candidate: Okay, so if they simply sell the device at cost they are not going to have much of an advantage. Can they sell the individual vehicle spots to companies instead of selling the actual device?

(Note: for a hint, you can remind the candidate that our client is a software company and their competitor is a hardware vendor. So, it makes sense that our client would be able to sell a software license while the competition is only setup to sell hardware.)

Interviewer: Yes absolutely! Since they are a software company and their competitor is a hardware vendor, they can sell support for each device as a yearly software license. That way they never sell the actual server, but instead run it from their datacenter. It would cost them about $1,000 per vehicle to support per year.

Candidate: Great, so the cost to them would be 14M/1K = $14,000 plus the $1,000 for the setup cost for a total cost of $15,000. Given that the cost is not justified for the last mile market, I would not focus on them and instead price it for the cross state and interstate customers. If they priced it just below $30K we could expect them to have a very nice 50% margin and still be attractive to the entire cross state and interstate markets.
Interviewer: Great! At that price model, the client would expect to sell 20,000 licenses in the Interstate and cross-state markets.

Candidate: If they sell 20K licenses at $30K each, that's over $600M in revenue, with $300M as profit!

Interviewer: Okay, there are a lot of numbers to crunch to find the best price and the client is on his way here. We would like use to give them our current thoughts, what's your recommendation.

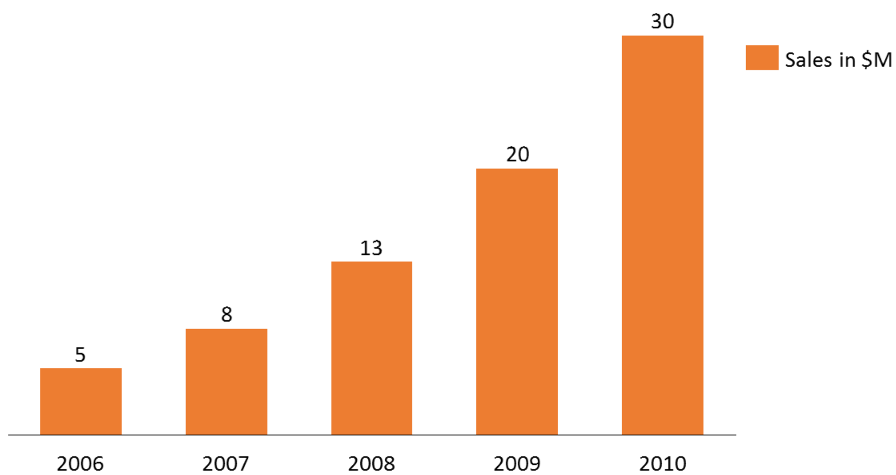
Candidate: I would recommend that the client sell individual vehicle subscriptions for just under $30K each, giving them a margin of 50% and a potential market of over 20K licenses, or over $600M in revenue and 300M in profit.

As a next step, I would like to run some more calculations to find the ideal price and vehicle load per device mix. Also, I would want to look into ways that they could price discriminate in order to extract more value from the different groups willingness to pay.

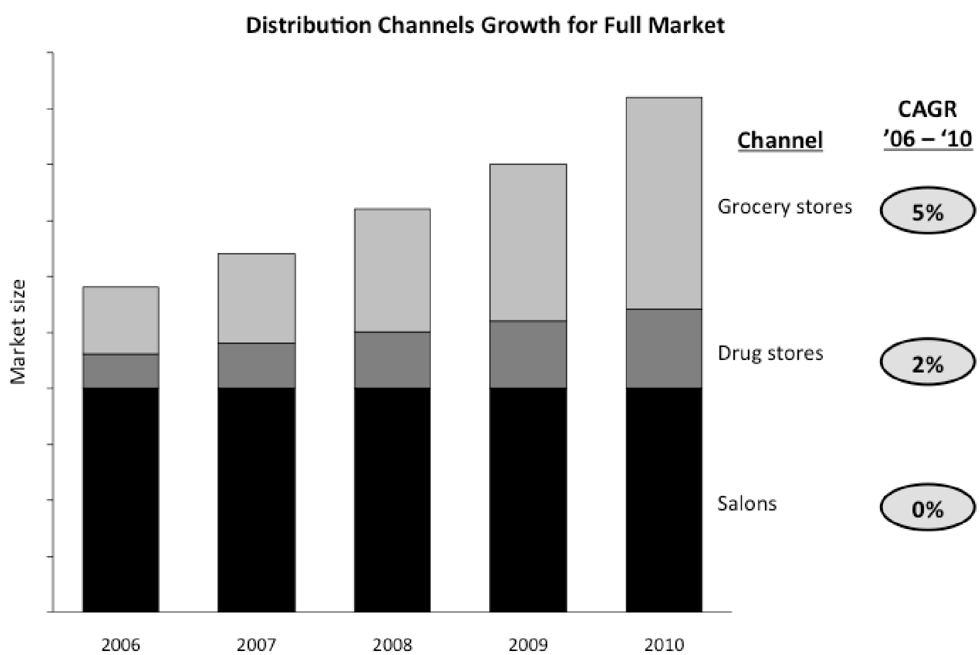
Chapter 18: Duplicate Copies of Tables and Charts from the Cases

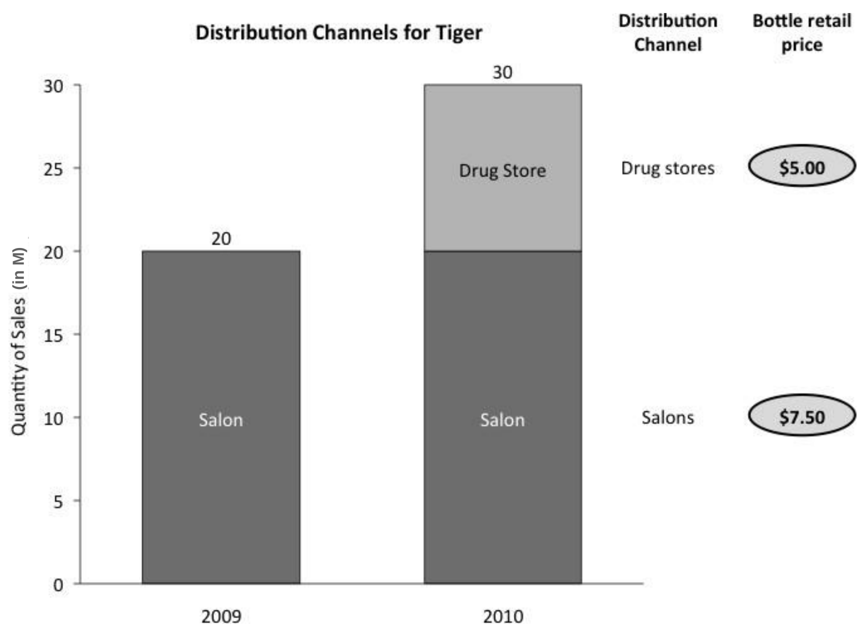
---

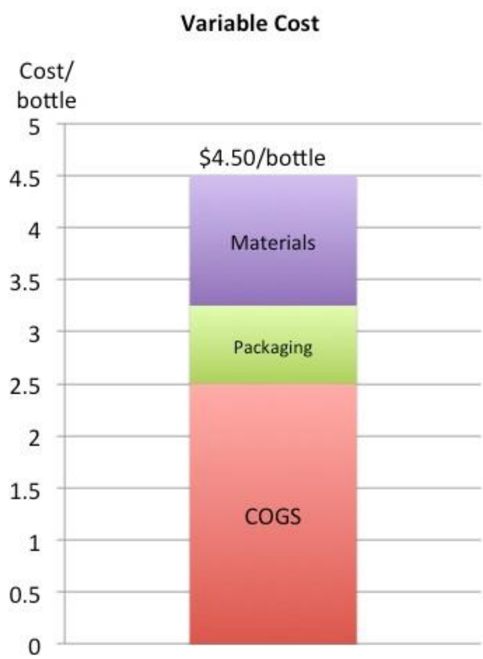
2. Tiger (Bain Mock, Private Equity, M&A, Balanced)



EBITDA:	9%	10%	12%	14%	9%

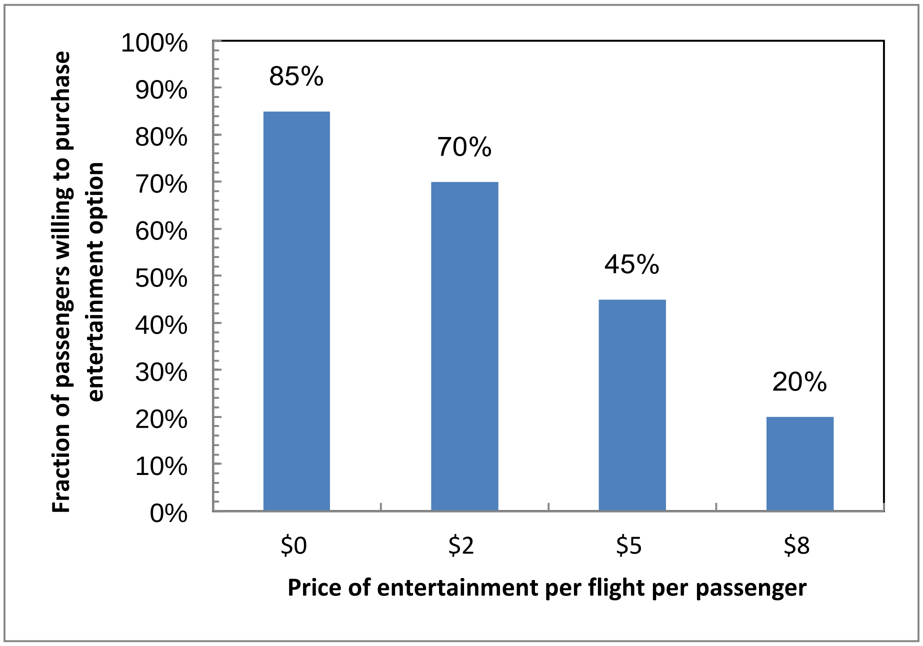



Distribution Channels for Tiger
Distribution Channel
Bottle retail price
Quantity of Sales (in M)
30
25
20
15
10
5
0
30
20
Drug Store
Salon
Salon
2009
2010
Drug stores
$5.00
Salons
$7.50

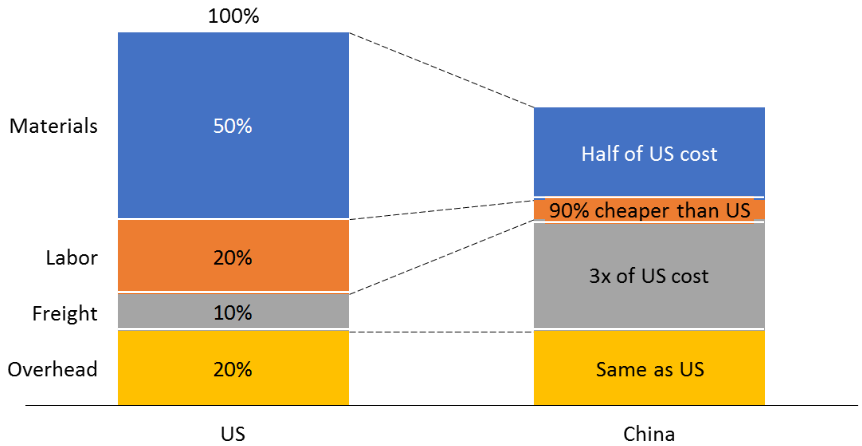

Variable Cost
Cost/ bottle
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
$4.50/bottle
Materials
Packaging
COGS


Total Cost (in $M)
Incremental Cost associated with each distribution channel per year
6
5
4
3
2
1
0
$5M
OH
SG&A
Marketing
Sales

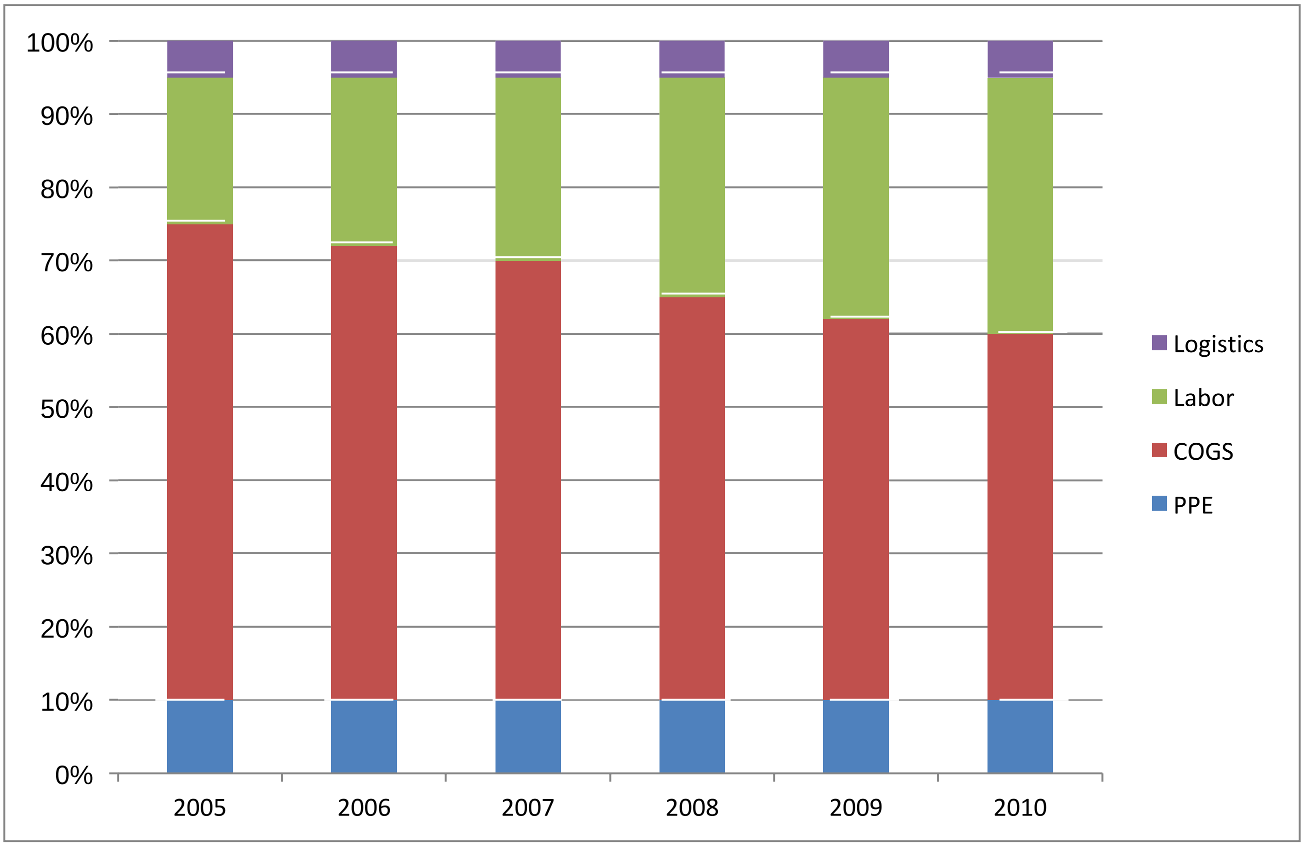
3. Commercial Airline Amenities (Bain R1, Transportation, New Product, Balanced)



8. Industrial Tools Manufacturer (Bain R1, Industrial Goods, Profitability, Quant)



11. Potato Inc. (Bain R1, CPG/Retail, Profitability, Qualitative)



13. HDTV Remote Controls (Bain R2, Private Equity, M&A, Quantitative)

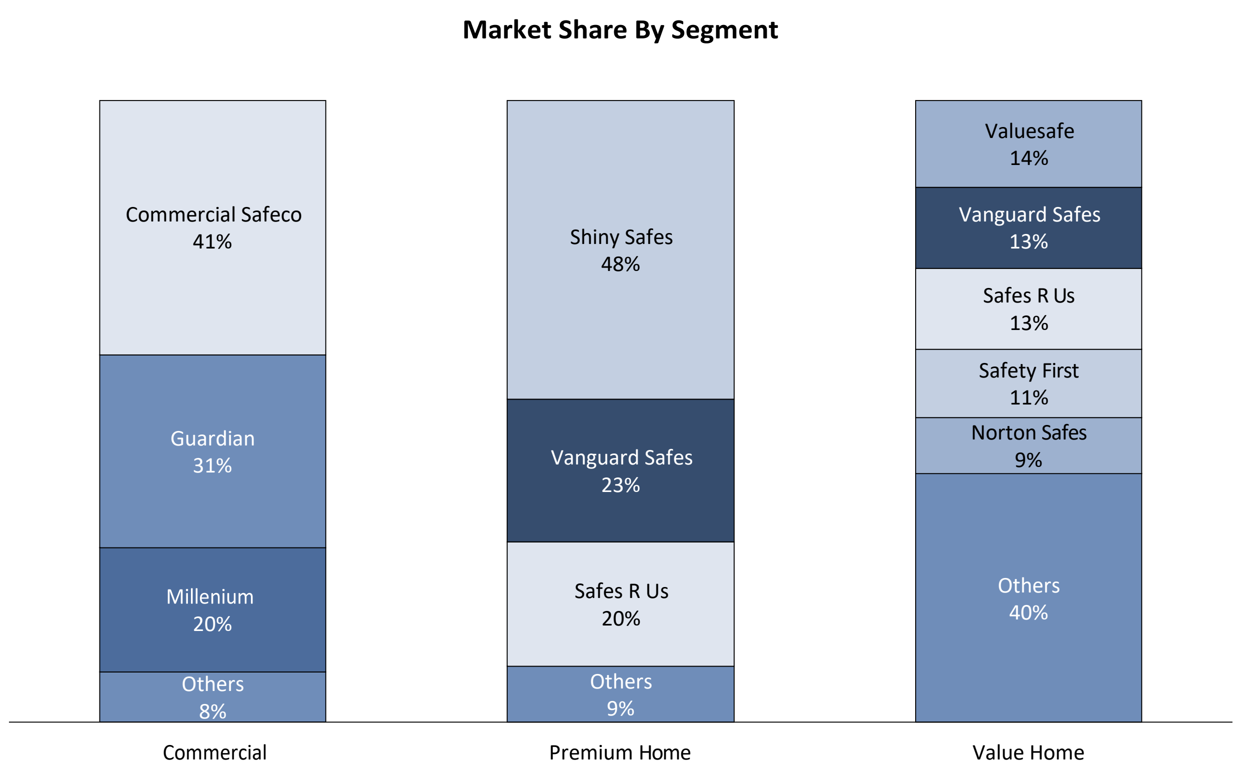
	2002	2003	2004	2005E	2006E	2007E	2008E	2009E	2010E
Remotes	10M	20M	40M	60M	60M	50M	30M	20M	10M
Cumulative	10M	30M	70M	130M	190M	240M	270M	290M	300M

14. Paper Clips Acquisition (Bain R2, CPG/Retail, M&A, Quantitative)

Projected Safe Sales for the Next Five Years

Market Segment	Unit Sales CAGR*	Average Selling Price per Unit CAGR
Commercial	0%	6%
Premium Home	6%	5%
Value Home	8%	3%

**CAGR = Compound Annual Growth Rate*



Note: Market share data based on annual sales

	Commercial Safeco	Shiny Safes	Valuesafe
Revenue	100%	100%	100%
Materials	30%	21%	29%
Direct Labor	31%	23%	28%
Freight	7%	15%	18%
Total COGS	68%	59%	75%
Gross Margins	**32%**	**41%**	**25%**
SG&A	20%	30%	22%
EBIT	**12%**	**11%**	**3%**

16. CPG Low-Income Market Entry (BCG Mock, CPG/Retail, New Market, Balanced)

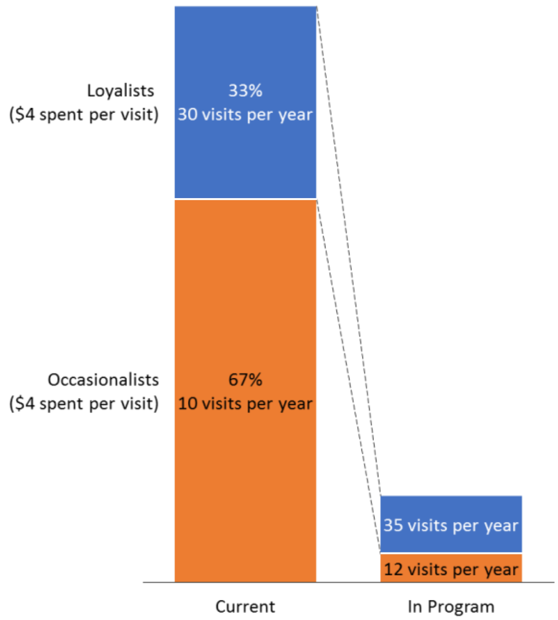
Table 1: Category Sales for Total Market and LI segment ($MM)

Product	Total Market Category Sales	Client Category Sales	LI Category Total Sales	Client LI Category Sales
Shampoo	400	100	100	33
Cold Medicine	200	40	75	7.5
Diapers	800	400	400	100
Baby Food	300	100	100	33

Table 2: Product Pack Sizes and Prices

Product	Client Package Size	Avg. Competitor Package Size	Client Price ($)	Avg. Competitor Price ($)
Shampoo	10 mL	12 mL	20	15
Cold Medicine	8 mL	10 mL	12	10
Diapers	40 diapers	32 diapers	20	16
Baby Food	16 oz	20 oz	20	25

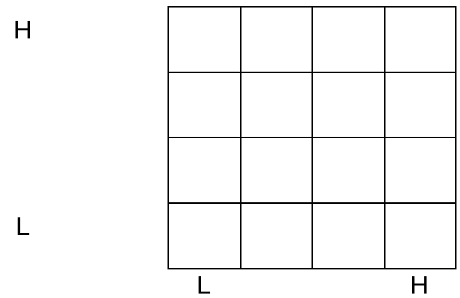
17. National Fast Food Chain (BCG Mock, CPG/Retail, New Market, Quantitative)



20. Italian Pharma (BCG R1, Healthcare, New Market, Balanced)

Figure 1:

Client's Market Share



# of potential users

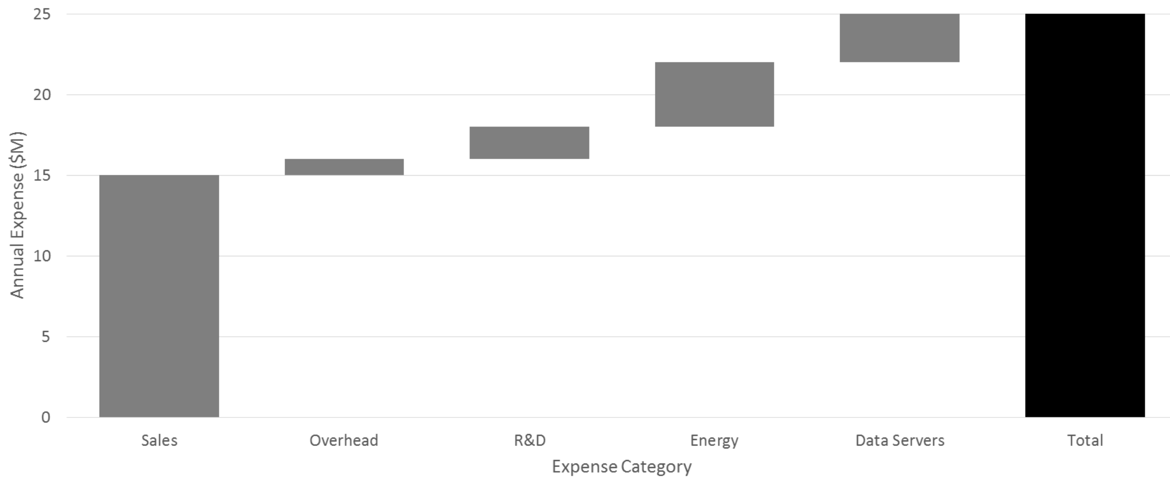
Figure 2:

10%				
40%				
30%				A
20%			A	A
	20%	30%	40%	10%

22. National Supermarket Chain (BCG R1, CPG, Operations, Balance)

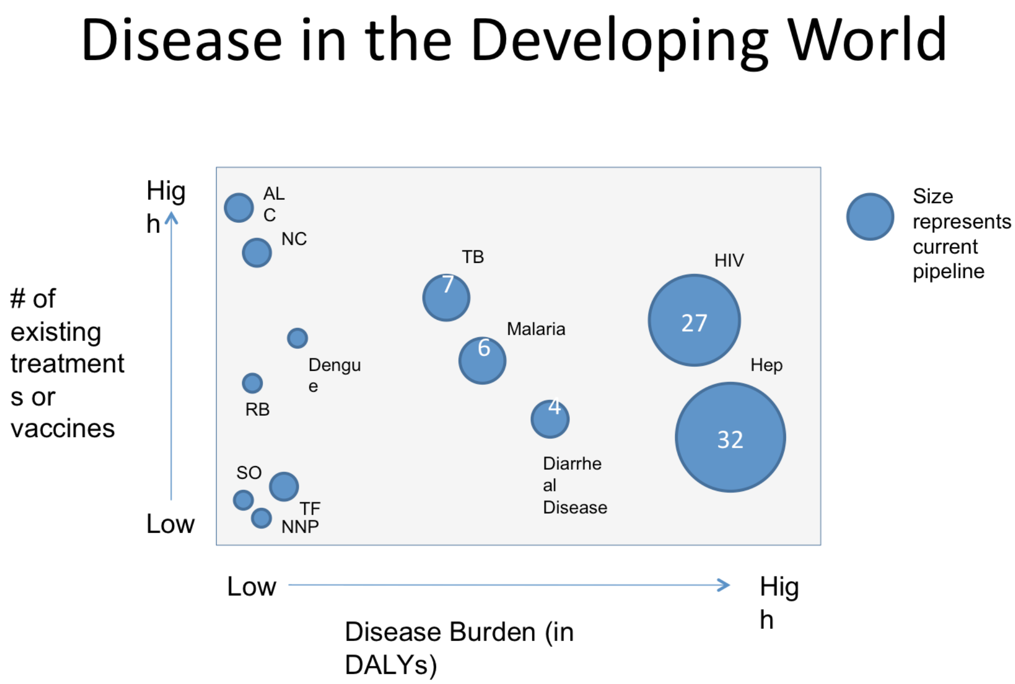
	Large Format Stores	**Typical Grocery Stores**
Sales Composition	Groceries: 50%, Health & beauty products: 30%, Personal products: 20%	Groceries: 75%, Health & beauty products: 15%, Personal products: 10%
Monthly Revenue	$960K	$640K
Monthly Profit	$96K	$32K
CapEx Required	$21M	$11M

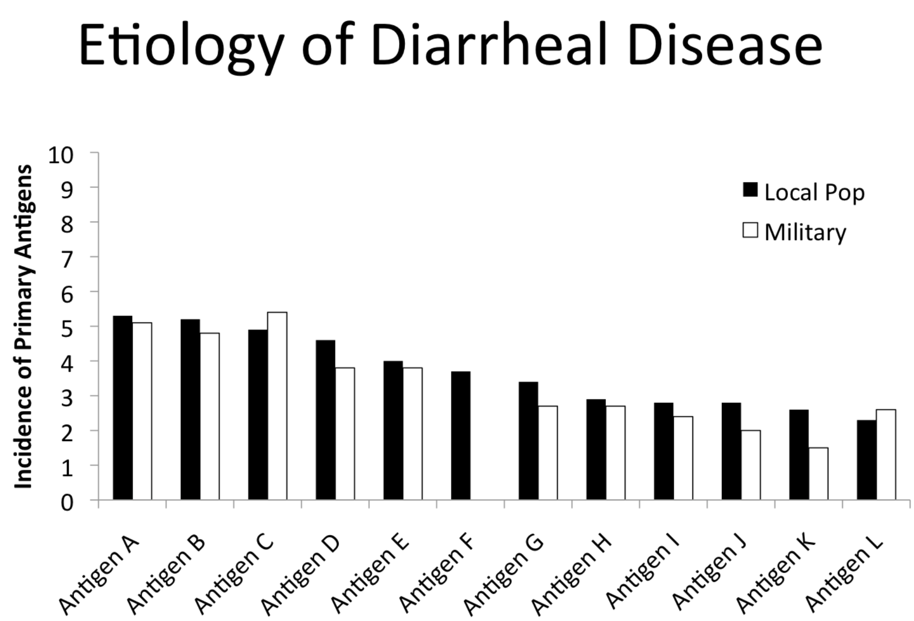
27. Big Data (BCG R2, TMT, Profitability, Balanced)



	Sales Force	Revenue	Optimal Rev/Employee	Optimal Sales Force	**Implied +/-**
Large	50	$40M	$400K	100	**+50**
Medium	175	$40M	$200K	200	**+25**
Small	375	$20M	$80K	250	**-125**

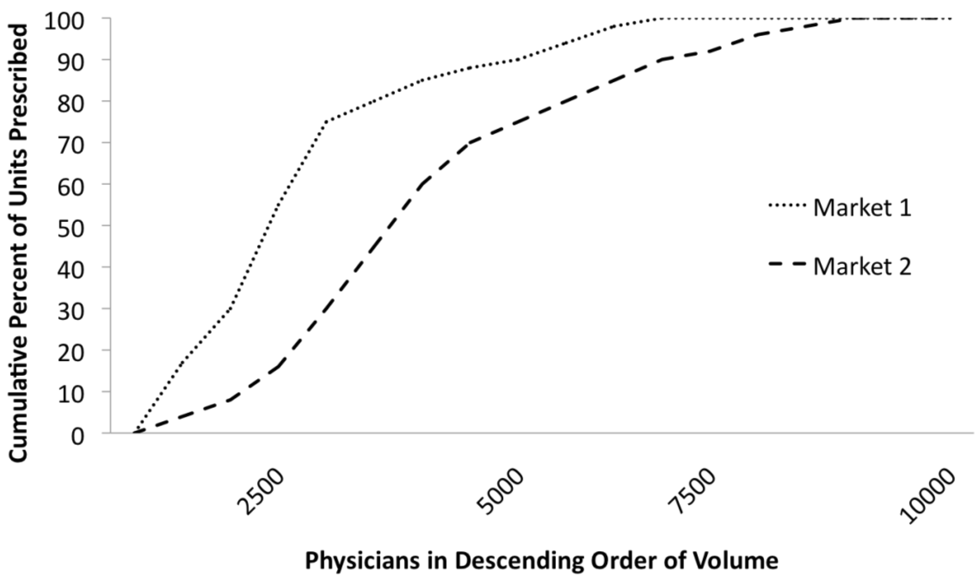
30. Global Health (BCG R2, Healthcare, New Market, Quantitative)





Source: Local population data (black bars) from field study surveys by a medical nonprofit in 7 developing countries. Military population data (white bars) from a sample of US soldiers stationed in Egypt.

Prescribing Patterns in Market 1 vs. 2



33. TastySnack (Deloitte R1, CPG/Retail, Profitability, Quantitative)

Table 1

	2007	**2008**	**2009**
Revenue	$60M	$50M	$45M
COGS	$30M	$25M	$22.5M
SG&A	$8M	$9M	$10M

Table 2

	Competitor 1	**Competitor 2**	**Competitor 3**
2007 Revenue	$9.9M	$18M	$29M
2009 Revenue	$10M	$20M	$30M
2009 COGS	$4.5M	$10M	$15M
2009 SG&A	$1.8M	$3.5M	$5M

Tasty Snack Revenue Breakdown by Market

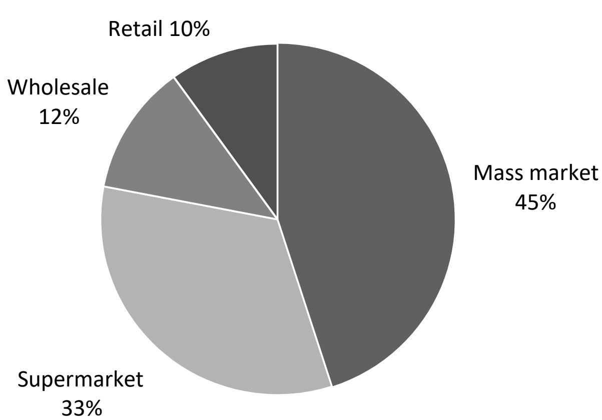


Table 3

	3 Year CAGR	Change in Price
Mass market	-15%	-2%
Supermarket	1.5%	1%
Wholesale	1%	1.5%
Retail	1%	2%

Table 4

	Supermarket	Mass market
Price to customer	\$3.35	\$3.33
Price to end consumer	\$3.72	\$3.45

34. AgChem (Deloitte R2, Industrial Goods, Profitability, Quantitative)

Table 1

	Revenues	**Profit**
Proprietary	$1B	$80M
Total	$5B	$200M

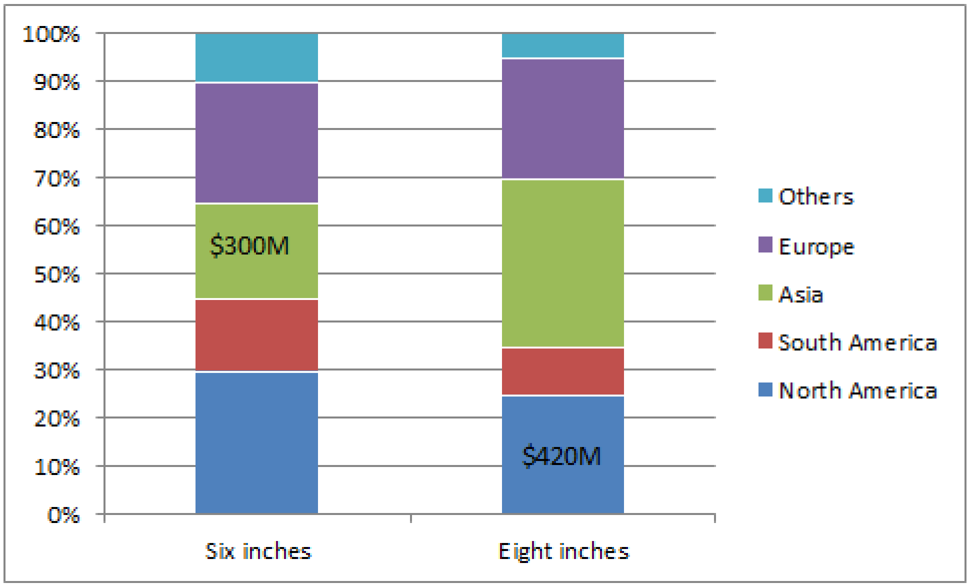
Table 2

	Revenue from Vendor ($B)	**Revenue from Proprietary ($B)**	**Total Revenue ($B)**
FY09	4	1	5
FY10	4.34	1.86	6.2
FY11	4.2	2.8	7

Table 3

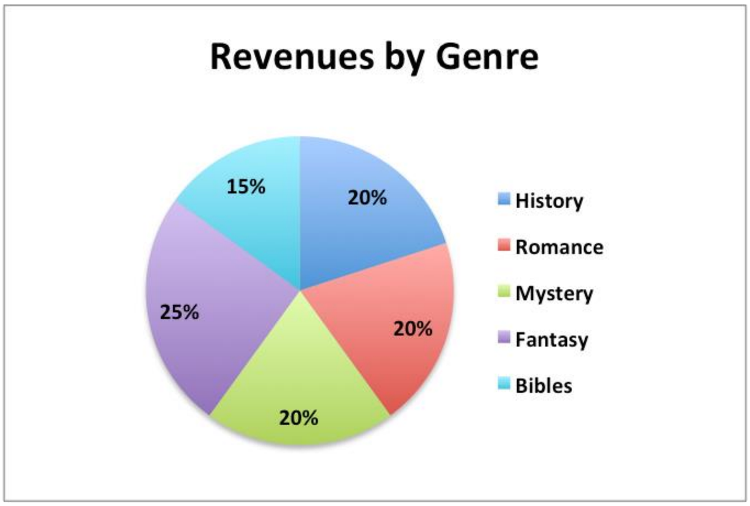
	Market size	**AgChem share of market**
Canada	$10B	2%
Brazil	$8B	2%
California	$5B	3%
Minnesota	$5B	1%

35. Blue Chips (Deloitte R2, Industrial Goods, New Product)



37. Publishing Company (Parthenon R1, Other, Growth Strategy, Balanced)

Revenue by Genre (product mix is the same as the competition):



40. Great Burger (McKinsey Mock, CPG/Retail, M&A, Other)

Stores	GB	HD
Total	5,000	1,020
North America	3,500	1,000
Europe	1,000	20
Asia	400	0
Other	100	0
Annual growth in stores	10%	15%

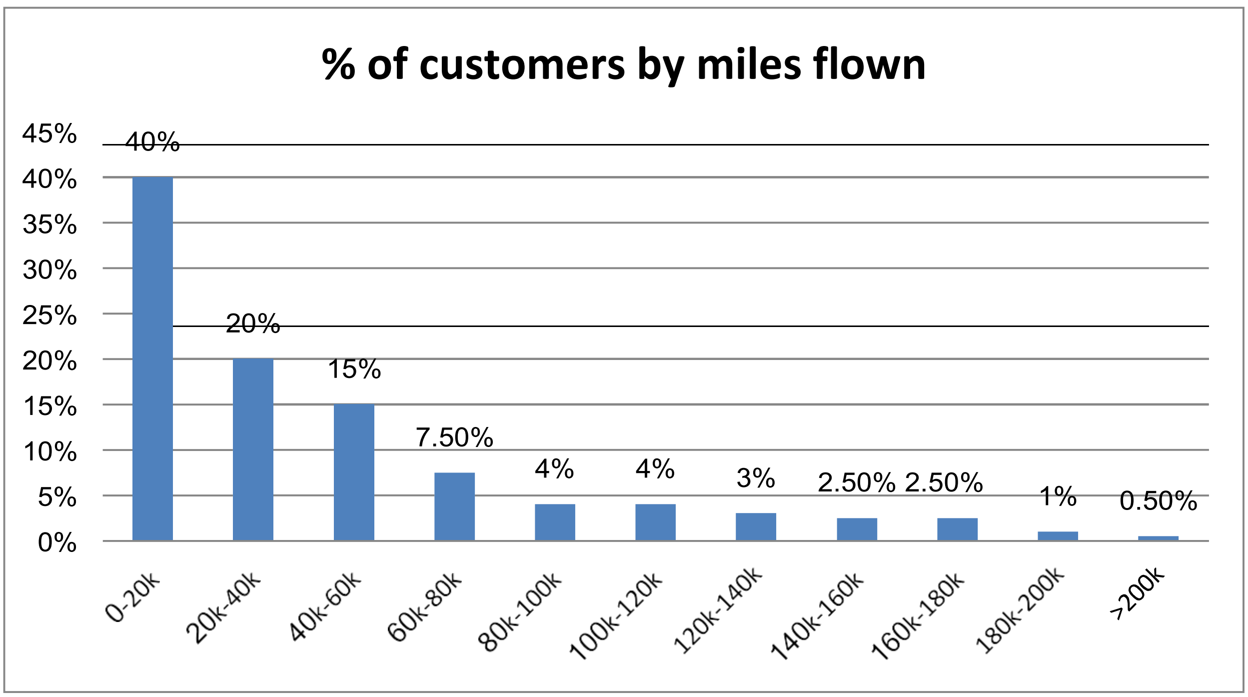
Financials	GB	HD
Total Store Sales	$5,500M	$700M
Parent company revenues	$1,900M	$200M
Key expenses (% of sales)		
Cost of Sales*	51%	40%
Restaurant operating costs	24%	26%
Restaurant property & equipment costs	4.6%	8.5%
Corporate general & administrative costs	8%	15%
Profit as % of Sales	6.3%	4.9%
Sales/Store	$1.1M	$0.7M
Industry Average	$0.9M	$0.8M

*Variable costs, mostly food costs

43. Airline Reward Program (McKinsey R1, Transportation, New Product, Quantitative)

Table: Frequent Flier Program

Miles Range	Status	Benefits
0 – 25,000	Member	• Miles flown accrue to reward balance
25,000-50,000	Super	• Miles flown accrue at 25% bonus • Free upgrades when available after SA & SDA
50,000-100,000	Super-Awesome (SA)	• Miles flown accrue at 50% bonus • Free upgrades after SDA fliers considered • Free access to president's lounge on international flights • Free drink coupons in event of delays
>100,000	Super-Duper-Awesome (SDA)	• Miles flown accrue at 75% bonus • Free upgrades when seats available • Access to president's lounge for free • Free drink coupons in event of delays

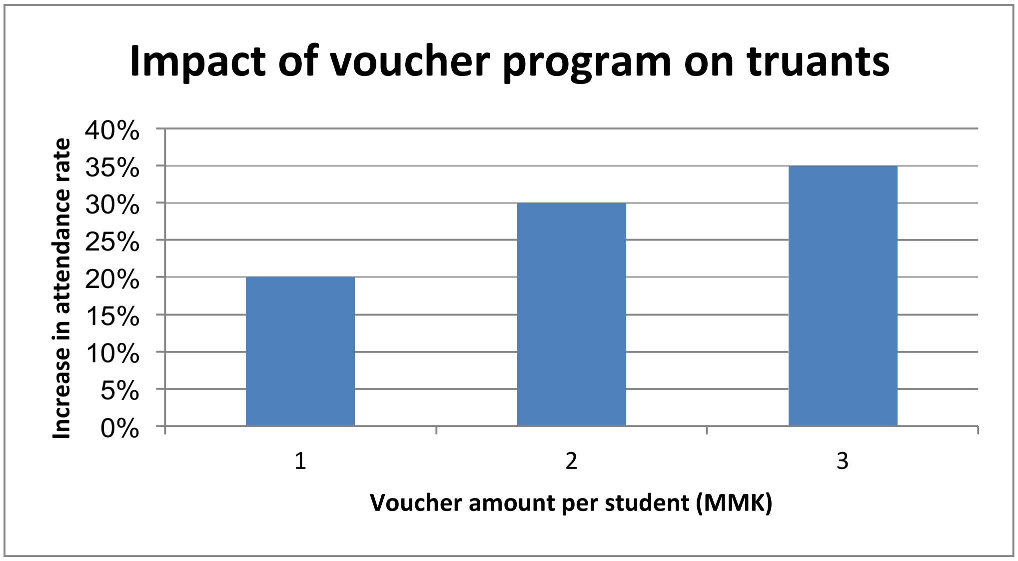


45. Baby Food (McKinsey R1, CPG/Retail, New Product, Balanced)

Industry overview

Revenue ($M)	3 years ago	2 yrs ago	1 yr ago
Premium	550	650	800
Midline	600	550	500
Value	480	560	650
Price ($)	3 years ago	2 yrs ago	1 yr ago
Premium	$2.25	$3	$4
Midline	$1.75	$2.40	$2.50
Value	$1.30	$1.30	$1.30
Profit ($M)	3 years ago	2 yrs ago	1 yr ago
Premium	200M	250M	270M
Midline	165M	150M	135M
Value	100M	100M	100M

47. Education in Burma (McKinsey R1, Other, Growth Strategy, Quantitative)



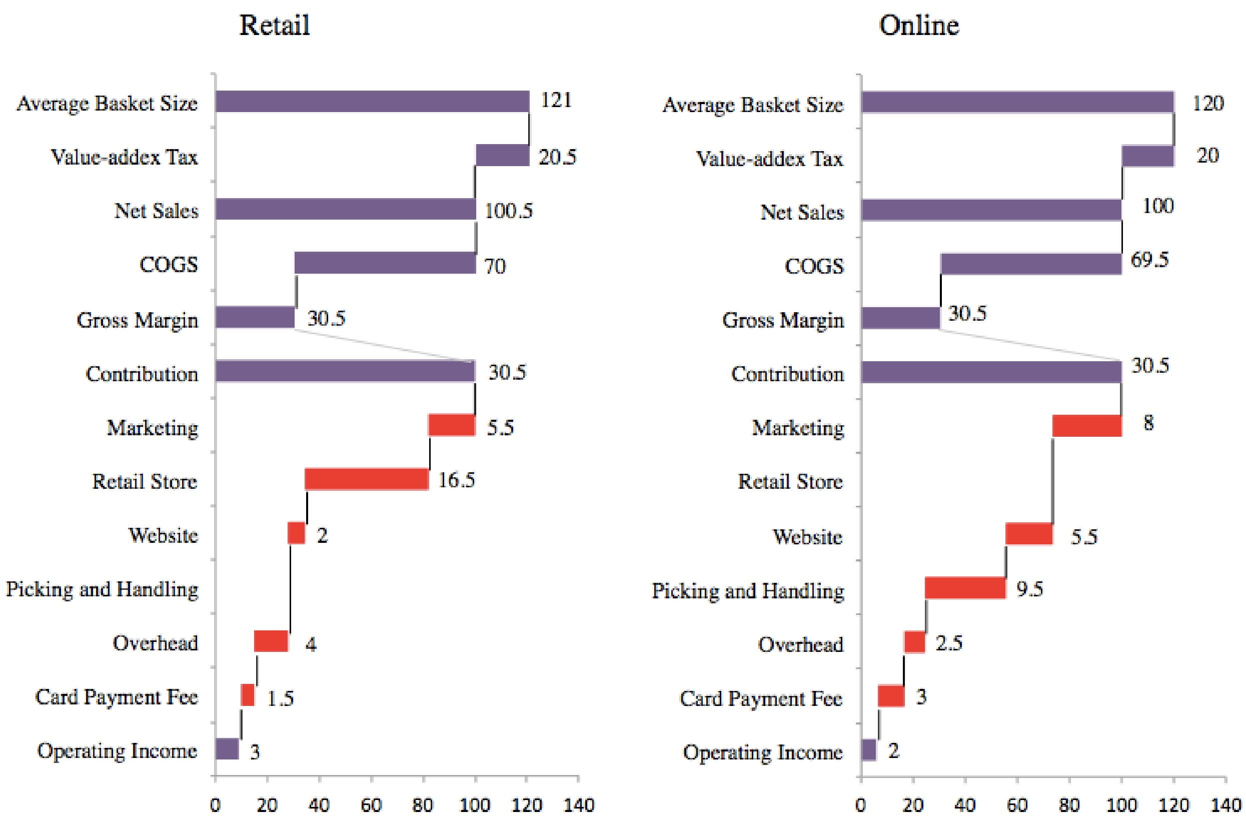
48. French Groceries (McKinsey R1, CPG/Retail, Competitive Response, Quantitative)

Present the candidate with the following information.

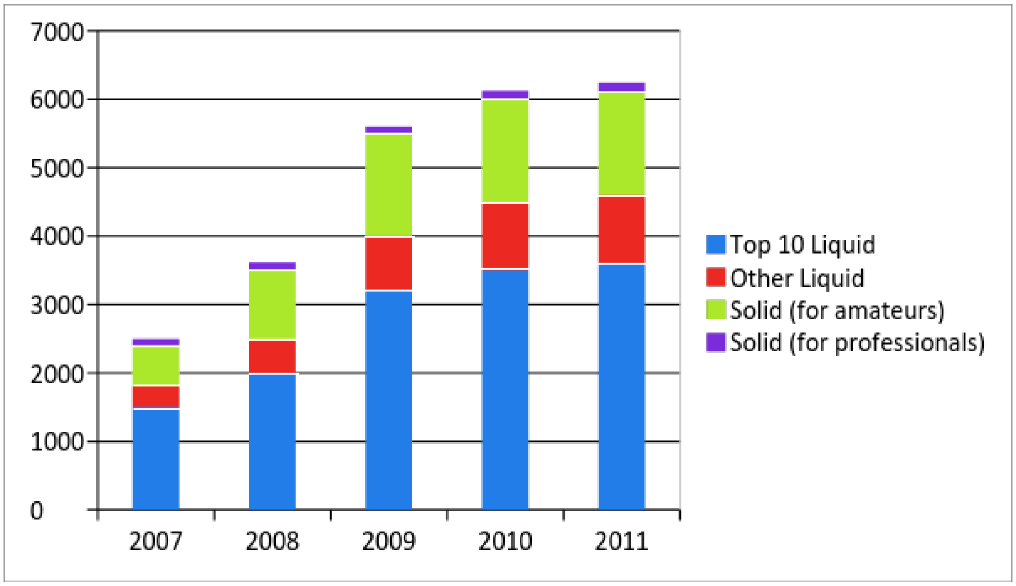
Online grocery penetration rate for select countries

	Population (In Millions)	Online Grocery Sales / Year (in Millions of Euro)	Penetration Rate (% of groceries bought online)
U.K.	60	6,000	4%
Spain	50	750	1%
Sweden	9	175	1%
France	65	?	?

Retail versus online grocery models in France (in Euros)



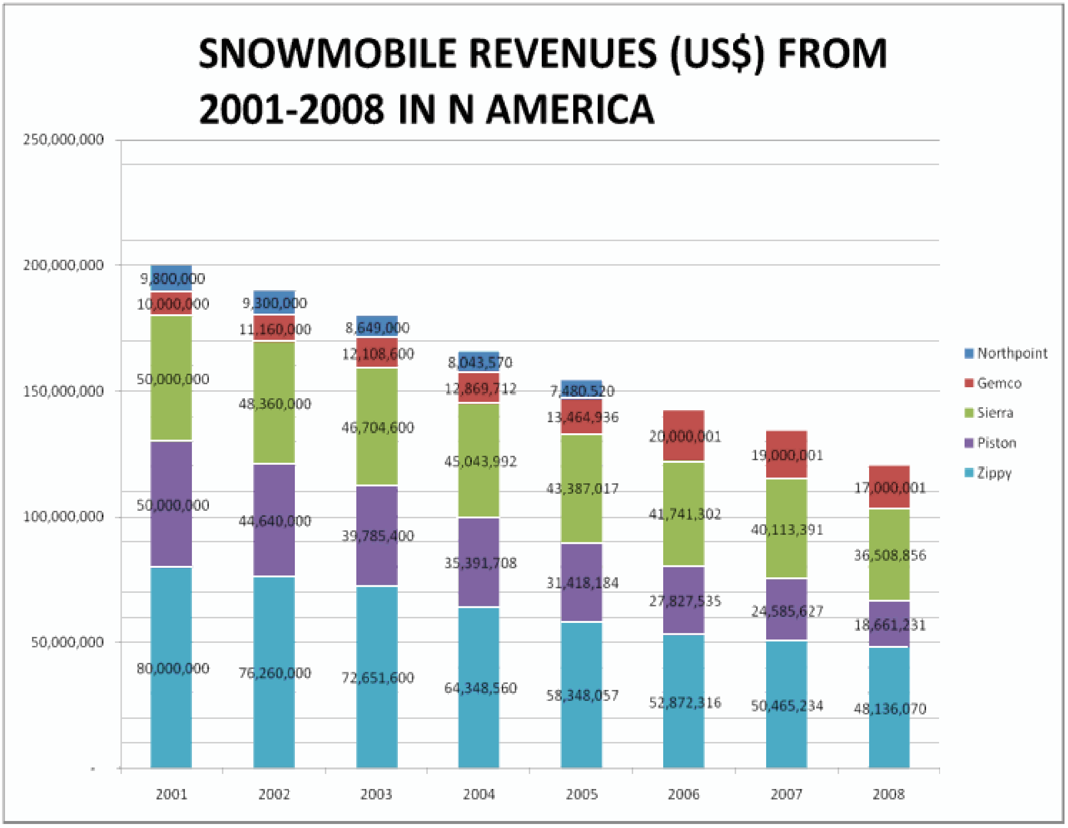
49. Golf Club Producer (McKinsey R1, Other, New Product, Quantitative)

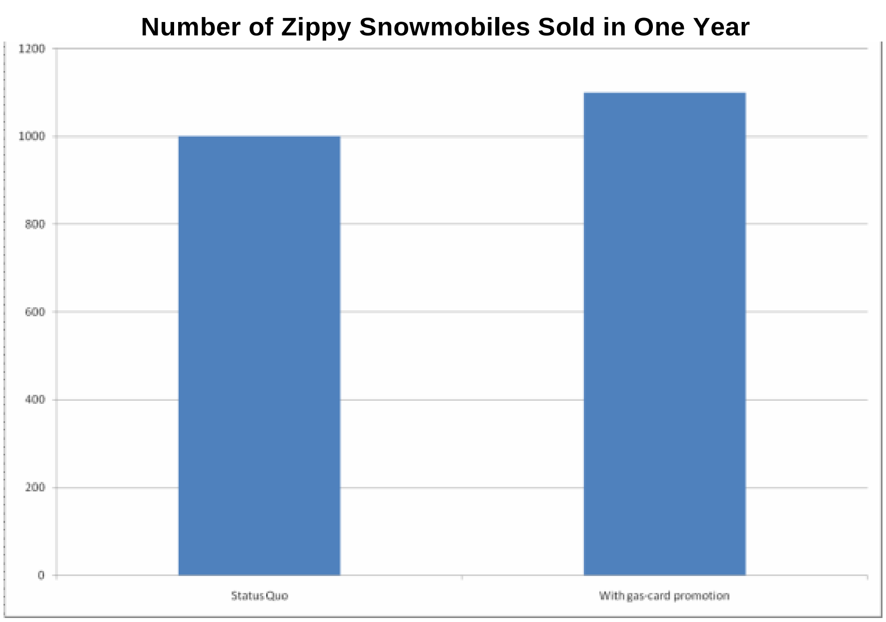


51. School District (McKinsey R1, Other, Operations, Balanced)

Function	% Principal said was key factor affecting performance	Average # of requests per Principal per month	Average days of effort for the function to answer per request
Finance	15	1.5	2.5
Human Resources	60	2.00	5.0
Facilities	50	2.00	4.0
Information Technology	44	1.75	3.5
Counseling	19	1.25	3.0
Food Preparation	26	1.00	3.0

54. Zippy Snowmobiles (McKinsey R1, Transportation, Profitability, Quantitative)





56. Treasure Island Communications (McKinsey R2, TMT, Comp Response, Quantitative)

INTERNATIONAL FIXED LINES

Usage	Revenues ($)	Total User Minutes
2009 (latest)	90M	90,000,000
2008	120M	60,000,000
2007	120M	60,000,000
2006	160M	40,000,000

58. Universal Healthcare Revamp (McKinsey R2, Healthcare, Comp Response, Balanced)

Age	% of population today	% of population in 10 years	Average HC cost per person per year
0-21	20	10	$1000
22-65	70	70	$500
65+	10	20	$4000

59. Wildcats Lacrosse (Roland Berger R1, Retail, Profitability, Balanced)

Exhibit 1
Production Costs (USD)

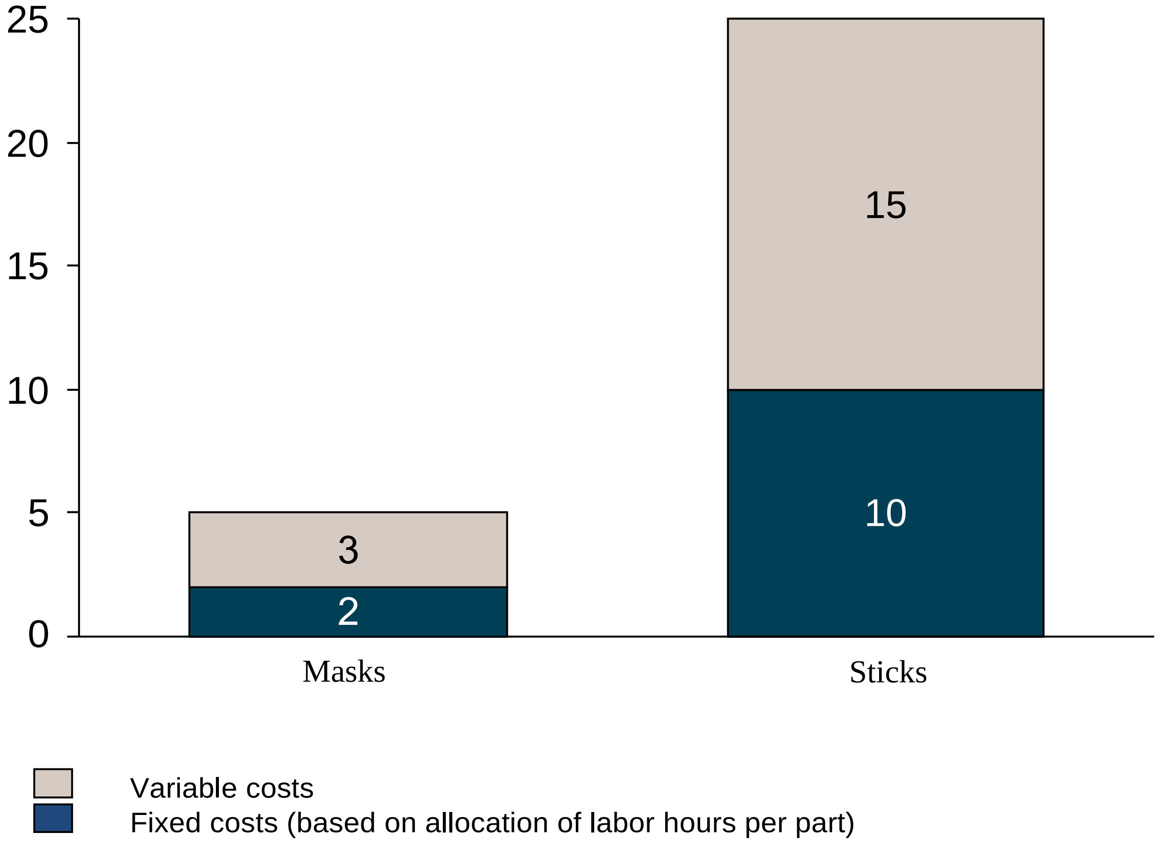


Exhibit 2

Fixed Costs allocation based on Capital Spending (USD, k)

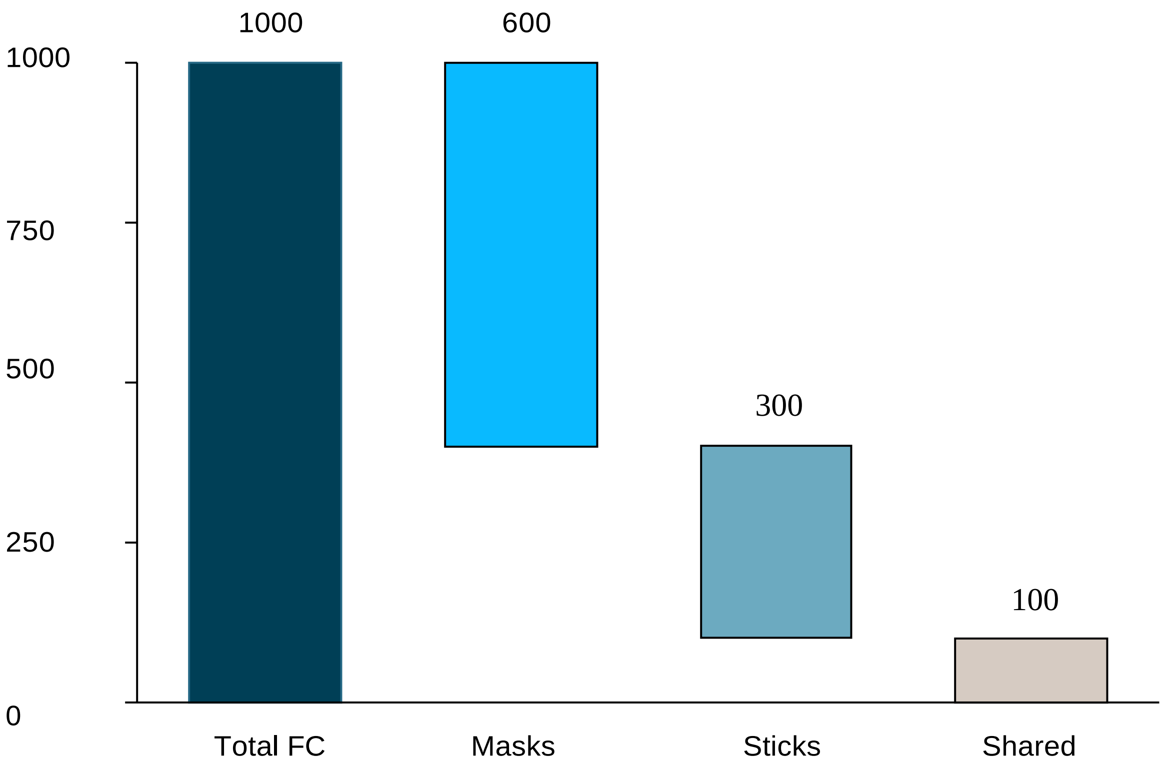
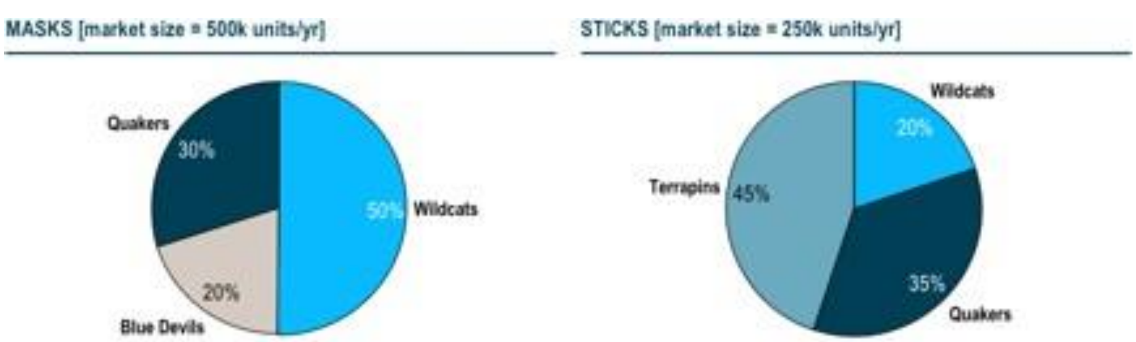


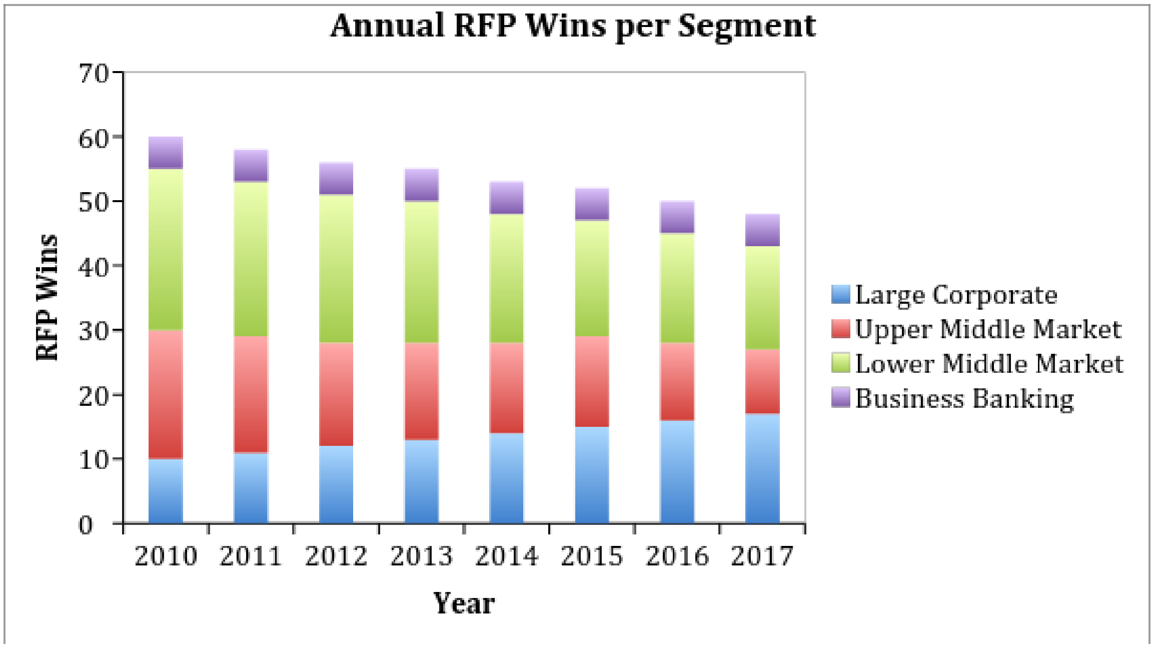
Exhibit 3

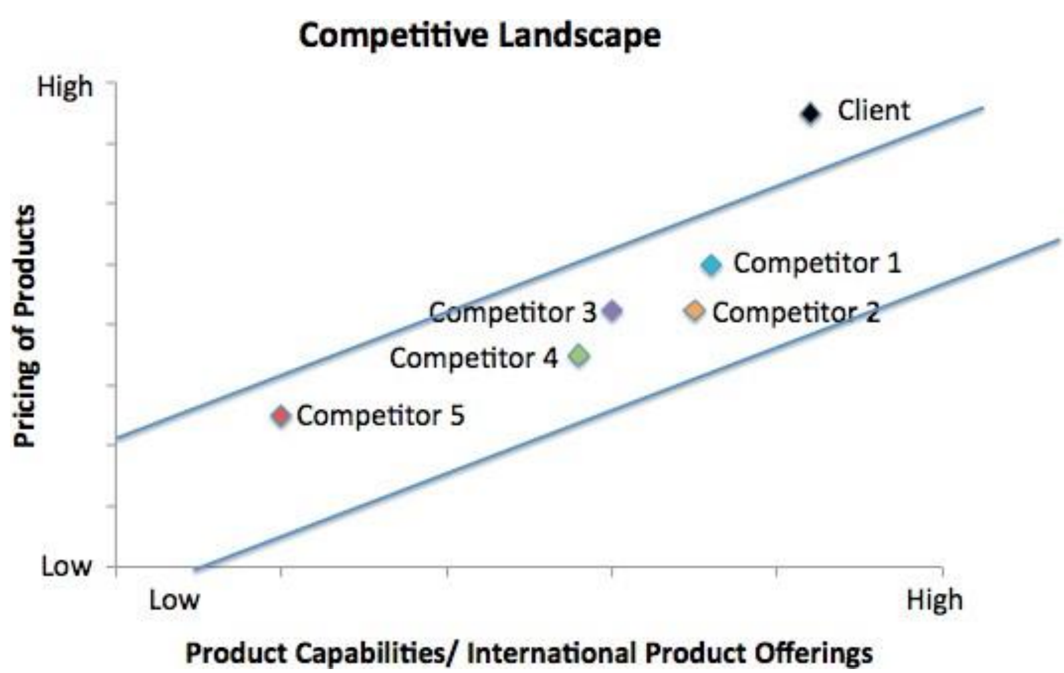


	Price
Wildcats	USD 5.50
Blue Devils	USD 7.50
Quakers	USD 7.00

	Price
Wildcats	USD 27.50
Quakers	USD 23.50
Terrapins	USD 21.00

60. A Proposal You Can't Refuse (Other, Financial Services, Competitive Response, Balanced)



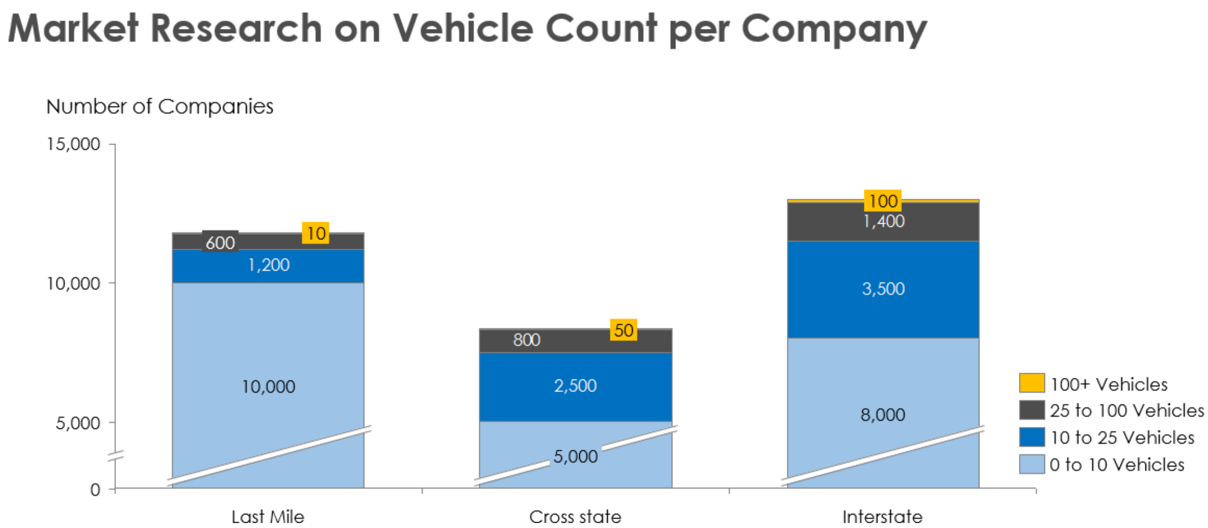


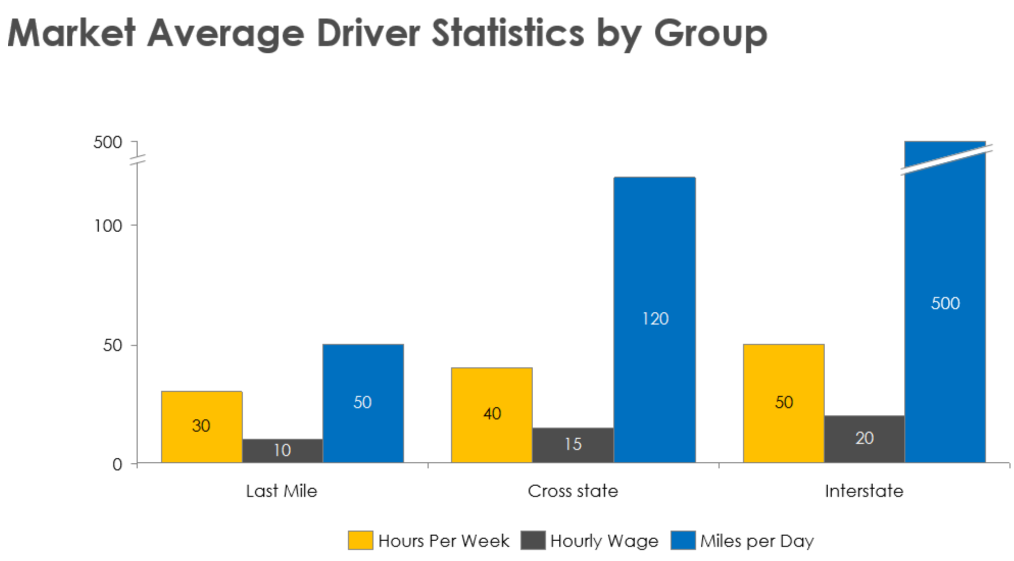
61. Online Advertising (Other, TMT, New Market, Quantitative)

<u>Online Advertising Market</u>

USD, bns	2012	2013	2014	2015	2016	2017	2018	2019
Display advertising	$10	$14	$18	$19	$19	$20	$21	$22
Search advertising	$5	$4	$5	$6	$7	$8	$8	$8
Mobile advertising	$3	$7	$10	$14	$16	$19	$24	$30
Video advertising	$1	$3	$6	$11	$15	$20	$25	$30

62. You Drive Me Crazy (Other, TMT, Competitive Response, Balanced)





Note: Industry average work week is 50 weeks per year across all groups

Chapter 18: Indices

Categorical Index

Industry Index