University of Michigan Ross School of Business Consulting Club

Consulting Interview Guide

December 2006

Acknowledgements

The RSB Consulting Club is pleased to present our first comprehensive Consulting Interview Guide to assist club members in better preparing for consulting career interviews. Tremendous time and effort have been put in to compile this guide. Our special thanks go to the following students from the Class of 2007 for their contributions:

Devavrat Bapat	Olivia Chen	Samridhi Ganeriwalla
Jocelyn Ludwick	Srinivas Pai	

A Note on Preparation

This guide includes the "best practice" interview preparation methods used by many current students and alumni in their previous consulting interview processes. This is a compilation for your reference and is therefore not a required list of what you have to do to get a consulting job. ***This document does not hold all the answers to how you should prepare, and following it exactly does not guarantee success – you still need to find your own differentiators and style.*** With that in mind, here are a few guiding principles for figuring out how to best spend your preparation time:

- Think of this guide as mapping out the far reaches of what is possible in an interview.
- Instead of preparing answers for each possible fit question, develop concise ways to talk about 5-10 different stories. Then, practice delivering these stories in response to a variety of prompts.
- Similarly, focus on the quality of your case practice, not the quantity. After you do each case, reflect on what you did well and what you could improve upon.
- Do not over-focus on preparation. If you do so, you risk coming across as an automaton executing pre-formulated answers.

Introduction to the Consulting Interview

Good consultants are highly effective at working in teams, strong autonomous workers, good leaders in a variety of different situations, and outstanding problem solvers. They are also high energy, driven people with excellent communication and interpersonal skills. Consulting interviews are therefore designed to test candidates' abilities in these various categories. Nearly all consulting firms do so through a two-part interview process: the case interview assesses strategic thinking, quantitative and analytical skills; the "fit" interview probes everything else. However, always remember that you are being assessed on all levels at all times, i.e. your communication, interpersonal skills and presence are just as important throughout the case interview as your logic and critical thinking skills.

Overall consulting interview recommendations:

- Practice both the fit and the case interview enough to be comfortable and smooth in your delivery, but not so much as to sound rehearsed.
- Pay attention to non-verbal behavior, such as posture, eye contact, voice levels, etc., and watch and listen carefully to your interviewer – he/she will give you cues about how he/she is reacting to you and where you should go with the discussion.
- Speak clearly, with the appropriate cadence (not too fast or too slow) and with the appropriate loudness for the situation (don't make them strain to hear you or want to back away to get more space).
- Enjoy the interview and show it!

1. What are consulting firms looking for?

Many companies are quite explicit about the qualifications they are seeking; details can be found on their websites. In general, however, most firms are interested in the following:

- Solid résumé
  A solid résumé shows that you have the potential to be successful in consulting:
  - Show diversified experience (for general practice) – a good indicator that you are willing to learn new things and able to learn quickly.
  - Show skill sets transferable to consulting – it's important to emphasize 3-4 skill sets throughout your résumé, 1-2 of which are unique to you. Most firms are particularly interested in leadership, problem solving, strategic thinking, curiosity, quick learning, a focus on results, communication, and teamwork abilities.
  - Companies may also be interested in your GMAT scores, undergraduate GPA, etc. Generally, GMAT scores above 700 and GPAs above 3.5 should be put on your résumé.
- Substantive anecdotes of leadership, teamwork and communication abilities
  - Interviewers will probe the impact you had on the organizations you've been involved with across a variety of areas
- Strong problem solving skills
  - Shown through the case interviews, which are used to test problem solving, presence and poise, quick thinking, and comfort with ambiguity.
- Good personal fit with the company
  - Many firms will refer to the "airport test" as a way in which they assess fit: Would the recruiter want to be stuck in an airport with you for several hours? Do you just talk about work and yourself or are you able to engage others in interesting conversation?
  - Attitude is important. Be professional and dress well. Be positive and smile during the interview. Some amount of nervous energy is good, but do not allow your nerves to negatively influence your performance.
  - Have good interactions with recruiters during recruiting events.
  - Consider listing hobbies, aspirations or extracurricular activities that showcase your personality in the "additional" section of your résumé.

2. How should I behave in consulting corporate presentations or other recruiting events? When is it appropriate to send thank you emails?

- Show up on time, and do not leave early.
- Turn your cell phone off, leave your laptop at home, and do not talk with your peers while the presenters are speaking.
- Wear appropriate attire (most functions are business casual).
- Use the presentations to learn about the firm, not showcase yourself.
- Research the firm before you attend the presentation.
- Use the opportunity to learn about the firm – ask intelligent questions that are not obvious and not answered on the firm website.
- If you go to MBA2 presentations, let the MBA2s & graduating evening students ask the questions. You will get your chance when the firms come to present to MBA1s.
- Do not swarm around recruiters after the presentation and overwhelm them.
- Be courteous to your fellow classmates - expand the circle so they can join in or give others a chance to ask questions.

- Be well-mannered when eating in front of a recruiter – when in doubt, wait until later!
- Ask for a business card or wait for it to be offered by recruiters only if you have had a meaningful conversation with them (i.e. do not walk up to a recruiter and ask for his/her business card within 20 seconds).
- Thank you note etiquette is left to your own discretion. Some people choose to be very proactive with recruiter communication, following up on all interactions with recruiters by thanking them for their time, referencing past conversations to remind recruiters of who they are, and asking if they can contact the recruiter to ask him/her questions at a later time.
- There is also a school of thought that believes that since recruiters recruit at several schools and meet hundreds of people, if everyone sent them a thank you email, they would have thousands of additional emails every day, most of which would be deleted and potentially annoy the person. This group tends to think that you do not want to distinguish yourself as the candidate who badgers recruiters under the impression that the process is about face time and "top of mind" candidate awareness. This group sends emails only when they feel they genuinely had a good interaction and sincerely wish to thank the person.
- Many people do send thank you emails following interviews, but, again, it is not a rule; use your discretion.
- If you do send them an email, like all professional correspondence, it MUST be well written: typo-free, grammatically correct, and in a professional/respectful tone. If you are not a native English speaker, consider asking a native English speaker to proofread your email before you send it. Managing your correspondence professionally is not only critical for your candidacy, but is also an important part of protecting and enhancing the Ross brand.

3. What type of questions should I ask when I interact with recruiters?

- In general, be courteous and honest, listen carefully, and remember that you are representing both yourself and Ross as a whole.
- **<u>Questions not to ask</u>**
  - DO NOT ask questions you already know the answer to.
  - DO NOT ask questions just to make you look smart (99% of the time such attempts will only hurt your candidacy).
  - DO NOT ask questions you could find the answers to on the company's website. Example: Do you have an office in Cleveland?
  - DO NOT ask any personal or sensitive questions. Example: How is the compensation package?
- **<u>Questions to ask</u>**
  - Things you are curious about.
  - You are always safe asking about the recruiter's personal experience (since you would never find that on the website or anywhere else!)
    - "Can you tell me about some of projects you worked on?"
    - "What do you like the most about X?"
    - "How would you describe the culture at X?"

4. Should I spend time enhancing my industry knowledge for case interviews?

- Industry knowledge is not required to solve a case, and most candidates do not include industry research as part of their preparation; however, you can certainly offer insights if you have prior relevant industry knowledge.

- If you are inclined to brush up on general industry knowledge prior to interviewing, here is a good approach:
    - Identify major industries and analyze each industry at a high level (Porter's five forces, industry trends, key success factors, latest development, etc.)
    - Sources
        - Data Monitor (MarketLine Business Information Center)
        - Standard & Poor's NetAdvantage
        - Business articles from WSJ, Economist.com, etc.
        - Internet
        - Talk to your classmates who worked in that industry.

5. How many cases should I practice & when should I start?

- Every candidate is different, and therefore the appropriate level of preparation is different for every candidate. Most people find 20-40 cases adequate practice, and they start in earnest right after the holiday break; however, more important than the number of cases you do is the quality of the cases you do.
- Since actual interviewers will likely come from a variety of backgrounds and countries, practice with a diverse group of partners.
- Most find in order to get the most out of the practice case that it is most valuable to treat it as a true mock interview so that you get practice with all parts of the case interview. For example, there may be times in an actual interview when you make a mistake on a calculation or get confused; instead of taking advantage of the fact that your practice partner is a friend and breaking character to comment or collect yourself, practice recovering from such situations.
- Bottom line: do enough so that you know your methods; don't become an automaton.

6. What are Close Lists, how important is it to get on them, and how do I do so?

- Candidates interview with firms either because the firms selected them or because the candidate bid enough interview points on the firm. Firms communicate to OCD the students they want to interview via "Close Lists," which usually cover 50-75% of the available spots. (OCD will tell you all you need to know about the bidding process).
- Close lists are great to get on because you are only charged a minimal number of points (~25) to interview and can thus save more of your points to bid high on firms that don't close list you. Since it's an indication that the firm is very interested in you, it can also be confidence boosting. However, because of the bidding process, it is not necessary to get close listed to interview with a company. (If you are not close listed, you may just find you need to be more selective in the bidding process and only bid those that are a good match for you).
- There are several different ways to get close listed. Some candidates are chosen on the strength of their résumé – usually some combination of strong undergrad, GMAT scores and prior relevant work experience. Others may be recommended by 2nd-year returning interns or may have distinguished themselves somehow through the "meet and greet cycle."

7. All firms appear the same. How do I compare these firms?

- The firms are similar in a lot of ways; however, they are different in many ways too. You will gain your own understanding of this by speaking to recruiters, interns and alumni or by reading the Vault guides and company websites.
- <u>Metrics you can use to compare companies</u>

  For each candidate, the weight of each of these metrics may differ. Create a table, and try to learn about the company on each of these aspects as you move through the recruiting process.
  - Brand
  - Office location (e.g. international offices, offices in locations where your Partner is, proximity to industry of your choice (e.g. High-tech in San Francisco, Pharma in New York, Consumer Goods in Midwest))
  - Size of the firm and the office
  - Availability of resources (e.g. to perform research)
  - Generalist vs. Specialist approach (i.e. when do you begin to specialize. Also includes the number of projects you are typically staffed on at one time.)
  - Type of work (Operations, IT, Strategy, etc.)
  - Type of client (e.g. Fortune 100 companies for McKinsey and BCG or small-medium enterprises for Bain)
  - Specific expertise (e.g. private equity for Bain, financial services for BCG, public and private cector for Booz Allen, etc.)
  - Work/life balance (firms have different staffing models and therefore involve different amounts of travel)
  - Staffing model (e.g. McKinsey's staffing is centralized whereas Bain's staffing is office-/region-specific)
  - Compensation (some firms pay second-year tuition)
  - People/culture (talk to as many people as possible)
  - Firm values/philosophy (this is an area where firms really think they are different)
  - Performance evaluation (frequency and metrics, upward feedback on managers and partners)
  - Client exposure and interaction with client
  - Interactions with Partners
  - Training and development, mentorship

8. Do consulting firms sponsor international student visas?

- Most of the major consulting firms do sponsor international student visas, but not all of the smaller firms do. Do some initial website research, but if you don't see an obvious answer, this is a legitimate subject to ask the recruiter about.

9. Is it true that recruiters sometimes randomly call people on the phone?

- Recruiters might call you for a casual chat to learn more about you and your interests. To prepare for such phone calls,
  - Make sure you are in a quiet environment and are mentally ready to talk when you take the call. Otherwise, you could ask to reschedule.
  - Be ready to ask the recruiter some questions.
  - Be ready to answer basic questions such as "why consulting, why this firm," etc., and feel comfortable discussing items on your resume.

Overview

- Every bullet point on your résumé could become source of fit questions, so know your résumé well!
- Be prepared to talk through anecdotes in the CAR format: Context, Action, Results. Many candidates make the mistake of spending too much time on the context and not enough time on the action and results, the last of which is what the interviewer is really interested in. Also be cognizant of using "I" over "we." Everyone values modesty, but they are interviewing YOU and therefore want to know what YOUR capabilities are, not your teammates'.
- Don't be afraid to let your individuality shine through!
    - For example, to answer the often-asked "why consulting?" question, a *generic* answer would be "Consulting gives me exposure to a variety of industries and business functions. Also, consultants are very smart people and I would enjoy working with them."
      A *unique answer* could be: "I've always been a consultant in some way throughout my career, and I love it. I am always eager to quickly learn new skills and enjoy the challenge of establishing credibility with a new group in the absence of formal authority. For example, "…"
- Expect the interviewer to interrupt and/or ask follow-up questions. E.g. How did you go about doing X? What specifically did you say to person Y? How were your actions perceived? What did you learn from the experience? What would you do differently if you could do it again?
- Be prepared to deliver your answers in a clear, logical manner. Do not ramble – rambling is a big turnoff for interviewers. Once you finish your answer, stop talking!
- Don't try to have 5-7 points for each question. First, you will find it hard to remember, and the interviewer might get lost if you try to share so much information. Stick to a maximum of 3 points for each answer.
- Before you walk out of the interview, whether you were specifically asked or not, make sure you have conveyed your transferable skills, why you want to do consulting and why you want to work for that particular firm.

Common general questions asked during fit interviews

- Why Consulting? Why Michigan? Why this firm?
  Note: Why consulting and why Bain/AT Kearney/Deloitte, etc. are two very different questions. Be specific.
- Give me the highlights in your career / Walk me through your résumé / Tell me about yourself / Tell me one thing that I can remember you by / If there is one thing I should know about you what is it / Tell me something about you that is not on your résumé.
  Note: Answers to these types of questions should be no more than 2 minutes. Interviewers often use such questions to kick off the conversation. If they want more, they will ask for more. Don't jeopardize your ability to shine in the rest of the interview by taking too long with what was supposed to be an introductory question.
- What were your responsibilities and what did you achieve at your last job?
- What skills do you have that can be transferred to consulting?
- Where do you see yourself in 5 (or 10) years? What do you want to do?
- What are your strengths and weaknesses?

Résumé related questions

- Why did you leave your previous employer? What did you like/dislike about firm X? What drives the profitability of X? What are the strengths and

weaknesses of X? What drives the industry of your previous employer? If you were made CEO of your previous employer, what would be three things you would do?
- Tell me more about [a specific bullet on your résumé]. When you answer, be structured with your answer.
- [If you have any gaps in your résumé (which ideally you don't)] Tell me what you were doing in the time between [undergrad and X].

Leadership, teamwork and communication questions
- Tell me about a time when you gave a recommendation but the other party didn't accept it. How did you handle it? / Tell me a time when you convinced somebody of something important.
- Give me an example of a time when you solved a conflict on a team.
- Tell me about a time when you led a group / when you failed at something / when you had to convince someone to get the work done.
- What's the most difficult business decision you have ever had to make?
- What's the most complex analytical problem you have ever solved?
- Tell me about a time when you were part of a group that accomplished more than you thought it would in the beginning. What was your role in the process?
- What is your leadership style?
- Tell me about a time when you had to lead a team to overcome a significant obstacle or change in project direction / when you had to deal with a difficult teammate and how you handled it / when you had a disagreement with a team member and how you handled it / when you had to deal with ambiguity in data and task definition and how you handled it.
- Tell me about an assignment that was particularly challenging.

"Aggressive" questions – some interviewers like to see how you handle stress. They may ask questions such as:
- Why is your GMAT/undergrad GPA not higher?
- I would have expected you to be at a better school. Why are you at Michigan?

Other questions that could come up
- What is strategy?
- What are the core concepts you've learned from Microeconomics class? How do you think some of them can be applied to consulting?
- Which is your favorite class? Why?
- What are three qualities your friends would use to describe you? / If you were to assemble all the people who know you into a single room, what are the three positives about you that all of them would agree on, and what are the three negatives that all of them would agree that you need to work on? How have these traits impacted your professional career?
- Tell me about a time where you set your goals too high (too low).
- Who do you look up to professionally and why?
- What distinguishes you from the other candidates we are interviewing today?
- What is the one thing you want me to remember about you?

1. **Listen carefully to the problem statement and repeat back the key facts and main issues**
   a. Make sure you get all the facts of the case. Practice writing and understanding the case facts fast by listening for key issues, as sometimes the problem statement can be very long.
   b. Rephrase the key facts and main issues aloud to the interviewer at the end of the case explanation to make sure you understand it correctly and have not missed anything. It is okay to ask the interviewer to repeat certain facts if you didn't understand them in the first place.

2. **Ask clarifying questions**
   a. If necessary, ask 1-2 high-level questions to clarify your understanding on issues such as what the client does, the product, revenue sources, what the client's criteria are to measure certain things (e.g. ROI, sales force effectiveness), etc. For instance, if the client is launching a new product – and the interviewer has not explained what exactly this product is – you could ask now.

3. **Structure the analysis on paper**
   a. Develop a comprehensive structure that will facilitate the identification of the problem (i.e. hypotheses development). This structure will guide you through the case discussion.
   b. The structure should be MECE (Mutually Exclusive and Collectively Exhaustive). In laymen's terms, MECE means thorough yet non-redundant.

4. **Gather data to test your hypotheses**
   a. Follow the structure and ask appropriate questions to test whether your hypotheses are true.
   b. Elaborate on the reason why you want the information when asking questions so the interviewer understands your thought process.
   c. Avoid asking random questions and avoid jumping around the structure.
   d. Make sure to prioritize issues as you collect data.
   e. When you discover facts that you believe are highly relevant to the end solution, feel free to comment on the importance of the discoveries to show the interviewer what your big-picture instincts are; however, be careful not to be pulled too far away from your structure.

5. **Make a recommendation:**
   a. Think of your recommendation as a 1-minute elevator pitch to the CEO of the client.
   b. Synthesize your findings in the recommendation:
      i. What do you recommend the client should do?
      ii. What is the rationale behind the recommendation?
      iii. What is the impact of and risk associated with the recommendation?
      iv. What are next steps and ways to mitigate the risks addressed?
   c. Avoid simply repeating the facts or analyses you and the interviewer already discussed.
   d. It's okay to ask for a minute to work on the recommendation.

Important Tips

- Make sure you understand the questions. For example, situations in which profits are not growing are different than those in which profits are declining. Similarly, stable market share is not the same as stable revenue.
- Don't force a case into a standard framework. Treat the case as a real business problem and think about how you would tackle it if you were a consultant.
- Think big picture when you structure the analysis. For example, if your client is a steel manufacturer and tries to forward integrate to sell steel, it's important to realize that steel is commodity and players in the industry are price takers.
- Be neat with your paper. It's easy to find information later if your data is written on paper in a clear format.
- Use graphics and tables to gather data whenever possible.
- Don't conclude that a number (such as revenue or cost) is high or low without looking at industry/competitor's statistics. Numbers are all relative!
- Use business language whenever possible.
- Practice math! A good consultant should not make mistakes calculating numbers even under pressure. Doing simple math in your head can be impressive. For example, your interviewer may expect you be able to quickly calculate something such as 30% of 20,000. However, it is acceptable to work out your numbers on paper if you don't feel comfortable to do mental math. It is recommended to use paper to do complex calculations.
- Read graphs in a structured way. One way to approach it is to read from the outside to the inside, i.e. start with reading the axes and then go deeper into the details of the graph. When reading the graph, think about the business implication of each piece of data.
- If you find yourself stuck in the analysis:
    a. Summarize the case up to where you are. Say – "Let me summarize the case to see what we have covered so far." This can help you clear your thoughts.
    b. Work through the problem by speaking your thoughts out, including what is puzzling you. This can help the interviewer understand what you are thinking, and he/she may be able to provide you with some guidance. This is a lot better than keeping quiet, in which case the interviewer might just assume that you don't know or are panicking.
- Take some time before answering any question, and resist the temptation to ramble. Use some time to structure your thoughts before you speak. This applies when you need to structure the problem, come up with a recommendation, or even during the case when the interviewer asks you a question.
- Before you make any assumptions, check with the interviewer first. State your assumption and ask whether the assumption is acceptable.

The interviewer's interaction with the candidate and ability to convey information will very easily change the style of a case. Given the interviewer's position of control in the discussion, there are several things to keep in mind prior to, during, and after conducting a case interview. With these steps in mind, you should be able to conduct a concise and successful case interview.

Preparing for interview	During interview	After interview

• Read the case over 2-3 times
• Familiarize yourself with the relevant numbers and details
• Determine your 'character'
  • Rushed partner or disinterested client representative?
• Prepare for how you will address irrelevant questions or requests for data you do not have
  • Make up fake data and let candidate go fishing, or let them know it is irrelevant?
	• Track time (about 25 minutes is average) - balance finishing the case and letting the candidate struggle
	• Prepare for candidate 'curve-balls'. Candidates can often think of very different approaches to cases. Before discounting questions as wrong, ask for the candidate's thought process. If it makes sense, go with it
	• Beyond problem solving, look for:
	  • Presentation: Can I put this person in front of a client?
	  • Aptitude: Can this person accurately do the work?
	  • Interest: Does this person like what they are doing?
		• Provide feedback
		  • This is possibly the most critical step of the case interview process
		  • Honestly let candidate know strengths, but more importantly areas for improvement
		  • Without honest feedback and constructive criticism, it is very difficult to improve

Note: This section is a summary of basic framework templates you should be familiar with. Please refer to other club resources for framework details. ***Never use one of these frameworks "as-is" for your entire case structure****. The best structure for any given problem likely draws pieces from several frameworks.*

Basic Frameworks and Concepts

1. **4Cs** – Customers, Competitor, Company (Capability), Collaborator

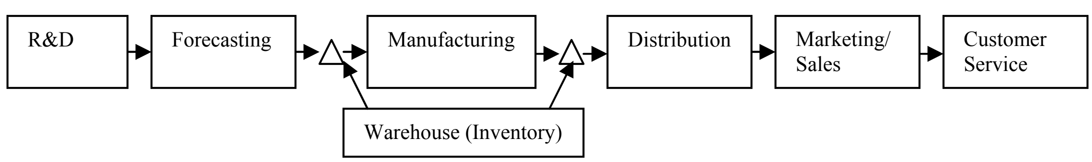
2. **NPV Calculation -** Calculate free cash flow and WACC

3. **The Big Picture** (by Professor Nordhielm)
    - 4Ps – Price, Promotion, Place and Product
    - STP – Segmentation, Target, Positioning

4. **Porter's 5 Forces**
    - Barriers to entry
    - Supplier power
    - Buyer power
    - Threat of substitutes
    - Rivalry amongst existing firms

5. **Cost/Benefit Analysis -** Understand the metrics and list the pros and cons – qualitatively or quantitatively.

6. **Value Chain Analysis or Competitive benchmarking**
   Understand how the product flows through the organization, think about each step in the value chain, and analyze the efficiency (e.g. costs, speed). To understand whether the client's costs are low or high, use "competitive benchmarking" or compare between their different plants.



7. **McKinsey's 7S's** (can be useful in re-organization cases): these are elements that make the organization successful.
    - Strategy
    - Systems (such as IT, compensation, performance evaluation)
    - Structure (organizational structure such as reporting structure)
    - Style (leadership and management style)
    - Skills (competitive advantage of the firm)
    - Shared Values (philosophy and values)
    - Staff (training and motivating)

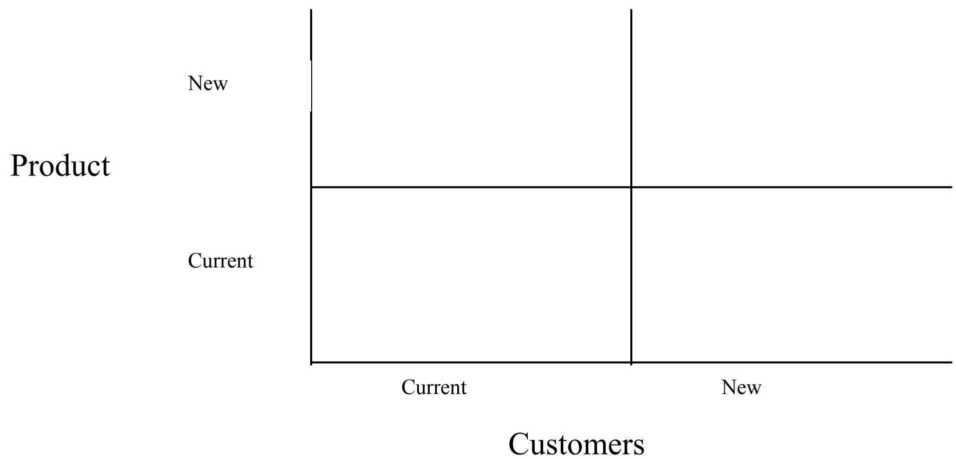
8. **Growth-share Matrix (BCG Matrix)**
   Each company needs a portfolio of products.
    - High growth/high share (star): It is profitable, but may need more cash than it can generate. If it continues to have a high share, eventually it will become a cash cow.

- High growth/low share (question mark): these require a lot of investments that they can not generate on their own. They can become liabilities unless they finally capture high market share.

- Low growth/high share (cash cows): these generate large amounts of cash that can be used to invest in other projects.
- Low growth/low share (dogs): these are worthless and should be divested. Even if profits are generated, they must be invested back to run the business.

A portfolio should have stars, question marks and cash cows. Dogs should be divested.

9. 2X2 matrix: use these to analyze and give your recommendations
E.g. Product vs. Customer



Framework Checklist
List of issues/drivers you should keep in your mind when you create your structure.

Product	• Type of products and services • Attributes: advantages/disadvantages • Is it their niche or core competency? • Is the product patented? (when does it expire?) • What % of revenue comes from which product?
Competition	• Number of competitors • Market structure (duopoly, monopoly etc.) • Market share • Any substitutes? • Rivalry amongst firms/reaction to changes • Cost positioning • Competitor’s core competency
Customer	• Different segments • % of revenue; profitability • Changing trends • Customer needs • Market size by segment • Customer retention/loyalty
Revenue	• Number of stores • Price • Volume • Product mix

Price	• Market power • Demand elasticity • Product differentiation • Customer segmentation
Volume	<u>External factors affecting Volume</u> • Competition • Substitutes/complements • Market forces – declining market size, technology, regulation <u>Internal Factors affecting Volume</u> • Price • Distribution/supply chain/inventory management • Customer service
Costs	**INTERNAL** <u>Fixed cost</u> • Rent • Plant/property • Equipment • Capacity utilization • Utilities (could be considered variable cost) • Insurance • Overhead (includes management salaries, HR, IT) • R&D <u>Variable costs</u> • Manufacturing: labor, raw materials (be specific to the • industry e.g. livestock or seasonings for Meat Processing Industry), packaging, inventory • Marketing & sales (could be considered fixed cost depending on industry practice) • Customer service (could be considered fixed cost depending on industry practice) • Distribution network/warehousing (could be considered fixed cost depending on industry practice) **EXTERNAL** • Union strikes • Currency fluctuations • Regulation/deregulation • Technology
Supply Chain/Operation process	• Relationship with suppliers & distributors • R&D • Forecasting • Manufacturing (capacity utilization) • Warehouse • Marketing • Sales • Distribution • Customer service • HR • IT

Company/Capability	• Core competencies • Cost of capital • Brand image • Organization • Incentives • Controls • Financial capability • Management capability
Macro/Risks	• Legislations / government regulations • Union/labor market • Technology/internet • Economy – interest rates, oil price, unemployment • International issues • Environmental issues
Industry	• Exit barriers • Entry barriers • Capital costs • Switching costs • Government policy • Access to distribution channels • Proprietary product technology • Stage of development (emerging, growing, mature, declining) • Consolidation

The bold titles are different types of cases you might get. Below the bolded lines are questions to ask/information to find out to help solve the case. These are only some ideas about how to structure your case using the information we described in this document so far. Note that in many cases greater detail is listed here than you would realistically get to in the typical introductory planning minutes.

1. Industry analysis

- Customers
    - Concentration
    - Buying attributes/behaviors
        - How do the buy; where do they buy; when do they buy
        - Why do they buy (what do they value the most):
            - Price; quality; service; delivery/timeliness; reputation
            - Relationships (sales people)
            - Breath of product
            - Availability of alternatives
                - Competing products
                - Substitutable products
                    - Differentiation
                        - Multiple ways to differentiate
- Suppliers
    - Concentration
    - Patents/differentiation
    - Channel power
    - See all aspects listed above for customers and just consider them from the supplier perspective.
- Substitutes/Potential Substitutes
    - Differentiation/patents/etc.
- Competitors
    - Concentration/market share
    - First/second mover advantage
    - Price/cost structure
    - Differentiation
        - Product attributes
        - Brands
        - Technology
        - Reputation
        - Product/Service quality
- Capabilities/Competitive Advantage
    - What is the company good at? How does this match with the market/industry conditions?
        - Technology
        - Production
        - Distribution/sales force
        - Relationship
        - Intellectual capability
        - Scale
        - Installed base/location
        - Brand(s)
        - Financial capital
        - Human capital

- Regulatory/Situational/Technology
    - How do these factors affect the company?

2. Increasing Profitability

- Increase revenue
    - Increase Price
        - Price elasticity
            - Nature of product – commodity vs. premium products
            - Switching costs for customers
            - Availability of substitutes
            - Competitors' response
    - Increase Volume
        - Sell more of current product in current market
            - Increase usage (e.g. more detergent per load)
        - Sell current product in new market
            - Increase/broaden applications (use detergent to wash something else)
        - Sell new product in current market
            - Sell a supplemental cleaner to the same customers
        - Sell new product in new market
            - Could be anything – this least leverages the existing business model
- Assessing why revenue decreased
    - Revenue decreased because the firm lowered the price or is selling less volume. Assuming the price is the same, think of the reasons why the firm might sell less:
        - Industry Factors
            - Are other firms experiencing similar problems? Understand what segment of the market the firm plays in and what market factors may contribute to a difference in performance between the firm and its competitors.
        - Competitors
            - Product – new products? Better products? Lower price?
            - Promotion – new marketing/sales effort?
            - Placement – new distribution channels?
        - Customers
            - Changing preferences because of trends, demographic shift, size of customer bas, etc.
        - Internal (things the firm has changed)
            - Product – changed the product or associated features, introduced new products
            - Promotion – changed marketing, promotion, etc.
            - Placement – change in distribution channels
        - Other
            - Regulations, environmental issues, international considerations
- Decrease costs
    - Possible ways to reduce fixed costs
        - Outsourcing
        - Turn a fixed costs into a variable cost (substitute labor for capital)

        - Increase volume (spread more units over fixed cost base) – Economies of scale
    - Possible ways to reduce variable costs
        - Decrease input cost
        - Find alternative sources
        - Increase volume of purchases (volume discounts)
        - Increase production efficiency to reduce overhead/non-production costs
        - Increase labor productivity to reduce per unit labor cost
        - Learning/experience curves

- Increase NPV:
    - Increase profit (see above)
    - Lower discount rate? (Hard to do in reality). Can change capital structure, but this doesn't really lower the "real" discount rate.

- CAPM
    - Know what this is!

3. Growth Strategies

- Assessment
    - Is the industry growing?
    - Where is the company positioned in the industry?
    - What is the competitive market?
    - What is the different segment potential?
    - Is there funding available for higher growth?
- Strategies (to generate ideas use 2X2 matrix for products and customers)
    - Increase distribution channels
    - Increase product line
    - Invest in marketing and sales campaign
    - Diversify products or services
    - Form a joint venture/acquire existing players (consider anti-trust issues)

4. Launch New Product

- Product
    - What makes the new product unique? Benefits and Disadvantages.
    - Are there any patent issues?
    - Does the product "fit in" to company's portfolio?
    - Any substitutes/ competitors? How easy is it to enter industry and steal share? Any barrier to entry?
    - Can we use the same distribution/marketing/manufacturing process? What changes would it bring?
- Can you make profits? (or is it positive NPV?)
    - Revenue
        - Price – based on what value it brings to the customer
        - Quantity – do a market sizing of customer base
        - Any synergies with existing products?
    - Costs (any new costs incurred)
        - Fixed costs
        - Variable costs
        - Any synergies with existing products?
    - Will it cannibalize existing sales? By how much?

- Capabilities
  - Financing – how will this be done?
  - Management – does the management have the expertise to implement it?
  - Government/Regulatory – does it require government/regulatory approvals? (e.g. FDA approval for drugs)

5. Reduce Costs

- Assess the costs
  - Get the cost breakdown (focus on big cost buckets)
    - Value chain analysis
    - Fixed-Variable costs breakdown
  - Anything unusual?
  - Benchmark with competitors to see costs that are high
  - Benchmark with across different facilities: transfer best practices across
- Cost Analysis (again, you can use value-chain analysis or use fixed-variable costs)
  - What internal changes can be made? (labor, overhead)
  - What external changes can be made? (suppliers, distributors, centralized sourcing to get volume discounts, source outside the US)

6. Increasing Sales

- Assessment
  - Growth relative to market share
  - Have there been any changes in market share?
  - What are competitor's strategies? Our strategy?
  - Who are our customers?
- How?
  - Use Revenue equation: Revenue = Price X Quantity
  - Quantity = # of customers X # of products each buy

  Therefore, you can change price (increase or decrease based on price elasticity), or increase the number of customers or the number of products the client sells. Use the above equation to brainstorm ways to increase each of the drivers.

7. Competitive Response

- Why is a competitive response necessary?
  - New product? Find out more information about what is causing the problem.
  - Has the competitor's strategy changed? How?
  - Have competitors increased market share at your expense?

- Strategy (analyze to see which one makes sense given the circumstances)
  - Acquire or merge with other competitors or the competitor posing the threat
  - Hire management from competitors
  - Change marketing strategy to target new customers/new market
  - Change/innovate products

8. Mergers and Acquisitions

- Understand the objective (increase profits, growth or pre-empt competitor)
- Ensure the acquisition meets the objective (e.g. profits)

  - Standalone profits of the target (Industry, Competitors, Consumers, Capabilities)
  - Evaluate Revenue Synergies
  - Evaluate Cost Synergies
- Is the price fair?
- Capabilities
  - Financial: can you afford it?
  - Management: can the management tap the potential synergies?
  - Legal: check anti-trust laws
- Integration Issues
  - Compensation System/HR system
  - IT systems
  - Culture (e.g. US company acquiring a Japanese company)
- Exit Strategy

9. Marketing

- SWOT – use for market entry/exit cases
- Market Segmentation – don't assume homogeneity of customers/markets. This is a common cased interview trick.
- Price, Product, Place, Promotion – Use when asked how/where to take a product to market.

Population (Approximate number as of 2006)

USA	300 Million
Canada	30 Million
China	1.3 Billion
India	1 Billion
World	6 Billion

Other facts

- Average number of people/household in the U.S. = 3 people
- Average life expectancy in the U.S. = 80 years
- Number of households in the U.S.
  = U.S. Population/Average number of people per household
  = 300M/3 = 100M
- Number of people at a certain age in the U.S.
  = U.S. Population/Average life expectancy
  = 280M/80 = 3.5M
- Inflation rate = 2-3%
- Unemployment rate = 5%
- Cost of capital (WACC) = 10% (check on this with interviewer – sometimes the cost of capital might be 13% but then growth might be 3% so (r-g) might work out to 10%)
- Baby Boomers: born between 1946-64
- Gen X: born between 1965-75
- Gen Y: born between 1976-94

(Note: Make adjustments to your figures so that they can easily divide if there is a need. Always ask the interviewer before making any assumptions.)

(Note: Oftentimes, ratios alone do not say much and therefore a reference point is needed. To be meaningful, ratios need to be compared to historical value of the same firm, the firm's forecasts or competitive data. Refer to your core class notes to ensure you understand the concept behind each of these formulas.)

1. Accounting

Profitability Ratios

Measure the success of the firm in generating profits.

- **Gross Profit Margin** (gross profit earned on sales) = Sales – Cost of Goods Sold/Sales = Profit/Sales
- **Return on Assets (ROA)** (how effectively the firm's assets are being used to generate profits) = Net Income/Total Assets
- **Return on Equity (ROE)** (bottom-line measure for shareholders, measures the profit earned for each dollar invested in the company's stock) = Net Income/Shareholder's Equity
- **Return on Investment (ROI)** (measures the profit earned for each dollar of initial investment) = Net Income/Initial Investment. Can be compared to Cost of Capital on a rudimentary basis.

Another way of expressing ROE is to use the **DuPont Model**. It decomposes ROE into three key components which are more useful when analyzing a firm: the net profit margin (measure of profitability), asset turnover (measure of productivity or efficiency), and the leverage. Therefore, ROE can be also written as:

$$\text{ROE} = \underbrace{\underset{\text{(Profitability)}}{\text{Profits/Sales}} \text{ X } \underset{\text{(Efficiency)}}{\text{Sales/Assets}}}_{\text{ROA}} \text{ X } \underset{\text{(Leverage)}}{\text{Assets/Shareholder's Equity}}$$

Believe it or not, a second round McKinsey case was solely based on the knowledge of the DuPont Model!

Liquidity Ratios

Provide information about a firm's ability to meet short-term obligations.

- **Quick Ratio** = Current Assets-Inventory/Current Liabilities
- **Current Ratio** =Current Assets/Current Liabilities

Asset Turnover Ratios

Indicate how efficiently the company uses its assets.

- **Receivables Turnover** = Annual Credit Sales/Accounts Receivable
- **Average Collection Period** (number of days that credit sales remains in Accounts Receivable before it is collected)= 365/Receivables Turnover
- **Inventory Turnover** = Cost of Goods Sold/Average Inventory
- **Inventory Period** (number of days worth of inventory on hand) = 365/Receivables Turnover

Financial Leverage Ratios

Provide an indication of the long-term solvency of the firm.

- **Debt Ratio** =Total Debt/Total Assets
- **Debt-to-Equity Ratio** =Total Debt/Total Equity

- **Interest coverage or Times interest earned Ratio** (how well the firm's earnings can cover the interest payments on its debt) = Earnings Before Income and Tax (EBIT)/Interest Charges

Income Statement and Balance Sheet
Make sure you understand all the components of both financial statements.

2. Strategy

Breakeven calculation (breakeven period and breakeven volume)

= Fixed cost/Contribution Margin = Fixed cost/(Price – Variable Cost)

3. Finance

Calculating Free Cash Flows
Free cash flow (FCF) represents the cash that a company is able to generate after laying out the money required to maintain or expand its asset base. Free cash flow is important especially to shareholders because it allows a company to pursue opportunities that enhance shareholder value.

Free Cash Flow (FCF) = Net income + Depreciation/Amortization - Change in Working Capital - Capital Expenditure

Present Value and Future Value
FV = PV $(1+ \text{annual interest rate})^{t}$

Annuity
With no growth: PV = Cash Flow (t=1)/discount rate $[1-1/(1+\text{discount rate})^{t}]$
= $CF/r\ [1-1/(1+r)^{t}]$

Perpetuity
With growth (g): PV = Cash Flow (t=1)/(discount rate-growth rate) = CF/(r-g)
(Even if the company has no growth prospects, using this formula forces you to ask about the growth prospects, and then if the interviewer asks you to ignore growth – you can just input 0 for the value of g)

Discount rate (WACC)
WACC (or r) = $(D/D+E)\ r_d + (E/D+E)\ r_e$
Where, D = total debt of the firm/project
E = total equity of the firm/project
r_d = cost of debt
r_e = cost of equity
Make sure you understand WACC conceptually.

CAPM
Used to calculate cost of equity r_e
$r_e = r_f + ß\ (r_m - r_f)$

where, r_e = cost of equity
r_f = risk-free rate (Treasury bill rate)
$r_m - r_f$ = market risk premium
ß= beta of the firm
Make sure you understand the CAPM formula conceptually.

4. Operations

Little's Law

The inventory in the process is related to the throughput rate and throughput time by the following equation:
Work in Progress Inventory = Throughput Rate X Throughput time

Some ways to improve operations: focus on cost, quality, speed and flexibility.

- Reduce work in progress inventory, reducing lead time.
- Add additional resources to increase capacity of the bottleneck.
- Improve efficiency of process capacity, increasing bottleneck capacity.
- Move work away from the bottleneck.
- Reduce complexity in design or redesign for better manufacturability.

5. Microeconomics

Price Elasticity of Demand

Measures the nature and degree of the relationship between changes in quantity demanded of a good and changes in its price.

= % of change in Quantity/% of change in Price

Cross Elasticity of Demand

Measures the responsiveness of the quantity demanded of a good to a change in the price of another good.

= % of change in Quantity for Good 1/% of change in Price for Good 2

The purpose of this section is to give candidates an idea of the depth and delivery of good case interviews. It can be used as a pre-step to other case books, which will include the structures and summary answers but not go into the detail of how the case interaction should go. Keep in mind that sample answers shown in this section on how to approach each step in solving a case demonstrate what interviewers could be looking for in case interviews, but not the only right ways to solve a case.

The standard case interview style is that the interviewee drives the case solving process by laying down the proper structure and asking appropriate questions to collect data. However, McKinsey uses command and control case interview style. In McKinsey case interviews, after the interviewee lays down the initial structure the interviewer normally drives the case by asking pre-set questions that explore specific branches of your structure. In interviewer-driven case interviews, it’s still important for you to answer each question using structured logic instead of giving random answers. McKinsey practice cases included in this section will prepare you for the McKinsey case interview style.

(Source: Sample case from McKinsey website)

Context
Our client is Great Burger (GB), a fast food chain that competes head–to-head with McDonald's, Wendy's, Burger King, KFC, etc. GB is the fourth largest fast food chain worldwide, measured by the number of stores in operation. As most of its competitors do, GB offers food and "combos" for the three largest meal occasions: breakfast, lunch and dinner.

Even though GB owns some of its stores, it operates under the franchising business model with 85% of its stores owned by franchisees (individuals own & manage stores, pay franchise fee to GB, but major business decisions e.g., menu, look of store controlled by GB).

As part of its growth strategy GB has analyzed some potential acquisition targets including Heavenly Donuts (HD), a growing doughnut producer with both a US and international store presence.
HD operates under the franchising business model too, though a little bit differently than GB. While GB franchises restaurants, HD franchises areas or regions in which the franchisee is required to open a certain number of stores.

GB's CEO has hired McKinsey to advise him on whether they should acquire HD or not.

Interviewer: What areas would you want to explore to determine whether GB should acquire HD?

A good answer would include the following:
There are a number of things I would want to look at here:
– I would want to consider what the value of Heavenly Donuts would be to Great Burger.
– I would also want to look at the strategic fit of the companies. Do they complement each other? Can they achieve further benefits (or synergies) from combining their operations?

A very good answer might also include the following:
–I would want to look at the cultural similarities/differences, to see if the management/employees of the companies would fit in well together
– I would like to have a sense of how well positioned GB is to execute a merger with another company. Have they done this before, for example:

You may choose to dive deeper into some of these issues, of your interviewer may ask you to do this, for example:
To understand the value of HD to GB, I would want to look at a number of things
– Growth in market for doughnuts
– HD's past and projected future sales growth (break down into growth in number of stores, and growth in same store sales)
– Competition – are there any other major national chains that are doing better than HD in terms of growth/profit. What does this imply for future growth?
– Profitability/profit margin
– Investment required to fund growth (capital investment to open new stores, working capital)

Interviewer: The team started thinking about potential synergies that could be achieved by acquiring HD

Here are some key facts on GB and HD.

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 (% 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 can you think of between GB and HD? For your information, a synergy is an area where additional benefits can be captured over and above the sum of the two companies (such as cost savings or additional revenue).

<u>*A good answer would include the following:*</u>
There appear to be opportunities in cost savings and in revenue gains.
In cost savings:
– There may be an opportunity to save on General & Administrative Expenses through combining management locations/functions
– There may be decreased Cost of Sales (per unit) because the companies are purchasing greater volumes together

In revenues:
– Additional sales can be achieved through selling Donuts in GB stores
– Also GB has a greater global presence which HD could leverage in order to grow outside the US

<u>*A very good answer might also include the following:*</u>
– GB appear to manage their property and equipment costs better, which means that they may be able to transfer this skill to HD
– Since GB has greater Sales per Store, they may have better skills in finding good locations for stores, and could transfer this skill to HD
– Since GB is bigger, it probably has more investment capital available to help HD grow at a more rapid rate.

Interviewer: The team thinks that, with synergies, it should be possible to double HD's US market share in the next 5 years, and that GB's access to capital will allow it to expand number HD of stores by 2.5 times. What sales per store will HD require in 5 years in order for GB to achieve these goals?

You should assume:

- **Doughnut consumption per head in the US is $10/year today, and is projected to grow to $20/year in 5 years**
- **For ease of calculation, assume US population is 300m**
- **Use any data from the earlier table that you need**

<u>*A good answer is as follows:*</u>
HD will require a sales per store of $1.2m
– Today's market share is $700m/$3b = ~25%. *This is available from the earlier table, and you are encouraged to make sensible, round estimates in a calculation.*
– Expected US market in 5 years = $20 *300m = $6b
– If HD double today's market share, the will have a market share of 50%, so their sales will be 50% x $6b = $3b
– They are also expect to have 2,500 stores (= 2.5 x 1,000)
– So sales per store = $3b / 2,500 = $1.2m

A very good observation to make is that this seems like a realistic growth target, because we are requiring stores sales to less than double, while we already know that per head consumption of donuts is likely to double.

Interviewer: One of the synergies that the team thinks might have a big potential is the idea of increasing the businesses' overall profitability byselling doughnuts in GB stores. How would you assess the impact of this move on overall profitability?

<u>*A good answer is as follows:*</u>
I would try to work out the incremental impact this move would have on profits. To do this I would:
– Calculate the incremental revenues we would get from selling donuts in GB stores (how many, at what price, etc)
– Calculate the additional incremental costs that would be incurred from doing so (for example, additional staff, additional training, additional marketing, additional distribution and purchasing costs)
– I would also look at the additional store investment we would have to make (for example, extra space, new equipment, etc)

<u>*A good answer would also include:*</u>
– We should also investigate if the additional donut sales would mean lower sales of traditional GB products. For example, breakfast products might be affected as many people have donuts for breakfast. *In case you are unfamiliar with the term, this concept is known as "cannibalization".*

Interviewer: What would be the incremental profit per store if we think we are going to sell 50,000 doughnuts per store at a price of $2 per doughnut at a 60% margin with a cannibalization rate of 10% of GB's sales? Note that the cannibalization to sell 50,000 doughnuts per store at a price of $2 per doughnut at a 60% margin with a cannibalization rate of 10% of GB's sales? Note that the cannibalization rate is the percentage of GB products which we think will not be sold because they have been replaced by donut sales. Here is some additional information which will help you:

Current units of GB sold per store	**300,000**
Sales price per unit	**$3 per unit**
Margin	**50%**

A good answer is as follows:
There will be $15,000 incremental profit per store:
– Donut sales will bring in an additional $60,000 in profit ($2 price x 50,000 x 60% margin)
– However, we will lose $45,000 in the original profit from GB sales (10% cannibalization rate x 300,000 products x $3 price x 50% margin)

Interviewer: You run into the CEO of GB in the hall. He asks you to summarize McKinsey's perspective so far on whether GB should acquire HD. Pretend I am the CEO - What would you say?

A good answer would include the following:
Early findings lead us to believe acquiring HD would create significant value for GB, and that GB should acquire HD
– US Growth targets seem achievable given the expected growth in Donut consumption in the US
– There are other opportunities to capture growth from international expansion of HD
– We also believe there are other potential revenue and cost synergies that the team still needs to quantify

A very good answer might also include the following:
– We believe can HD add $15k in additional profit per GB store simply by selling donuts in GB stores. This represents a ~25% increase in store profit from this move alone.
– We will also provide you with recommendations on the price you should pay for HD, as well as any things you need to think about when considering integrating the two companies.

(Source: Sample case from McKinsey website)

Context
The interviewer will typically start the case by giving a brief overview of the context, ending with a question that is the problem definition. At the end of the description you will have an opportunity to ask any questions you might have to clarify the information that has been provided to you.

> **Our client is Magna Health, a health care company in the Midwest. It both insures patients and provides health care services. Employers pay a fixed premium to Magna for each of their employees in return for which Magna covers all necessary health services of the employee (ranging from physician care, and medications to hospitalization)**
>
> **Magna currently has 300,000 patients enrolled in its plan. It has 300 salaried physician employees who provide a broad range of services to patients in 6 centers. These physicians represent a wide range of specialty areas, but not all areas. When a patient needs medical treatment in a specialty area not covered by a Magna physician, they are referred outside of the Magna network for care, and Magna pays all referral costs on a fee-for-service basis. Magna doesn't own any hospitals itself, instead contracting services from several local hospitals.**
>
> **Over the past six months, Magna has been experiencing declining profitability. Magna's CEO has retained McKinsey to help determine what is causing the problem and how Magna might fix it.**
>
> **How can Magna Health improve its financial situation?**

Interviewer: How should Client determine how to improve its financial situation?

Some possible areas are given below. Great job if you identified several of these and perhaps some others.

- Magna's revenues
  - Price paid by employer for employee health coverage.
  - Number of employees covered by Magna.
- Magna's costs (or fixed and variable costs)
  - Magna's main cost components consist of administrative (non-medical) and medical costs (e.g., hospital, drugs, outpatient care)
  - Outpatient costs can be split into internal physician costs versus external referral costs

Magna's patient base demographics/overall risk profile which may affect medical costs

Interviewer: The team discovers that the demographics of Magna's subscribers have changed significantly in the past 5 years, from majority industrial workers/laborers to majority office employees. Knowing this, are there any specific areas you would investigate first?

We are looking for a few responses, similar to the ones below:

- Claim costs, as the change in the subscriber base will change the profile of diseases (e.g., more heart disease/stress and less work related injury)
- External referral costs, due to the change in the disease profile for which they have in-house competency

Interviewer: After reviewing the basics of Magna's business, your team believes that one of the root causes of Magna's financial problems is how it manages medical costs, particularly the cost of referrals to specialists outside of its physician network. Your team has gathered the following information on Magna and its primary competitor, Sunshine HMO:

	Number of patients	Average cost of referral(per member per month)
Magna Health	**300,000**	**$20**
Sunshine HMO	**500,000**	**$15**

What are the most likely reasons that the average cost of referral at Magna is higher than at Sunshine? (At this point you should feel free to offer hypotheses, and you could ask your interviewer questions to clarify the information)

A good answer would include some of the following suggestions:

- Referral pricing: Magna might be paying more than Sunshine for specialist services (e.g., its outside contracts with oncologists might be at higher rates than Sunshine's contracts).
- Number of referrals: Magna's physicians might have different practice patterns than Sunshine physicians, i.e., they may be less comfortable treating heart disease patients or have different training/protocols.
- Mix of specialties: Magna's mix of specialties that requires referrals (cardiology and neurosurgery) are probably more expensive specialties (than cardiology and psychiatry, Sunshine's referral specialties).
- Mix of patients: Magna has sicker or older (>65) patients (individuals over 65 are more likely to need medical care in the specialty areas outside of Magna's network, particularly cardiology).

Interviewer: What analyses would you do if the things you suggest were contributing to this problem?

You might take the following approach, where we've outlined different areas of analysis:

- Referral pricing:
  - Gain data on prices currently being paid by Magna for a sample of common specialties
  - Gain similar data for a competitor if possible for an industry average (perhaps through interviews with non-Magna specialists)

- Number of referrals:
  - Interview Magna physicians and non-Magna physicians to see if any obvious behavioral differences exist
  - Consult industry publications on this issue

- Mix of specialties:
  - Check number of referrals by specialty for Magna and estimate similar for Sunshine
  - Interviews with external specialties used by Sunshine may help again here

- Mix of patients:
  - Compare demographic data for Magna and Sunshine: should be easy to obtain from Magna; a scan of the employee schemes covered by Sunshine should give a good general picture of their demographic profile
  - See if Magna's referral cost has increased in line with the change in demographics of the subscribers

(**Helpful Tip:** In giving the answer, it's useful if you are clear about how the analysis you are proposing would help to answer the question posed.)

Interviewer: Magna's CEO has a hypothesis that Magna is paying too much in cardiology referral costs for its patient population. He asks the McKinsey team to look at Magna's cardiac patient population more closely and tell him how many referrals he should expect on an annual basis. Assume the following:

- **Magna has 300,000 patients in any one year**
- **20 percent of its patients are age 65 or older**
- **In the U.S., patients with serious heart disease visit specialists (cardiologists) on average of five times per year**

You should always feel free to ask your interviewer additional questions to help you with your response. In this case, you should recognize the need to know the prevalence rate of serious heart disease to complete this calculation. Once asked, your interviewer would provide you with the following information:

- **The prevalence rate of serious heart disease in the 65+ population is 30 percent**
- **The prevalence rate of serious heart disease in the under age 65 population is 10 percent**

Based on the correct calculations, your response should be as follows: Magna should expect 210,000 cardiac referrals annually based on its patient population. You should have approached the calculations as follows to arrive at that answer:

- 300,000 total patients
- 20 percent x 300,000 = 60,000 patients age 65+
- 18,000 x 5 = 90,000 referrals per year
- 240,000 Magna patients under the age of 65
- 240,000 patients x 10 percent = 24,000 patients under age 65 with serious heart disease and 24,000 x 5 visits per
- year = 120,000 visits per year total
- 90,000 + 120,000 visits per year = 210,000 total Magna patient external cardiology visits

Interviewer: When the team tells Magna's CEO that based on Magna's patient population he should expect about 210,000 cardiology referrals a year he exclaims, "We currently pay for 300,000 annual cardiology referrals for our patient population!"

Why might Magna's annual cardiology referrals be significantly higher than U.S. averages? What would you do to try to verify if any of these were a key cause of this problem?

There are a number of answers to these questions, and you are on the right track if your responses included some of the ones below:

- The prevalence rate of heart disease in Magna's patient population is higher than average. To see if this was a cause of the problem, McKinsey should audit the internal data on heart disease prevalence and compare it to US National data.
- Magna's primary care physicians are referring patients who do not have serious heart disease to specialists. The team should interview specialists to get their opinion, or follow through a sample of patients who were referred.
- Primary care physicians are not comfortable (e.g., they are poorly trained or inexperienced) treating cardiac patients, even those with minor problems; they want to avoid malpractice suits. McKinsey should interview Magna physicians and institute an external review.
- Magna doesn't have clear guidelines on when physicians should be referring patients to specialists (or if guidelines exist, physicians are not complying with them). The team should gain an expert opinion on the current guidelines to see if this was a key cause of the problem.
- There are no incentives or penalties to prevent physicians from referring patients with less serious problems to specialists. In order to verify this is a key cause of the problem, the team should review incentive schemes if they exist. They should also compare similar companies/situations (e.g., prescription control mechanisms, etc.).

Interviewer: At this point in the study, you bump into Magna's Head of Health Services in the corridor. He is responsible for all matters related to the provision of services to subscribers, both inside and outside the Magna Network. He asks you if you have made any progress. How would you respond?

The ability to come to a logical, defensible synthesis based on the information available at any point in an engagement is critical to the work we do. Even though we'd consider ourselves to be early in the overall project at this point in the case, we do want to be able to share our current perspective. One ideal answer would include the following points:

Findings

- We have investigated all the drivers of profit for Magna. Although there is likely to be room for improvement in a lot of areas, it seems the claims cost is a big area for improvement.
- Relative to the market and to competitors, Magna seems to have high claims cost per patient. Our initial indication is that there may be highest room for improvements in the cost of referrals outside the network.
- There are a number of reasons as to why this may be happening (list as in previous question).

Next Steps

- We are working to pin down the most significant reasons why Magna has high claims cost per patient.
- We are going to be looking into other areas such as reduction potential in other costs, as well as improvement potential in terms of premiums or other sources of revenue.

Interviewer: After some additional investigation, your team decides that changing the behavior of Magna's primary care physicians has potential to reduce cardiac referral costs while maintaining high quality care. The team believes that introducing some sort of incentive plan for physicians might help reduce the referral rate. You propose the following pilot plan:

- **Magna pays bonuses of $100,000 per year to each of the 10 primary care physicians with the lowest cardiac referral rates consistent with good patient outcomes.**
- **Magna increases overall fees paid to primary care physicians to handle more of their patients' basic cardiology needs. Overall fee increases would total $1 million.**

How many fewer cardiology referrals will Magna need to have in order to recoup the cost of the pilot incentive plan? For simplicity's sake assume:

- **The cost of a cardiology referral is $200.**
- **Magna currently has 300,000 cardiology referrals per year.**

If the incentive plan reduces cardiology referrals by 3.3 percent or 10,000 referrals, Magna will recoup the cost of the incentive plan. One potential approach to the calculation:

- $1 million + (10 * $100,000) = $2 million for incentive plan
- $2 million/$200 =10,000 referrals
- 10,000 referrals/300,000 total referrals = 3.3 percent reduction would pay for incentive program

Interviewer: Your team projects that the incentive plan has the potential to reduce referrals by 5 percent in its first year, and an additional 2 percent in its second year. If these projections are correct, by how much would Magna's referral costs be reduced over a two-year period with this program?

Referral costs would be $4.14 million lower in the second year. Over the two years Magna would save $7.14 million. One potential approach to the calculation:

Year 1 Savings with Program

- 300,000 total referrals
- 5 percent reduction in referrals = 15,000 referrals
- 15,000 x $200 = $3.0 million in savings in year 1

Year 2 Savings with Program

- 285,000 total referrals
- 2 percent reduction in referrals = 5,700 referrals
- 5,700 x $200 = $1.14 million in savings
- $3 + $1.14 = $4.14 million in savings

Therefore, total cumulative savings over the 2 years = Year 1 savings + Year 2 savings = $3.0m + $4.14m = $7.14m.

Interviewer: Your team presents its physician incentive proposal to Magna's CEO. The CEO, in consultation with his Medical Director, agrees that this is feasible and says that they will pilot it for cardiac referrals.

At the end of the meeting the CEO says, "I like the work you've done, but it's not enough to address our current financial situation. Physicians are professionals who care deeply about patient care and I think there's a limit to how much cost we can expect to reduce utilizing financial incentives exclusively. Besides cardiac financial incentive programs, what other ideas should we consider to reduce the cost of Magna's specialist referrals?"

Based on what we have discussed today, and any other ideas you might have, how would you respond to the CEO?

This question is a good one for demonstrating creativity because there's a long list of possible ideas. You might give some of the following responses:

- Pursue additional ways to change physician behavior
    - Provide training on how to treat patients with minor or stable medical problems
    - Define and clarify medical guidelines for referrals (e.g., establish a medical committee to define the difference between "serious" and "minor" heart disease)
    - Institute peer review committee charged with approving a subset of referrals (e.g., those that are considered "high cost")
- Spend time investigating "outlier" physicians (i.e., those who seem to refer patients to specialists at much higher rates than others) to determine how widespread the referral problem is and whether simply focusing on a few physicians will dramatically reduce referral costs
- Determine whether Magna can reduce referral costs in the other medical areas where it does not have specialists (i.e., neurosurgery)
- Look at the contracts Magna has for specialist services to determine if it is paying too much relative to competitors
- Consider whether bringing cardiology, neurosurgery, and oncology specialists in-house (i.e., within Magna) might reduce cost

(Source: Interview case from McKinsey Round I, 2006)

Context
Our client is Granite Investments (financial services company) in the US. It used leading-edge technology in it business. A few years back, since the client did not want to invest more capital into the IT systems and decided to outsource it (hardware and support) to a US-based company called Apolgee. The CEO of the client feels that they are being overcharged for the outsourcing services and hence are wondering what they should do. McKinsey has been hired to help them.

Interviewer: Why do you think the outsourcing costs are high?

A good answer will identify the following reasons:

- Our client pays high price because there are few good outsourcing companies available so the good ones including Apolgee demand high price.
- Our client pays high price because they have specialized or complex systems and cutting edge technology that require specialized services and support. Apolgee is a premium service provider with specialized knowledge and skilled labor.
- Our client requires high service level and therefore has to pay a premium for it.
- Apolgee charges our client high fee because Apolgee has high cost structure. For example, Apolgee might not have economies of scale and therefore pay high price for their components.
- If the service is charged per transaction, our client could have too many transactions due to system complexity or process inefficiency.

Interviewer: Following data provided upfront and candidate was asked to calculate the margin of Apolgee. Apolgee pays for all hardware and support required.
- **Number of employees = 2000 (every employee owns a PC)**
- **Cost/PC = $1200**
- **Cost of each support person who is needed to service computer/year = $60,000**
- **General maintenance cost/PC = $200**

Other data provided only when asked:
- **Price that client pays/yr = $2.4M**
- **Replacement policy of computers = replaced every 4 years**
- **2 support people needed for every 200 computers**

Interviewee should do the following calculation:

Total costs
1. Cost of PCs = Price/PC * No. of computers needed every year
   = $1200 * 2000/4 = 0.6M
2. Support cost of people = Support staff's salary/year * No. of support staff needed
   = 60,000 * 2000/200 = 0.6M
3. General maintenance cost = Cost/PC * No. of PCs
   = 200 * 2000 = 0.4M

Total costs/year for Apolgee = 0.6 + 0.6 + 0.4 = $1.6M

Margin = Profit/Revenue = 2.4M-1.6M/2.4M = 33.33%

Interviewer: What do you think about the margin?

Interviewee: The margin seems very high for the IT industry.

Interviewer: Yes – in fact it is very high for this industry. How can the client do to decrease the price?

A good answer will identify the following options:

- Increase the number of year you use a PC (to 5 years)
- Use less PCs (<2000)
- Buy cheaper computers (or have a lease with computer manufacturers)
- Have a lower service level requirement (so you do not need 10 support people)
- Ask Apogee to hire cheaper technicians for them
- Do competitive benchmarking to see if you can use another vendor (need to ensure that you can break the existing contract) – even outside the US

Interviewer: Great. OK, one of the systems that they have outsourced is the website. Now, Apolgee has proposed that the client increase its service level from 99% to 99.9% for $5M/year. Should they do it?

Interviewee: It will depend on whether doing so is profitable to our client. Our client can estimate the incremental revenue due to increased service level and compare that to the incremental cost ($5M).

Data only provided when asked
- **Number of total transactions on the website/year = 200M**
- **80% - general inquiries (although these might impact brand etc., and lead to more revenues – but we will ignore that for now)**
- **20% - revenue generating**
- **Average revenue/transaction = $30**

Interviewee should calculate the following:

Total revenue from the website (if 100% service level i.e. no transactions are lost)
= 0.2 * 200M * $30 = $1200M

If they gain 0.9% of the transactions that they now lose = 0.009 * $1200M= $10.8M

By increasing service level by 0.9%, the client gains $10.8M. If they have to pay Apolgee $5M, they would still make a profit of $5.8M (assuming no other costs). Hence, they should increase the service level as suggested by Apolgee.

Interviewer (Role-Play): Imagine I am the CEO of Granite Investments. I am very frustrated with the Apolgee – that their prices are so high, and now they are asking me to pay another $5M. As a McKinsey associate on this project, I look to you for help. What would you tell me?

Interviewee: Mr. CEO, we analyzed Apolgee's proposal to increase the service level to 99.9%. Our analysis shows that by getting the extra 0.9% revenue generating transactions you would gain $5.8M in profit. Therefore, we recommend that you take the deal. In addition, because Apolgee's profit margins seem very high at 34%, in the next a few days we would like to do some competitive benchmark analysis to see if other vendors offer better prices with the same level of services to see if we are overpaying Apolgee. If yes, we can renegotiate contract terms with Apolgee or switch to other vendors. Of course, we need to review the contract to see if there are any restrictions we should be aware of. If we want to switch, we need to assess the impact of switching cost.

Interviewer: In fact, Apolgee has agreed that we can break the contract anytime we find better prices outside.

Interviewee: Great! Then we shall do the benchmark exercise and see if we can find better vendors.

(Source: Interview case from McKinsey Round I, 2006)

Context
Our client is a meat processing company. They buy livestock, process and then sell to major retail supermarket chains. In early 90's, the industry went through consolidation and now there are only 5 big players in the market. During this time our client bought about 8 regional/local players in the market who were not doing well and had old assets that had depreciated.

The CEO has called McKinsey because their profitability is declining and they want to understand what they can do.

Interviewer: What are the key areas you would look into?

A good answer will cover the profitability structure

I would like to know if the revenues are declining or the costs increasing or both.

On the revenue side, I would look at the changes in the two drivers of revenue – price and quantity. Before that, I want to understand how the overall market is doing – is it growing or shrinking (however, I think this would not be a problem). The next thing I would look into is what the competition is doing – are there new competitors in the market – have they reduced the prices or stolen share from us. I would also look at customer trends – for instance, end consumers could be moving towards healthy foods or vegetarianism. Further, the customers i.e. the supermarket chain, might not provide enough shelf space since their bargaining power might be higher or might squeeze our client on the price. These factors would affect the price and quantity we sell.

On the cost side, I would look at the fixed costs and variable costs of the facility.

Fixed costs:
- Plant/Facility – Rent
- Equipment for processing
- Insurance
- SG&A

Variable costs:
- COGS
    - Direct materials such as birds (quality of birds/type of birds) and chemicals needed for processing
    - Direct labor
    - Production costs
- Transportation cost (was told that each facility is independent and complete so no transportation is required within facilities)

Interviewer: The processing costs are high for the client. We did competitive benchmarking of our "birds" division with King Chicken. Data provided.

	Client	**King Chicken**
Average quantity of birds processed each year in each plant	300,000	500,000
Average processing cost/bird	$30	$20

Interviewer: What do you think?

A good answer may identify the following:

The processing costs are a lot higher compared to King's chicken. Reasons could be:

- King Chicken sells more chicken and has reached economies of scale, and therefore has lower fixed cost per bird.
- King Chicken has better capacity utilization which leads to lower overhead per bird.
- King Chicken has more efficient or cheaper processing due to newer equipments or more advanced technology.
- We process different types of birds that might require extra care or more specialized process or more specialized labor leading to higher costs
- We have a better skilled labor force as we deliver premium products.
- Since our average processing cost is higher, it could be that some of our plants have a lot higher processing costs which bring up the average cost.

Interviewer: One of our Associates came running in and told us that one of their plants (out of 10) processes turkey instead of chickens, whereas King Chicken only processes chicken. The processing costs in that plant are a lot higher. He found out that it costs twice the amount to process a turkey than it takes to process a chicken. Can you find out what the costs for processing a chicken and a turkey are in our plants?

	Turkey	**Chicken**
Quantity of birds processed each year in each plant	600,000	266,000
No. of plants	1 plant	9 plants

Interviewee should do the calculation:
I would just take the actual costs of processing of both turkey and chicken, and equate it to the total average costs of processing (which we know from the data earlier) in all 10 plants.

Lets say the processing cost of chicken = $X
Then, processing cost of turkey = $2X

600,000 * $2X * 1 plant + 266,000 * $X *9 plants = 300,000 * $30 * 10 plants
=> X = $25

The cost of processing chicken is $25 and that of turkey is $50. The cost of processing chicken is still higher than our competitor's cost of $20.

Interviewer: Why do you think? What would you think of doing?

A good answer should include the following:

The cost of processing is still higher by $5 than our competitors. That might not be good. If we produce the same type of meat as our competitors, given the commodity nature of this type of meat we have to take lower profit margin to stay competitive. If our competitors decide to reduce price to gain more market share, we will be very vulnerable.
If we produce premium product, the supermarket chains might not be willing to pay much higher price to buy our product as I would think that $5 might be a significant % of the total cost of meat's tag price.

If our client's product is a branded premium product and consumers are willing to pay the extra dollars for better taste, packaging or healthy meat (whatever is the criterion that differentiates it), higher cost structure may be fine. However, I am not sure how much extra price consumers will be willing to pay for premium chicken or turkey meat. Let's say that one bird produces two pounds of meat, which means consumers will have to pay $2.5 extra per pound. It seems very high. Therefore, we should still find ways lower costs. If our product has the same quality as our competitors', it's even more important to look at ways to reduce costs.

To reduce both fixed costs and variable costs,
- We could look into consolidating the plants, especially if they are underutilized. That might bring down costs as we can consolidate both facilities and equipments.

- If we haven't don't so, we could look for opportunities to maximize synergies as we acquired so many players, such as consolidating purchasing to have better price from suppliers
- We could share best practices across different facilities.
- Improve labor productivity or hire cheaper labor without affecting quality of work
- Find better suppliers to lower material costs.
- Buy cheaper equipments or lease them instead.
- Expand to other markets such that capacity utilization increases, or lease/sell the unused capacity.
- Stop processing turkey to reduce average processing cost.

(Source: Sample case from BCG website)

Context
Your client is GenCo, a large, international, diversified company with a health care division that produces a wide variety of medical instruments and related services. Five years ago, it expanded into the health care software industry by purchasing MedCount, which markets administrative systems to large U.S. hospitals. These systems are designed primarily for back-office functions; they are not designed for managing patients or providing other physician and technical support. Since it was purchased, the software division has failed to deliver the growth needed to justify the multiple GenCo paid for it. GenCo feels it has already squeezed margins as much as possible, and now is looking for new sales opportunities. MedCount turned to BCG to help identify potential ways to increase revenues. How would you approach this problem?

Establish understanding of the case

Interviewee: First, let me make sure I understand the problem. The parent company produces medical devices and services, but before the acquisition was not involved in health care software. The company it purchased, MedCount, sells only administrative systems software to large hospitals. It is now looking for opportunities to increase revenues.

Interviewer: That is correct.

Interviewee: Could I take a moment to jot down a few thoughts?

Interviewer: Sure, that would be fine.

Set up the framework

Interviewee: I would suggest using the following structure to approach the problem:

- First, I'd want to understand the market size and growth rates for MedCount's market and related software markets.
- Next, I would like to explore the competition and their market shares.
- Third, I would like to examine customer requirements and then, given those external conditions, look at the division's capabilities to understand how well prepared it is to meet the needs of the marketplace.

Interviewer: That sounds fine. So what do you want to know about the market?

Evaluate the case using the framework

Interviewee: Well, the first hurdle would be to identify the markets the company would be interested in. Besides administration systems, what other types of medical software systems do large hospitals purchase?

Interviewer: There are many software systems, but for the sake of time, the team focused on three primary markets: administration systems, patient administration, and physician support systems.

Interviewee: What do those systems do?

Interviewer: Patient administration includes systems such as admissions and tracking. Physician support systems are more specialized, for individual physician procedures.

Interviewee: I would like to know how large each market is and how fast each is growing. I would use secondary sources such as press releases, analyst reports, and published market studies, to obtain this information.

Interviewer: Great! That is what we did during the market study. Our information revealed the following market sizes and growth rates.

	Administration	Patient administration	Physician support
Market size ($M);	1,500	1,000	1,200
Growth rate	5%	5%	12%

Interviewee: From a size and growth perspective, physician support systems looks like a very attractive market. I'd like to know a little about the customers themselves. The client is currently targeting large hospitals. Approximately what percentage of the market do they represent?

Interviewer: We were unable to get an exact breakdown, but we know that these hospitals make up the vast majority of the total medical software market.

Interviewee: That would make sense, since the more sophisticated procedures at a hospital might necessitate more advanced software solutions. I know that there have been a lot of changes in the industry as a result of managed care. I don't know much about the industry, so I would want to look at market studies and press clippings to get a better sense of the hospital market in general and any technology or software trends more specifically.

Interviewer: Okay. Let's say that you did that and were presented with this summary of market trends:

- **Consolidation in the industry, with three to four large hospital networks dominating 45 percent of the market**
- **Cost controls instituted, particularly as these large hospital networks acquire smaller hospitals (centralization of functions being a key cost issue)**
- **Many hospitals seeking to consolidate their vendor base**
- **With regard to technology, many hospitals upgrading their older systems**

Interviewee: If hospitals are consolidating vendors, perhaps our client has an advantage in being part of a larger medical company. Maybe the client could also gain some advantages by expanding into other software segments. Are the people responsible for purchasing software at the hospital the same for all three segments?

Interviewer: Like all things, it differs by hospital, but the larger hospital networks, have tried to consolidate their purchasing not only within but also across hospitals.

Interviewee: Is the decision maker for medical software the same as for medical instrumentation and devices?

Interviewer: In some cases, the head of purchasing influences both decisions, but the person who makes the final choice is different. Software decisions are usually made by the hospital IT function, and those for instrumentation by the medical staff.

Interviewee: I think I have a pretty good understanding of the market for now. Let's look at competition next. We could identify all the competitors and build up the market shares using a combination of public data and estimates.

Interviewer: Well, let's assume that you don't have an infinite amount of time to look at all the competitors. You can only look at the top five competitors in each market. You are given the following data:

Administration Systems	Sales ($M)	Growth (%)
MedCount	700	4%
HCS Software Systems	100	7%
Morningside Software	80	3%
Admin Systems Solutions	70	2%
HTI Software	50	15%

Patient Administration	Sales ($M)	Growth (%)
HTI	300	5%
Registration Software Solutions	240	4%
Signup Software	60	3%
HCS Software Systems	30	16%
Patient Software	20	-1%

Physician Support	Sales ($M)	Growth (%)
HCS Software Systems	150	16%
Physician Support Systems	100	11%
Medical Technology Inc	25	18%
HTI	20	32%
MedSys	5	15%

Interviewee: Very interesting. The first thing I would note from the data is that the market concentrations are very different. In administrative systems, the top five competitors control 66 percent of the market and in patient administration, they control 65 percent. But in the physician support market, they control only 25 percent.

I would want to know what gross margins look like in each of these markets as well. I might turn to analyst reports and look at competitors' financial statements to deduce whether they are making money in each market.

Interviewer: Gross margins vary, of course, but the analyst reports have margins of 25 to 30 percent for administrative systems and for patient administration. For physician support, the margins tend to be higher, more like 45 to 50 percent.

Interviewee: I see that two competitors, HTI and HCS Software Systems, have very large revenue growth in all three sectors, although they each dominate one. I would want to look at their financials, annual reports, and press releases to find out a bit more about their strategy in each of these areas.

Interviewer: You'd find that they recently entered these noncore markets. Why might they have done that?

Interviewee: Perhaps, like our client, each had a strong position in its own segment, HTI in patient administration and HCS Software Systems in physician support. Maybe they too decided to branch out into the other segments to find additional growth.

Interviewer: That is a very good hypothesis. Let's say there is evidence in the sources you consult that supports your assertion.

Interviewee: Well, if that were true, these two companies could be a threat not only in the other two segments, but also in our client's segment, administrative systems. It looks as if the client is slowly losing market share in its segment, since it is growing more slowly than its market.

Interviewer: Good observation.

Interviewee: The market and competitor trends could also suggest that the client may want to enter these other markets. In particular, the physician support market looks attractive, given it has high growth and lack of a dominant competitor. The higher gross margins may provide attractive returns on the necessary investment in software development.

However, the patient administration market may also be attractive. Although it is more concentrated and offers lower margins than physician support, the client may be able to enter this segment with a smaller up-front investment. Given the trend toward upgrading existing computer systems, it may be important for MedCount to have a product offering in each of the three market segments. That should not be too difficult, since the company is already in the software industry.

Interviewer: Perhaps, but you should think a little more closely about these types of software. Are all software systems alike?

Interviewee: Well, let me think about that for a moment. I suspect patient administration would have relatively low entry barriers. From your earlier description, these systems appear to be pretty basic, dealing primarily with admissions and patient tracking. However, the entry barriers in physician support might be higher, since these systems are more complex and there are probably multiple systems for the various physician procedures. I guess it would be harder to get into those types of systems.

Interviewer: That would make sense.

Interviewee: Since the company might want to go into only some of the segments, I would want to know how important it is to have products in all three segments. Do we know if the competitors are marketing their products as a bundle?

Interviewer: How might you find that out?

Interviewee: Since it would be difficult to talk to a competitor directly, I would probably target a competitor's customer, particularly one that just converted from our client's software.

Interviewer: Let's say you get an interview with a customer that recently switched to HTI. You discover that the competitor was offering it a better pricing deal and service for software products in all three segments.

Interviewee: How were MedCount's software and service perceived in relation to those of competitors?

Interviewer: The customer thought that its administrative systems were adequate, "the old standby," but not stellar.

Interviewee: Were there any other key reasons it switched from MedCount's system?

Interviewer: When it decided to upgrade its systems, it tried to contact MedCount, but could never get a representative to describe its options.

Interviewee: Interesting. How did HTI perform?

Interviewer: The HTI representative had heard that the company was considering switching software vendors and provided a sales representative to pitch HTI's administrative product the next day.

Interviewee: It definitely sounds as if there was a problem with the sales function and that customer relations need to be improved, particularly for the larger hospital chains. There also seems to be an advantage from both a marketing and sales perspective in having multiple software products. I would want to confirm those views by doing further interviews.

Interviewer: Let's say further interviews support those assumptions.

Interviewee: Since we have already looked at the external conditions, I would like to move on to the client itself. I'd like to know more about its marketing and selling organization as well as its software development skills.

So far, we know that our client offers administrative software and that there may be a problem with sales and marketing. Could you tell me a little about the marketing department?

Interviewer: The marketing department is organized regionally. Teams are assigned to hospitals within each state or geographic region, such as New England.

Interviewee: That could explain some of the problems with MedCount's marketing and sales. If hospital purchasing is centralized, the marketing organization may be outdated. Does the company have any teams dedicated to the four or five biggest hospital networks?

Interviewer: No, there are no dedicated teams. They talked about doing that for a while, but it conflicted with the regional structure it had in place.

Interviewee: With regard to software, does the company feel it has any strengths or weaknesses?

Interviewer: It feels that their administrative product is very strong ("best of breed") and is the dominant technology. Also, the product is modular in design, which allows for easier upgrades. Although the company has never branched out into other market segments, the software developers believe that certain modules could be used to build the foundation for other administrative software programs. The company feels customer support is also an area in which it excels.

Summarize and make recommendations

Interviewee: Let's start with our client's market. The client dominates the administrative software market, which is fairly large but growing slowly, and the company appears to be slowly losing market share. Patient administration is also growing relatively slowly.

Interviewer: Both markets are relatively concentrated and appear to offer lower margins than physician support. The physician support market is large and less concentrated, and could potentially provide higher margins, but would require a larger investment. The hospital market itself is becoming more concentrated and is pushing to consolidate vendors. The purchasing agent is often the same for the three types of software.

Interviewee: Looking at our client's competitors, two, HTI and HCS Software Systems, appear to be particularly threatening. Each has a dominant position in one segment and is branching out into other areas. They appear to be marketing their products and services as a bundle and are using service as a key point of differentiation.

The client offers only one type of system and appears to have some weaknesses in its marketing organization, particularly in marketing to the larger hospital networks, which offer the most promising market opportunities.

Interviewer: How would you recommend proceeding?

Interviewee: The first priority should be to fix the marketing organization, particularly for the large hospital networks. MedCount will have trouble expanding into new markets if it can't defend its current position and shore up its existing customer relationships. There should be a team dedicated to each of the major chains. The client should also look at improving customer tracking so that it is clear when its customers are going to upgrade. There should also be clear contacts so that the customer can easily keep in touch with MedCount.

Next, I would recommend that the client explore entering the other market segments by leveraging its dominant position in administrative systems. At first glance, patient administration does not appear to be very attractive, with slow growth, low margins, and large, dominant competitors. There appears to be some advantage, however, in having products across the product range. I would recommend that we interview some of MedCount's existing customers to better understand their needs and future IT requirements. If the customer base is interested in one software provider for both back-office administration and patient administration functions, this segment looks promising.

If the client does decide to enter this market, it should look at the lowest-cost method of entry, either developing a product internally or acquiring a competitor. The modular design of its existing administrative software suggests internal development of the patient administration product may be the way to go, but we would need a more thorough comparison of the internal development and acquisition options, including both cost and time to market. I think that physician support offers our client an exciting growth opportunity, given its high margins, high growth, and fragmented competition. I would definitely think about an acquisition strategy, since the client may lack the technical capabilities to enter this specialized market. I would recommend going for one of the larger companies, as that would give the client a stronger position. Smaller companies would probably not offer an important enough position in the market. More research would be needed, however, for us to better understand the intricacies of the market and each potential acquisition.

Interviewer: Those are very interesting conclusions. Thank you.

(Source: Sample case from BCG website)

Context
Your client is the sugar cereal division of Foods Inc., a U.S.-based distributor and manufacturer of packaged foods. According to the division president, Foods Inc.'s traditional strength has been with grocery stores, which still account for the majority of its $1.1 billion in sugar cereal sales. But Big M Mart, a discount chain, has been growing at a healthy rate of almost 15 percent per year and has now become Food Inc.'s largest customer. Your client is not sure how to react, and has asked BCG for assistance with its distribution strategy

Establish understanding of the case

Interviewee: First, let me make sure I understand the problem. Our client specializes in sugar cereals traditionally distributed through grocery stores. Sales to Big M Mart, a discount chain, have been growing at 15 percent per year, and the chain has recently become the largest distributor of the client's product nationwide. We are here to help evaluate the distribution strategy in light of Big M Mart's growth.

Interviewer: That is correct.

Interviewee: Could you explain to me how grocery stores differ from discount stores?

Interviewer: Sure. Grocery stores generally specialize in food, as well as selling some household goods and over-the-counter pharmaceuticals. Discount stores, on the other hand, offer food alongside a wide variety of merchandise, including clothing, home electronics, and housewares.

Interviewee: Does Big M Mart market its food products differently than do grocery stores?

Interviewer: Discount stores advertise lower prices for a wide variety of foods, particularly staple, nonperishable foods.

Interviewee: Could I take a moment to write a few notes to myself?

Interviewer: Please feel free.

Set up the framework

Interviewee: Before making recommendations, I think we would need to evaluate whether sales growth at Big M Mart is good or bad for Foods, Inc. To do that, I would first look at how its sugar cereal performance at Big M Mart compares with that in other distribution channels. Second, I would look at its performance at Big M Mart in relation to competitors' performance. Next, I would determine what drives customer purchases. Finally, I would want to understand the supply chain.

Interviewer: That certainly sounds like a reasonable approach. Let's proceed.

Evaluate the case using the framework

Interviewee: First, I would like to get a better sense of where Big M Mart stands in relation to our client's other distribution channels by examining the client's sales data and margins, by distributor.

Interviewer: The marketing department does not have margins by channel, but tracks sales and volume for its top five distributors.

Sales ($M)	1997	1999	2001	5-Yr CAGR
Big M Mart	142	162	246	14.7%
R.J.'s	157	185	200	6.2%
Bozo Mart	143	175	189	7.3%
Ace Grocery	101	109	153	11.0%
Shoppers Mart	57	62	67	4.0%
Total Top 5	600	693	856	9.3%
Total All Distributors	1,000	1,079	1,150	3.6%
Volume (M boxes)	1997	1999	2001	5-Yr CAGR
Big M Mart	65	74	113	14.7%
R.J.'s	72	81	85	4.2%
Bozo Mart	65	77	80	5.2%
Ace Grocery	46	47	64	8.8%
Shoppers Mart	26	27	28	2.0%
Total Top 5	274	307	370	7.8%
Total All Distributors	450	468	487	2.0%

What does this imply about Big M Mart as a distribution outlet?

Interviewee: It looks as if the top distributors have been growing more important, but particularly Big M Mart, which is growing faster than all the others. This is particularly true when we look at volume, where Big M Mart's growth is much higher than that of the other four channels.

Interviewer: And how could you interpret what these data says about margins?

Interviewee: While the client's sales through other distribution channels are growing faster than volume, Big M Mart volume and sales growth are the same, so the average price paid by Big M Mart has remained constant. That implies that sales growth at Big M Mart could have negative implications for our client's margins.

Next, I would like to look at how our client is doing in relation to the competition within Big M Mart. Have they been gaining or losing market share?

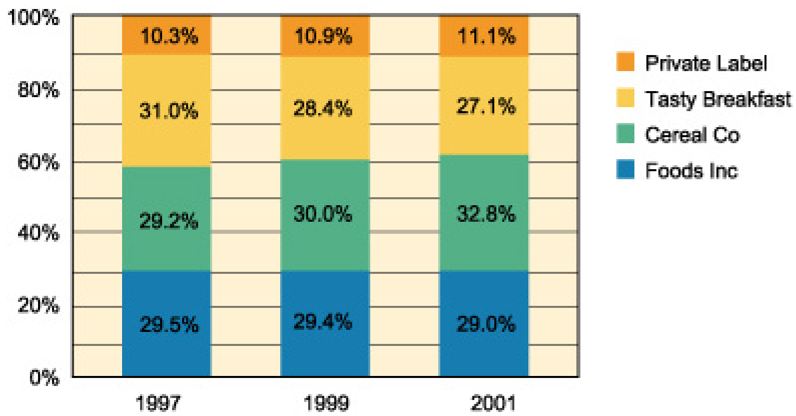
Interviewer: How might you find that out?

Interviewee: I would try to interview Big M Mart's purchasing personnel, since they would probably track those data for their own purposes.

Interviewer: Why would they want to talk to you? How might you approach such an interview?

Interviewee: I would approach the purchasing personnel and suggest that our client and Big M Mart work together to identify best practices to reduce costs and increase sales of sugar cereals at Big M Mart.

Interviewer: Let's say in a perfect world you could get a breakdown of Big M Mart sales for the four largest competitors (see market shares below).



What can we infer about our client's competitors within this channel? Who should they be worried about?

Interviewee: It looks like our client is losing market share, as is Tasty Breakfast, while Cereal Co. and Private Label are gaining share. Private Label, however, looks to be growing from a very small base.

I would like to explore why our client is losing market share to Cereal Co. at Big M Marts. Are their prices better than those of our client?

Interviewer: After a period of price wars six to seven years ago that lowered industry margins, the cereal companies have refrained from price competition within the same channel.

Interviewee: If prices are not driving the difference, I would look at other factors such as brand selection, percentage of shelf space, product placement, and in-store promotions.

Interviewer: Visits to Big M Marts indicate that each name-brand company holds 30 percent of the shelf space, while private label has 10 percent. Cereal Co. brands, however, tend to be placed lower on the shelf than your client's products.

Interviewee: Well, I suspect that children are a large target market for the sugar cereal manufacturers. The lower shelf placement could be especially important to children who are looking at the different types of cereals. Are there any other promotions?

Interviewer: Some Cereal Co. brands have sales promotion tags, and the team notes that store flyers advertise specials on Cereal Co. brands for Big M Mart customer cardholders.

Interviewee: So, even if all the companies are maintaining product prices, maybe Cereal Co. is strategically discounting prices to gain market share.

It seems as if there is evidence of cooperation between Cereal Co. and Big M Mart. Do we know anything about their relationship?

Interviewer: During earlier discussions with Big M Mart, you discovered that your client's competitors have 50 sales representatives dedicated to the Big M Mart account. Your client has seven.

Interviewee: Cereal Co. appears to be dedicating more resources to its relationship with Big M Mart than our client is. This may explain its better product placement and promotion programs.

I think I have a good sense of distribution and competition. I would now like to look at the customers and understand why they select the products they do. One hypothesis I have is that shifting brand loyalties are hurting our client's market share at Big M Mart.

Interviewer: That's interesting. What do you think might motivate purchases of sugar cereals?

Interviewee: There are lots of factors, such as the games in the boxes, the price of the cereal itself, how it tastes. To better understand consumer behavior, we might conduct market research, possibly through focus groups, customer observation, and price sensitivity studies.

Interviewer: BCG teams often do such research. Let's assume your team conducts some analysis. Your research concludes that most buyers tend to fall into two categories. Approximately 60 percent of buyers go straight to one cereal and grab it. We can call this group the "brand-loyal" shoppers. Another 40 percent of shoppers look at all the cereals and then select one that interests them. Let's call this group the "impulse" buyers.

Interviewee: For the brand-loyal shopper, the priority would be product availability, while product placement would be important for consumers who like to shop around.

Within these groups, are consumers price sensitive such that one brand can lure shoppers loyal to another brand?

Interviewer: In general, your research indicates that consumers are not price sensitive and are extremely loyal to their preferred brand. But when the preferred cereal is unavailable, the brand-loyal customers will purchase discounted cereals approximately 35 percent of the time.

Interviewee: Well, from that information, it appears that price is not a major driver of purchases unless the preferred cereal is out of stock. In these stock-out situations, you said, brand-loyal customers will purchase discounted cereals 35 percent of the time. What happens when the customer does not purchase a discounted cereal?

Interviewer: In approximately 25 percent of cases, the customer walks away without purchasing any cereal at all. In the remaining 40 percent of cases, the brand-loyal customer will act like an impulse shopper and select another brand.

Interviewee: Interesting. It seems as if product availability could be a major driver of total cereal volume for Big M Mart. Of course, we would need to know how often stock-outs occur that cause consumers to walk away without purchasing cereal occur.

Since I have a pretty good understanding of customer motivation, I'd now like to ask a few questions about the client's supply chain. I would want to talk to our client's distribution personnel to understand the distribution process and to determine how often stock-outs occur. Can you describe how our client's cereal is distributed at Big M Mart?

Interviewer: Cereals are distributed from the factory to the distributor's warehouse twice monthly. The retailer then stocks the shelves itself.

Interviewee: Do we have any knowledge about when the individual stores are out of stock?

Interviewer: No, we do not, since our client only delivers to the warehouses and has no direct access to in-store inventory information.

Interviewee: Since we identified product availability as a key success factor earlier on, I would want to make sure that the stores were stocking the product correctly.

Interviewer: Let's say that in your earlier in-store investigations, you found out that Big M Mart stores averaged 15 percent of sugar cereal brands out-of-stock, across all brands.

Interviewee: Stock-outs would be a major problem for our client, since 60 percent of customers look for a specific brand of cereal and 35 percent of them would buy a discounted brand in a stock-out situation. Big M Mart would also have an incentive to reduce out-of-stock incidents, since 25 percent of the time, a brand-loyal customer will walk away without buying anything.

Summarize and make recommendations

Interviewee: Big M Mart is our client's leading customer, accounting for more than 20 percent of our client's sugar cereal revenue. Although sales to Big M Mart are increasing on an absolute basis, our client's margins there are lower than in its other channels and its competitive position is eroding in that channel.

At Big M Mart, our client faces competition from both private label and Cereal Co., although the latter appears to be the greater threat. There appears to be a relationship between Big M Mart and Cereal Co. as evidenced by their joint promotions, the superior placement of the Cereal Co. product, and the substantial resources that Cereal Co. has dedicated to the Big M Mart account.

We learned that 60 percent of customers are brand-loyal, implying product availability is most important. However, 40 percent like to try different kinds of cereal, indicating product placement is also important. Purchasers do not appear to be price conscious, unless the type of cereal they are looking for is out of stock, in which case there is a stronger tendency to base purchases on price promotions.

In terms of distribution, our client is making deliveries twice a month to Big M Mart's warehouses. Big M Mart, in turn, is responsible for stocking the shelves. We currently have no direct knowledge of when our client's items are out of stock at the individual stores, but there is evidence that stock-outs do occur with some frequency.

Interviewer: Well, it sounds as if you understand the situation. What would you recommend the client do?

Interviewee: The sales through Big M Mart appear to have a negative impact on the bottom line, as they have lower margins than sales through grocery stores. The client could work with grocery stores to ensure that they are able to compete effectively with Big M Mart in the sugar cereal market. This strategy could be risky, however, since Big M Mart is a large and important customer. Therefore, I would recommend that our client work more collaboratively with Big M Mart.

To defend its current position at Big M Mart stores, the client should move toward a partnership with Big M Mart and dedicate more resources to the relationship. The customer and competitor data indicate that our client's first priority should be to improve distribution to ensure better product availability. In addition, it should push for product placement equal to, if not better than, that of its competitors.

Interviewer: Why would Big M Mart be willing to enter into a partnership with Foods Inc?

Interviewee: Foods Inc could offer to share its information about customer behavior to help increase revenues for both itself and Big M Mart. Stock-outs hurt Big M Mart in two ways. First, some brand-loyal customers simply walk away without purchasing cereal whenever their preferred brand is unavailable. Second, we know that other brand-loyal customers purchase lower-priced cereal whenever they encounter a stock-out of their preferred brand. Both of these instances lower Big M Mart's revenue.

By eliminating stock-outs, Big M Mart could increase its sales by simply ensuring that customers don't walk away without making a purchase. Converting these purchase occasions to sales would increase Big M Mart's sales of sugar cereals by more than 2 percent[(1)].

Better availability also helps Big M Mart and our client increase their revenue by deterring the brand-loyal shoppers from trading down to lower-priced cereals. Recall that 35 percent of the brand-loyal shoppers purchase a discounted cereal if their preferred brand is not available. If improved distribution now makes the preferred brands more consistently available, the customers will pay a higher price for these products.

Finally, we could use the information about consumer purchase behavior to help persuade Big M Mart to share information about product availability in its individual stores. We could work with our client and Big M Mart to improve the current distribution system to allow for more economical deliveries, while at the same time ensuring that our client's product is consistently available in the store.

Interviewer: Thank you. Those sound like solid recommendations, but I would suggest that you fully understand the root cause of the stock-out situations and the cost to eliminate them before moving ahead.

[(1)] 15 percent out of stock x 60 percent brand-loyal customers x 25 percent willing to forgo purchase = 2.25 percent

(Source: Sample case from BCG website)

Context
Your client is a U.S. defense contractor that manufactures the Mohawk Light Fighter Jet for the British Royal Air Force. The company has produced the $20 million fighter jet for the past 12 years. The British government has decided to put the contract out to bid, however, and to win the program, the client's purchasing agents have estimated, the company will need to cut its costs by 5 percent. It has asked BCG to help it reduce costs.

Establish understanding of the case

Interviewee: Let me first clarify the question. The client manufactures a $20 million jet and, because of competitive forces, has to reduce its cost by 5 percent. Is BCG's role also to verify the purchasing department's estimate?

Interviewer: No, you can assume that the purchasing estimate is correct. BCG's role is to find the cost savings to meet that estimate.

Interviewee: Could I take a few minutes to think about the case?

Interviewer: Sure, please do so.

Set up the framework

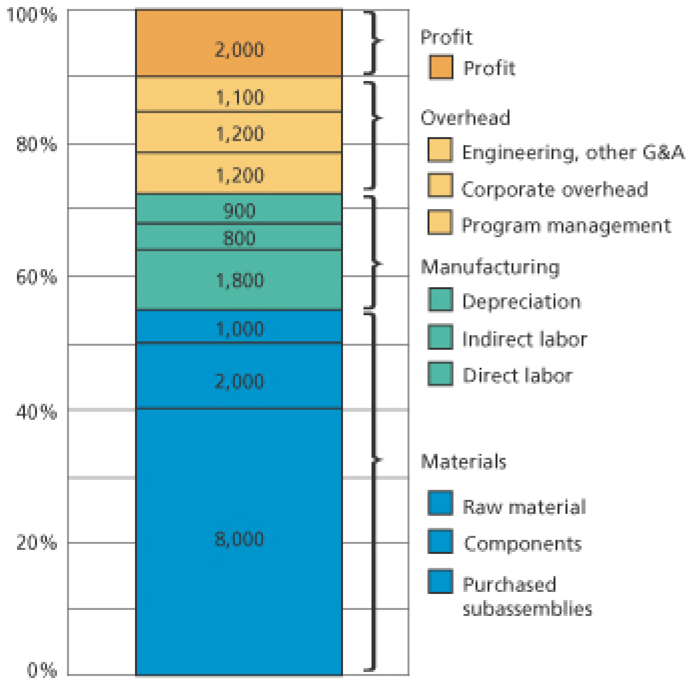
Interviewee: First, I would like to understand the cost structure of the jet to see what we should look at first. Next, I would like to look at major factors driving the costs we are targeting. Finally, I would like to explore potential ideas to reduce cost.

Interviewer: That sounds like a very logical approach. Let's proceed.

Evaluate the case using the framework

Interviewee: Because the time for the interview is limited, I think we should try to identify those areas most responsible for the cost of the jet.

Interviewer: Time is limited on real projects as well, so I think that would be a good idea! You have the following cost information for the jet. How would you interpret it?



Interviewee: The major cost driver for the jet appears to be purchased materials. Within manufacturing, direct labor is a fairly large component of cost, as are program management and corporate overhead within overhead. I think we would want to concentrate most on materials, however, since that's where most of the costs can be found.

Interviewer: That sounds like a good place to start. Where would you look within materials?

Interviewee: I see that materials are broken down into purchased subassemblies, components, and raw materials. I understand what raw materials would be, but what would be the difference between components and subassemblies?

Interviewer: A subassembly functions on its own. An example is the pilot night vision system. A component is a smaller part, such as a part of the engine.

Interviewee: I know that governmental agencies often have very strict guidelines about purchasing that could affect the cost of materials.

Interviewer: For the sake of this case, you can assume that the British Ministry of Defense, MOD, allows "commercial off-the-shelf" purchases, which means that the client is free to purchase from whomever it wants, as long as it can ensure that the parts meet MOD quality guidelines.

Interviewee: I see that purchased subassemblies comprise more than 70 percent of materials. How many suppliers are there for these subassemblies?

Interviewer: There are seven suppliers of major subassemblies that go into the fighter jet.

Interviewee: That seems like a relatively small number. Are there more suppliers that are qualified to do this type of work?

Interviewer: The manufacture of these parts requires a substantial investment in R&D, engineering, and infrastructure. It would be very costly for new suppliers to make the required investment, particularly if the client is trying to reduce the price it pays to the subassembly manufacturers.

Interviewee: Since there are only a few subassembly suppliers, and the investment hurdle would preclude bringing in competing manufacturers, it would be difficult to reduce the price paid. Perhaps we should look elsewhere for savings.

Interviewer: But remember, if your client loses the contract, it will lose its customer unless it is teamed with the competing bidder. Even then, if the competitor is underbidding your client, there will be even less room for it to profit.

Interviewee: Perhaps it would have an incentive to reduce its costs in order to maintain the contract. Are the majority of its costs in materials as well?

Interviewer: How could you find that out?

Interviewee: I would want to interview the purchasing and engineering personnel of the different subcontractors in order to understand their cost structures. If we had a better understanding of their economics, our client might be able to reduce cost across the board, allowing it to compete more effectively for the contract without killing everyone's margins.

Interviewer: Let's say that purchased materials average approximately 70 percent of the price paid to most of the manufacturers.

Interviewee: If the cost of subassemblies represents 40 percent of the jet cost and 70 percent of that is purchased materials, total purchased materials would be approximately 28 percent of the jet cost subassemblies. Purchases of raw materials and components represent another 15 percent, for a total of around 43 percent of the cost of the jet. If our client could reduce the cost of raw materials by 20 percent, it could reduce the cost of the jet by more than 8 percent, more than enough to offset the 5 percent reduction it would need to win the contract.

Interviewer: That sounds reasonable, but 20 percent is a very lofty goal. How would you go about doing that?

Interviewee: First, I would look at the number of suppliers. Are there a large number of suppliers to the subassembly manufacturers?

Interviewer: The client estimates that there are approximately 125 suppliers of raw materials and components among the manufacturers of the subassemblies and itself.

Interviewee: Well, that sounds like a large number of suppliers. Of course, they could be providing very specialized materials to the subassembly manufacturers. Are these suppliers providing customized or more commodity products?

Interviewer: About 80 percent of these products are commodities, such as sheet metal and wire harnesses. Even some of the electronics, such as printed wire boards and circuitry, are fairly generic.

Interviewee: That sounds promising, but I would need to know whether these commodities are interchangeable, so that our client could concentrate spending with fewer suppliers. Are there many commonalities among the parts used by the different subassembly manufacturers? We could talk to their engineers and look at the designs and bills of material to determine how much overlap there is.

Interviewer: Let's say that you did this and discovered that approximately 30 percent of the cost of raw materials is from similar materials used across the subassembly manufacturers.

Interviewee: It seems safe to assume that the client would need more commonality to be successful in concentrating its purchasing and reducing costs. Do the engineers believe that the percentage of overlap could be increased if the designs were modified?

Interviewer: They believe they could increase that percentage substantially, particularly with basic materials such as screws and sheet metal, but also in other more customized areas.

Interviewee: That's great news, but we would still need to know whether the subcontractors are using the same suppliers. We could analyze the number of suppliers for each of the areas of overlap.

Interviewer: Good suggestion. Although there are some common suppliers, the analysis indicates that the subassembly manufacturers tend to use different suppliers.

Summarize and make recommendations

Interviewee: Our client needs to reduce costs by 5 percent. The largest area of opportunity appears to be in purchased materials, the majority of which comprise subassemblies manufactured by seven subcontractors. By looking at its purchases in total, the client can target approximately 40 percent of costs. To achieve the 5 percent cost reduction, it would need to reduce costs by 15 to 20 percent. It could try to do that by increasing commonality in the design of the subassemblies and components and by shifting volume to a smaller number of suppliers.

Interviewer: Considering that the majority of the raw materials and components are purchased commodities, do you think the 15-20 percent cost reduction is achievable?

Interviewee: Well, I know that raw materials and components typically have lower margins than more customized products. I suspect it may be challenging to hit the client's savings target by focusing only on these purchases. But since raw materials and components represent about 40 percent of costs and there is an opportunity to concentrate purchasing, I think we should start here.

Interviewer: Where else could you look for savings?

Interviewee: If I look back at the cost data on the jet, direct labor is another large cost component. As a contingency, we could look into that area as well. I've read that other companies use outsourcing to lower their manufacturing costs—perhaps our client could do the same.

For example, it might want to increase its use of purchased subassemblies and reduce the amount of direct manufacturing it does. Of course this would work only if it could drive direct labor costs below the offsetting cost of these subassemblies. The client will be working closely with the subassembly suppliers to implement its purchasing initiative. This may give it an opportunity to explore the suppliers' capabilities at the same time.

Interviewer: That's an interesting suggestion. How would you recommend the company pursue both of the initiatives you have discussed?

Interviewee: I would look first to combine purchases across the subassembly suppliers with our client's purchases. I suspect that the client and the subassembly suppliers will need to share a great deal of information, including engineering drawings and specifications, with potential suppliers of the raw materials and components.

The Internet could prove to be a very effective medium for forming a single "virtual" purchasing department to consolidate both the flow of information and purchase orders across the companies. Our client might also want to use a bidding system for those materials that are true commodities.

Next, I would turn to the engineering departments and form cross-company teams to look for areas to increase commonality of design. At the same time, those teams could explore opportunities to use more purchased subassemblies and decrease the client's direct labor costs.

Interviewer: That sounds great, and is very similar to a project we did. I would caution you, however, to examine the upfront costs involved in your recommendations, both for the redesign and for the implementation of the purchasing system, before going ahead.

(Source: Sample case from BCG website)

Context
Your client is the largest discount retailer in Canada, with 500 stores spread throughout the country. Let's call it CanadaCo. For several years running, CanadaCo has surpassed the second-largest Canadian retailer (300 stores) in both relative market share and profitability. However, the largest discount retailer in the United States, USCo, has just bought out CanadaCo's competition and is planning to convert all 300 stores to USCo stores. The CEO of CanadaCo is quite perturbed by this turn of events, and asks you the following questions: Should I be worried? How should I react? How would you advise the CEO?

Establish understanding of the case

Interviewee: So, the client, CanadaCo, is facing competition in Canada from a United States competitor. Our task is to evaluate the extent of the threat and advise the client on a strategy. Before I can advise the CEO I need some more information about the situation. First of all, I'm not sure I understand what a discount retailer is!

Interviewer: A discount retailer sells a large variety of consumer goods at discounted prices, generally carrying everything from housewares and appliances to clothing. Kmart, Woolworth, and Wal-Mart are prime examples in the United States.

Set up the framework

Interviewee: Oh, I see. Then I think it makes sense to structure the problem this way: First, let's understand the competition in the Canadian market and how CanadaCo has become the market leader. Then let's look at the United States to understand how USCo has achieved its position. At the end, we can merge the two discussions to understand whether USCo's strength in the United States is transferable to the Canadian market.

Interviewer: That sounds fine. Let's start, then, with the Canadian discount retail market. What would you like to know?

Evaluate the case using the framework

Interviewee: Are CanadaCo's 500 stores close to the competition's 300 stores, or do they serve different geographic areas?

Interviewer: The stores are located in similar geographic regions. In fact, you might even see a CanadaCo store on one corner, and the competition on the very next corner.

Interviewee: Do CanadaCo and the competition sell a similar product mix?

Interviewer: Yes. CanadaCo's stores tend to have a wider variety of brand names, but by and large, the product mix is similar.

Interviewee: Are CanadaCo's prices significantly lower than the competition's?

Interviewer: No. For certain items CanadaCo is less expensive, and for others the competition is less expensive, but the average price level is similar.

Interviewee: Is CanadaCo more profitable just because it has more stores, or does it have higher profits per store?

Interviewer: It actually has higher profits than the competition on a per-store basis.

Interviewee: Well, higher profits could be the result of lower costs or higher revenues. Are the higher per-store profits due to lower costs than the competition's or the result of higher per-store sales?

Interviewer: CanadaCo's cost structure isn't any lower than the competition's. Its higher per-store profits are due to higher per-store sales.

Interviewee: Is that because it has bigger stores?

Interviewer: No. CanadaCo's average store size is approximately the same as that of the competition.

Interviewee: If they're selling similar products at similar prices in similarly-sized stores in similar locations, why are CanadaCo's per-store sales higher than the competition's?

Interviewer: It's your job to figure that out!

Interviewee: Is CanadaCo better managed than the competition?

Interviewer: I don't know that CanadaCo as a company is necessarily better managed, but I can tell you that its management model for individual stores is significantly different.

Interviewee: How so?

Interviewer: The competitor's stores are centrally owned by the company, while CanadaCo uses a franchise model in which each individual store is owned and managed by a franchisee who has invested in the store and retains part of the profit.

Interviewee: In that case, I would guess that the CanadaCo stores are probably better managed, since the individual storeowners have a greater incentive to maximize profit.

Interviewer: You are exactly right. It turns out that CanadaCo's higher sales are due primarily to a significantly higher level of customer service. The stores are cleaner, more attractive, better stocked, and so on. The company discovered this through a series of customer surveys last year. I think you've sufficiently covered the Canadian market—let's move now to a discussion of the United States market.

Interviewee: How many stores does USCo own in the United States, and how many does the second-largest discount retailer own?

Interviewer: USCo owns 4,000 stores and the second-largest competitor owns approximately 1,000 stores.

Interviewee: Are USCo stores bigger than those of the typical discount retailer in the United States?

Interviewer: Yes. USCo stores average 200,000 square feet, whereas the typical discount retail store is approximately 100,000 square feet.

Interviewee: Those numbers suggest that USCo should be selling roughly eight times the volume of the nearest United States competitor!

Interviewer: Close. USCo's sales are approximately $5 billion, whereas the nearest competitor sells about $1 billion worth of merchandise.

Interviewee: I would think that sales of that size give USCo significant clout with suppliers. Does it have a lower cost of goods than the competition?

Interviewer: In fact, its cost of goods is approximately 15 percent less than that of the competition.

Interviewee: So it probably has lower prices.

Interviewer: Right again. Its prices are on average about ten percent lower than those of the competition.

Interviewee: So it seems that USCo has been so successful primarily because it has lower prices than its competitors.

Interviewer: That's partly right. Its success probably also has something to do with a larger selection of products, given the larger average store size.

Interviewee: How did USCo get so much bigger than the competition?

Interviewer: It started by building superstores in rural markets served mainly by mom-and-pop stores and small discount retailers. USCo bet that people would be willing to buy from it, and it was right. As it grew and developed more clout with suppliers, it began to buy out other discount retailers and convert their stores to the USCo format.

Interviewee: So whenever USCo buys out a competing store, it also physically expands it?

Interviewer: Not necessarily. Sometimes it does, but when I said it converts it to the USCo format, I meant that it carries the same brands at prices that are on average ten percent lower than the competition's.

Interviewee: What criteria does USCo use in deciding whether it should physically expand a store it's just bought out?

Interviewer: It depends on a lot of factors, such as the size of the existing store, local market competition, local real estate costs, and so on, but I don't think we need to go into that here.

Interviewee: Well, I thought it might be relevant in terms of predicting what it will do with the 300 stores that it bought in Canada.

Interviewer: Let's just assume that it doesn't plan to expand the Canadian stores beyond their current size.

Interviewee: OK. I think I've learned enough about USCo. I'd like to ask a few questions about USCo's ability to succeed in the Canadian market. Does USCo have a strong brand name in Canada?

Interviewer: No. Although members of the Canadian business community are certainly familiar with the company because of its United States success, the Canadian consumer is basically unaware of USCo's existence.

Interviewee: Does CanadaCo carry products similar to USCo's, or does the Canadian consumer expect different products and brands than the United States discount retail consumer?

Interviewer: The two companies carry similar products, although the CanadaCo stores lean more heavily toward Canadian suppliers.

Interviewee: How much volume does CanadaCo actually sell?

Interviewer: About $750 million worth of goods annually.

Interviewee: Is there any reason to think that the costs of doing business for USCo will be higher in the Canadian market?

Interviewer: Can you be more specific?

Interviewee: I mean, for example, are labor or leasing costs higher in Canada than in the United States?

Interviewer: Canada does have significantly higher labor costs, and I'm not sure about the costs of leasing space. What are you driving at?

Interviewee: I was thinking that if there were a higher cost of doing business in Canada, perhaps USCo would have to charge higher prices than it does in the United States to cover its costs.

Interviewer: That's probably true, but remember, CanadaCo must also cope with the same high labor costs. Can you think of additional costs incurred by USCo's Canadian operations that would not be incurred by CanadaCo?

Interviewee: USCo might incur higher distribution costs than CanadaCo because it will have to ship product from its United States warehouses up to Canada.

Interviewer: You are partially right. CanadaCo has the advantage in distribution costs, since its network spans less geographic area and it gets more products from Canadian suppliers. However, since CanadaCo continues to get a good deal of product from the United States, the actual advantage to CanadaCo is not great—only about two percent of overall costs.

Interviewee: All this suggests that USCo will be able to retain a significant price advantage over CanadaCo's stores: if not ten percent, then at least seven to eight percent.

Interviewer: I would agree with that conclusion.

Summarize and make recommendations

Interviewee: I would tell the CEO the following: In the near term, you might be safe. Your stores have a much stronger brand name in Canada than USCo's, and they seem to be well managed. However, as consumers get used to seeing prices that are consistently seven to eight percent less at USCo, they will realize that shopping at USCo means significant savings over the course of the year.

Although some consumers will remain loyal out of habit or because of your high level of service, it is reasonable to expect the discount shopper to shop where prices are lowest. Moreover, over time your brand-name advantage will erode as USCo becomes more familiar to Canadian consumers. You certainly have to worry about losing significant share to USCo stores in the long term. You should probably do something about it now, before it's too late.

Interviewer: Can you suggest possible strategies for CanadaCo?

Interviewee: Maybe it can find ways to cut costs and make the organization more efficient, so it can keep prices low even if its cost of goods is higher.

Interviewer: Anything else?

Interviewee: It might consider instituting something like a frequent shopper program, where consumers accumulate points that entitle them to future discounts on merchandise.

Interviewer: What might be a potential problem with that?

Interviewee: Well, it might not be that cost-effective, since it would be rewarding a significant number of shoppers who would have continued to shop there anyway.

Interviewer: Any other suggestions?

Interviewee: CanadaCo might want to prepare a marketing or advertising campaign that highlights its high level of service. It might even institute a CanadaCo Service Guarantee that surpasses any guarantees offered by USCo.

Interviewer: Assuming the only way to keep customers is through competitive pricing, is there anything CanadaCo can do to appear competitive to the consumer?

Interviewee: It might want to consider offering fewer product lines, so that it can consolidate its buying power and negotiate prices with suppliers that are competitive with USCo's. It might lose some customers who want the variety of products that USCo has, but it may be able to retain the customer who is buying a limited array of items and is just looking for the best price.

Interviewer: All of your suggestions are interesting, and you would want to analyze the advantages and disadvantages of each in more detail before making any recommendations to the CEO.

(Source: Interview case from BCG Round I, RSB 2005 Casebook Case#3)

Context
Your client is an energy firm that has a lot of extra cash and wants to know if they should purchase all the HVAC (heating, ventilation and cooling) service firms in the Atlanta area and consolidate them. The client would like to know if this is a viable investment they should consider.

It's important that interviewee asks the following clarifying questions:

- What is the rationale behind this investment?
- How many HVAC service firms in the Atlanta area?
- What criteria does the client use to evaluate investments?

Information given upon request:

- The client wants to diversify into other industries.
- There are 500 HVAC service firms in the Atlanta area.
- Client's finance department requires a 3-yr break-even on any investment.

Interviewee will frame the issue. The following is a sample framework.

To evaluate if the investment will break even in 3 years, we need to find out what projected annual profit is from the consolidated entity, the acquisition price and cost of capital. If the investment will break even in 3 years, I'd like to further look into some non-financial risks involved in the investment. If the investment won't break even in 3 years, I'd like to discuss our alternatives.

- Projected profit from the consolidation
    - Projected revenue
        - Current revenue
        - Projected revenue growth
        - Revenue synergies from consolidation (if any)
    - Projected costs
        - Current cost structure (ask interviewee to identify the cost structure)
        - Cost synergies from consolidation
- Acquisition price

- Risks involved in the acquisition such as post integration issues (cultural difference, management issues, etc.), and regulation issues.

- Alternatives

Information given upon request

- Average annual revenue of each is $10M and average revenue growth is 3%
- No revenue synergies will occur because they serve the same market
- Current cost structure (% of revenue)
    - Labor: 50% (Technicians are 100% utilized)
    - Equipment: 25%
    - Administrative: 20%
- Cost synergies (let interviewee brainstorm cost saving areas)
    - 5% decrease in labor due to labor dispatching efficiency
    - 5% decrease in equipment due to strengthened bargaining power against suppliers
    - 1% decrease in admin due to consolidated common functions such as IT and accounting

- Cost of capital: 13%
- Acquisition price of each firm: $5M
- Assume all cost savings occur in year one

Interviewee should calculate the cost savings

Cost Center	Cost (% rev)	Cost ($)	Savings (% cost)	Savings $	New Cost ($)
Labor	50%	$5M	5%	$250K	$4.75M
Equipment	25%	$2.5M	5%	$125K	$2.375M
Administrative	20%	$2M	1%	$20K	$1.98M
Profits	5%	$500K			$895K PROFIT

Interviewee should conduct the break-even analysis

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

A great answer will discuss opportunities to improve the payback and brainstorm alternatives
The investment won't break even in 3 years. However,

- we could negotiate with the firms to reduce the acquisition price. It will depend on our bargaining power versus theirs and if there are other bidders who offer competitive price.
- We could also further look into the cost savings areas to see if more cost synergies can be achieved.
- We could also look into opportunities to improve revenue through advertising efficiency, optimizing brand portfolio, setting up better incentive systems, etc.

If after trying all these efforts, we still can't break even on this deal. We can look into other regions to identify better HVAC investment opportunities, or we can look into other industries that offer more attractive opportunities.

(Source: Interview case from BCG Round I, RSB 2005 Casebook Case#18)

Context
Your client is a termite control company that provides solutions to eliminate termites from homes. Their current solution is to set up a baiting system (a similar concept to mouse traps) that attracts and kills termites.

A competitor has come up with spray system that uses liquid spray to kill termites. They have just started selling this system. How should the client respond?

Interviewee should first assess how credible the threat is and if it's credible then how the client should respond.

A sample framework:

To assess the importance of the threat, we can conduct a market research to find out how likely customers will convert and how much market share we will lose to the new product. To determine the conversion rate, I'd like to do a comparison of our product and the new solution on price and other elements that are important to customers.

If the threat is significant, we can respond by:

- Improve our product to make it more competitive.
- Producing the new solution. It depends on our capability, the profitability of the new solution, and financial/operational impact on our current product.
- Purchasing the competitor.
- Producing a new product that's better than the new solution.

I'd like to discuss the feasibility of each of these options.

When discussing the market research, interviewee should be able to identify some possible customer preferences such as price, ease of use, and effectiveness.

Information given upon request

- Client has 20% share with 100K new installations/yr
- The new solution is cheaper than our product

	Baiting system	Spray system
Initial installation	$1100	$750
Annual renewal & prevention	$250	$100

- Both products are equally easy to use and equally effective
- Some customers think that the new solution has health risk
- Market research found out that existing customers will not switch, but a high number of new customers will use the new system because of the lower price (% unknown)
- Historically the client's customer retention rate is shown below(*% of customers in year 0 that renew their subscription in subsequent years)*

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

Conclusion: The threat is significant because we will keep losing market share because we will lose some new customers and keep losing existing customers each year as well.

Now interviewee can proceed to discuss how our client should respond

Information given upon request

- It's unlikely to improve our current product to make it more competitive.

- It's also unlikely to produce a new product that's better than the competitor's in short term.
- We have the capability to produce the new system quickly (no patent on formula)
- The competitor is a small company and therefore acquisition is possible. *However, direct interviewee to discuss the "producing the new system" option*

A good discussion on producing the new system could include the following:

To produce the new system, we need to assess the profitability of the new system, impact on our current product (for example, cannibalization), capacity, production process, and sales/marketing. We also need to assess competitor reaction.

Information given upon request

- Profit margin on both products is:

	Baiting	Spray
Initial installation	$400	$250
Annual renewal & prevention	$50	$100

- Assume the new system has the same customer retention rate.

Expected profit per customer over 10 years, taken into account the retention rate (ignore discount rate in the calculation):

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Bait system profit	400	45	40	35	30	25	20	15	10	5
Spray system profit	250	90	80	70	60	50	40	30	20	10
Summed Baiting Profits	400	445	485	520	550	575	595	610	620	625
Summed Spray Profits	250	340	420	490	550	600	640	670	690	700

Conclusion from the calculation: The accumulated profit per customer is higher for the spray system only after Year 5. It will make the client depend more on customer retention rate. Customer retention rate could decrease if other products come out in the future or customer preference changes over the years. Considering the time value of money and the possible change in retention rate, our client should minimize the cannibalization of the baiting system.

Sample recommendation:

Given that a high number of new users will use the new system, we will lose market share each year. Therefore, the best response would be to produce this new system since we have the capability and are able to do so quickly. However, because having less drawn-out per customer profit makes the baiting system an more attractive product to us, we should direct more sales/marketing effort to promote it to minimize the cannibalization.

In the next a few days, we will further analyze the financial and operational impact of producing the new system and possible competitive reaction to our new strategy.

(Source: Raw data provided by Bain Chicago Office, 2006)

Context

FormCo is the leading manufacturer of paper-based business forms. Majority of FormCo's products are sold through banks to small businesses and consumers.

Increase in paperless and on-line transactions have decreased demand for FormCo's main products. When FormCo's products are sold through the banks, customers rarely choose higher-margin, premium products.

FormCo wants to develop a phone-based direct to customer channel to encourage customers to order through the direct-to-customer channel, rather than through banks. FormCo wants to use this channel to increase probability of "upselling" higher margin products.

Should FormCo pursue its proposed idea of developing the phone-based direct-to-customer channel?

If interviewee asks to further explain the difference between the two channels:

The Bank channel: Banks offer FormCo products to their existing customers without additional sales/marketing effort. If Banks' customers are interested, they place the order with the bank but sometimes call FormCo's call centers for simple inquiry.

The Direct to Customer channel: Customers call directly to inquire and place orders. Call center representatives have to have more specialized knowledge to handle this channel.

A good framework may include the following:
To decide if FormCo should pursue the new channel strategy, I'd like to look at the incremental revenue and incremental costs created by the new channel to see if it is going to be profitable.

On the revenue side, I'd like to look at how much revenue will be brought in by the new channel (thru more customers and selling more premium products). I would also assess the cannibalization on the current channel. On the cost side, I'd like to identify cost buckets such as call center set up or expansion cost, incremental labor cost, and SG&A.

If the channel is profitable, we need to further look into issues such as impact on our current operation, learning curve, competitive reaction, etc.

If the channel is not profitable, we can discuss other opportunities to improve FormCo's profitability.

If interviewee asks about revenue data, show Exhibit 1 and ask interviewee what conclusion could be drawn from the charts.

Conclusions from Exhibit 1 may include:

- The Direct to Customers channel brings in more revenue per order.
- The incremental revenue brought in by the Direct to Customers channel is $1,000M – cannibalization. Part of the loss of volume and revenue thru the Bankers channel is cannibalized by the new channel (part of it may be due to decreased demand).

Once interviewer recognizes cannibalization, tell interviewee that 80% of the Banker channel revenue loss is due to the new channel. Interviewee should calculate total incremental revenue thru the new channel is $600M (=$1,000M – 80%$500M).*

If interviewee asks about cost data, let interviewee identify cost buckets first, then give the cost data: Per order, COGS is $2.3 and other costs are $5.0.

Interviewee should be able to calculate that incremental revenue per order is $7.5 ($600M/80M). Therefore, the incremental profit per order is $.2 and total annual profit is $16M.

Once interviewee reaches the conclusion that the new channel strategy will bring in $16M in annual profit, quickly direct interviewee to the following question.

FormCo implemented the phone-based Direct to Customer channel. However, they didn't make the projected profit. What might have happened?

Interviewee should assess both revenue and costs:

It could be that we didn't reach projected revenue because of worse than expected market demand, competition, changes in customer preference, ineffective sales/marketing, etc. It could also be that costs are higher than projected due to increase in raw material cost, process inefficiency, higher than expected labor costs, etc.

Interviewer: The # of orders and revenue are as projected. The overall costs are higher than expected.

Show Exhibit 2 if interviewee asks about cost data. Tell interviewee that currently all inquiries from the new channel are routed to Specialty reps.

Interviewee should conclude from Exhibit 2 that:

- All call centers are under utilized with Phoenix call center having the lowest utilization. We may look into consolidating call centers to reduce costs.
- Only two call centers, Phoenix and Dallas, handle customers from the new channel. It could be a result of the routing strategy (intended or unintended) or only those two call centers can handle the new channel.

Interviewer: Let's look at the Phoenix call center cost structure to see if there is anything we can do to improve profitability. Total annual cost of the new channel: $313M

% of total cost:

COGS: 30% (calculate: 94M)

Call center reps salary: 55% (calculate: 172M)
(% is a lot higher than call centers that don't handle the new channel)
(Regular reps: 15%
Specialty reps: 40%)

Other: 15% (calculate: 47M)

Interviewee needs to calculate Phoenix call center annual revenue and profit. The Phoenix call center handles 53% of calls from the new channel. Assume it's proportional to orders and revenue. Therefore, the revenue is $320M and profit is $7M.

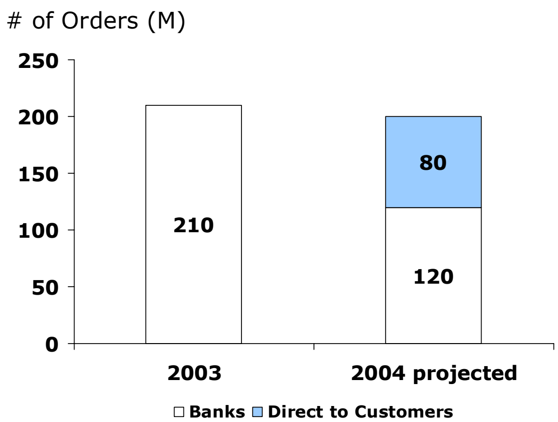
Direct interviewee to brainstorm ways to improve cost structure based on given data.

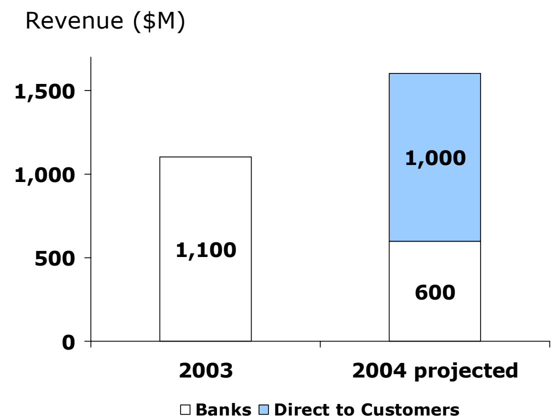
A good answer focuses on reducing reps salary cost since it's the highest cost item, and specifically focuses on reducing specialty reps costs:

- Currently all inquiries from the new channel are routed to Specialty reps. Analyze those inquiries to see if some simple ones can be routed to Regular reps.
- If there are some common inquiries, FormCo can standardize answers and let Regular reps handle them or have FAQ's on internet or thru automated phone system.
- Some of inquiries from bank customers might be mis-routed to Specialty reps. Needs to have a better routing system.

Exhibit 1

2004 Projected orders and revenue

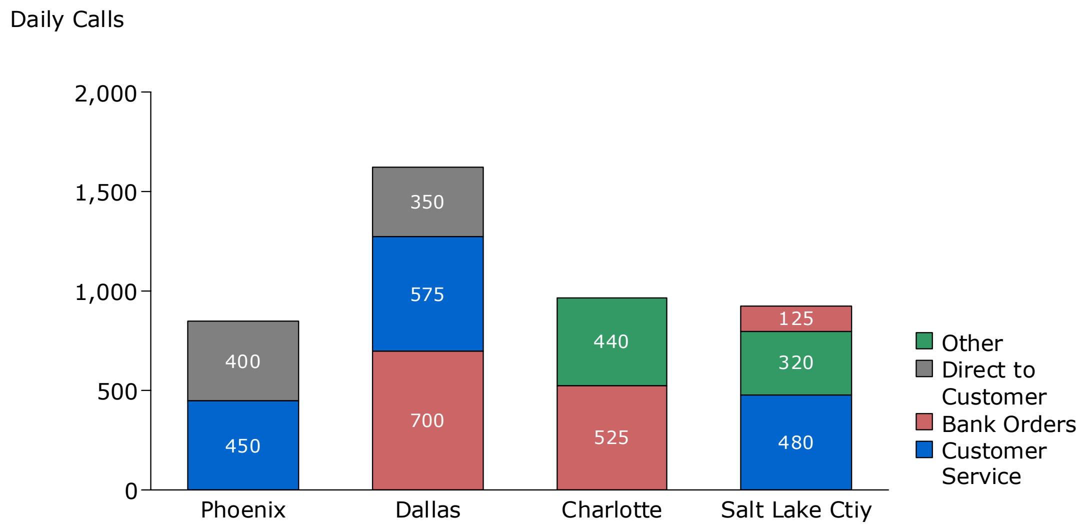




CHI 040908-BPB-CAS-case 4

Exhibit 2

Call Center Volume



	Phoenix	Dallas	Charlotte	Salt Lake Ctiy
Call Capacity	1,400	1,800	1,250	1,100

CHI 040908-BPB-CAS-case 6

(Source: Sample case from Bain website)

Context
A large fast food chain has hired Bain to improve the company's profitability. You're about to have an initial brainstorming session with your team around your client's options, and you want to collect your thoughts first.

Your interviewer wants to know that you have a structure in mind. An appropriate structure for this case would be the profit equation. Be sure to state that to your interviewer.

A good answer may include the following:

For example: Profit = total revenue – total cost.
Where *Revenue* = Price * Quantity and *Costs* = Fixed Costs + Quantity * (Variable Costs).

In order for the company to improve its profitability, management needs to increase revenues and/or decrease costs.

So to begin tackling my client's profit problem I am going to look at these two sides of the equation:

- Could the client increase prices? How would customers react?
- Could the client sell more meals, either at existing branches or through opening new ones?
- Are there other creative ways to grow revenue (enter into large-scale catering contracts, for example)?
- Could the client decrease our fixed costs by selling some of our branches or real estate?
- Could the client reduce the quantity of products they buy, such as ingredients for their meals?
- How else could they reduce their costs?"

Information given upon request:
- The customer is price sensitive, and the market is fairly saturated
- The fixed costs are pretty stable.

Interviewee should realize right away that the client should focus on lowering variable costs. Ask interviewee to identify major variable cost buckets.

- Raw material
- Packaging

Variable costs are a function of price and volume. Therefore, the client needs to reduce volumes purchased or negotiate lower prices.

Raw material:
- We could negotiate lower food prices with our suppliers (consolidate our purchasing, etc.).
- We could look for cheaper ingredients. This sounds risky because it could lower the quality of the food that we sell.
- We could reduce the volume used. For the same reason, this sounds risky because it would change our recipes, one of our competitive advantages in producing winning recipes.

Packaging:
- We could negotiate lower prices with our suppliers or look for cheaper alternatives.
- We could reduce the volume used.

Some good creative answers here include (but are in no way limited to):

- Can the client change the shape or size of food containers?
- Can the client packaging for families be consolidated?
- Can the client reduce the weight of the packaging while still protecting the food?
- Can the client reduce other qualities of the packaging including degree of color or logo prevalence without sacrificing their brand?
- Can the client lock bathrooms so that non-customers do not waste toilet paper and towels?
- Can the client charge for extra condiments?
- Can the client reduce the size or number of napkins they purchase?

Interviewer: Bain focuses on components that make up large portions of a company's costs: reductions in these areas will have the largest impact on a client's overall costs. Bain's philosophy is to always focus on where the value is. At first glance, napkins would not appear to fall within this category because they are so low cost. But there is a new napkin dispensing technology on the market that you have heard about and think could save the client some money. You decide to investigate.

How much money could we save per year in the US from using the new type of napkin dispenser in all restaurants?

Interviewee should identify key information:
- Number of restaurants
- Number of customer visits per store per year
- Number of napkins used per customer now
- Number of napkins used per customer after the switch
- Price per napkin

<u>*Information given upon request:*</u>

- A case of 6,000 napkins cost his client $28. Thus, a reasonable price per napkin is about $0.005.
- The client is similar to McDonald's in terms of the number of outlets.

<u>*Interviewee needs to estimate how many McDonald's in US.*</u>

One estimation approach:
Think of your hometown: How many McDonald's are there for the number of people? Assume there is a McDonald's for every 20-25,000 Americans, with a population of ~275 million people in the US, that would be 11-13,750 McDonald's.

Other approaches:
- Estimate the entire fast food market and then estimate McDonald's share
- Estimate the area covered per McDonald's across the United States
- *Note:* With this approach, be careful to account for population differences between 10 square miles of NYC and 10 square miles of Utah

(Actual answer: ~12,000 McDonald's in the US.)

<u>*Estimate number of restaurants*</u>
Actual answer: Fast food restaurants expect around **1,500** customers a day.

One estimation approach:
Assume the 20,000 people per McDonald's visit an average of twice a month, that's 24 times a year per customer or 480,000 visits / 365 days = 1,315 customers per day.

Other approaches:

- One might take this a step further during a case interview and attempt to segment these customers. For example, one might assume 50% of the restaurants customers are drive-through and 25% of the remaining take their food "to go." Drive-through customers do not take, but are given napkins. "To go" customers may be more likely to "hoard napkins" as they can not go back to the counter for more.
  Note: This would influence potential answers to the next question - but for now, assume you did not take this step and all customers are the same.

Estimate number of napkins used per customer per visit

Actual answer: Five napkins with old dispensers and two napkins with prohibitive dispensers for a savings of three napkins per customer.

One estimation approach:
During a case interview you would most likely just use personal experience here - how many napkins do you take or see others take when you're at a fast food restaurant?

Other approaches:
- Bain would send people to the chain to watch napkin taking behavior or call fast food restaurants with both kinds of dispensers to find out how many napkins they go through a day.

Calculations
$0.005 per napkin * 3 napkins * 1,500 customers * 365 days per year * 12,000 restaurants = **$98.6M** dollars saved in napkin purchases.

Interviewer: Does this estimate sound reasonable?
- **How would you go about feeling comfortable with this figure and pressure checking your assumptions?**
- **What would you want to flag for your manager as factors that might significantly alter the answer?**

Recommended answer:

To check the magnitude of the overall number some options include:
- Looking at a comparable company's operating income to see what percentage of the expense napkins account for.
- Find out what your client currently spends per restaurant per year on napkins.

Keep in mind that with a company of this size any small changes in assumptions will significantly alter your answer. Some things to flag for your manager:
- The chain you work for probably gets a significantly better deal on napkin pricing due to the magnitude of their orders (in contrast to the single-location restaurant napkin price estimate you received)
- Up to 50% of customers are drive-through and their napkin behavior should not change. This would reduce the savings by up to 50%

The three napkin reduction estimate needs refining. Perhaps a pilot program would need to be done to see if the dispensers really have the desired effect

Interviewer: Assume you would need 10 dispensers per store for a total of 120,000 dispensers. Also note that napkins in these dispensers cost more at a price of $.01 per napkin (remember it is the paper companies that make the new dispensers). At what price per dispenser would the investment <u>not</u> be worth doing?

<u>*Recommended answer:*</u>

120,000 * **cost of dispenser** + 2 napkins * .$01 per napkin * 1,500 customers * 365 days * 12,000 stores = 5 napkins * .005 per napkin * 1,500 customers * 365 days * 12,000 stores

120,000 * cost of dispenser = $32.85M

The most you would be willing to pay per dispenser would be **$273**.

Note: In an actual case interview you can use round number estimates so that mental math is easier.

Interviewer: The actual cost of these dispensers is around $50.

- **Can you see any other factors your client should consider before making a decision?**
- **What other advantages and disadvantages might there be to this switch? (Impact on costs and customers.)**
- **How might you evaluate the impact of the extraneous factors?**

<u>*Some potential ideas include:*</u>

Advantages:

- Fewer napkins used per day leads to less restocking which may mean better customer service or lower labor cost.
- Better relationship with paper manufacturer (potential for better pricing).

Disadvantages:

- With the new dispenser locking you into a paper provider you may lose buyer power. There is the potential for additional napkin price increases in the future.
- Customer reaction: Will a customer find this to be poor service? What if he or she needs to grab a handful of napkins after a spill?

Implementation:

- Management will need to negotiate a contract that includes limits on future pricing.
- Bain will need to do customer research and pilot programs to evaluate customer reaction.

And many, many more! As you can see, the keys to a good case interview are logical assumptions, creative thinking, and basic quantitative ability. Take time to think through problems and share your thought process with your interviewer and you will do great.

(Source: Sample case from Bain website)

Context
Our client, Giant Bank is one of the "big 4" banks in Australia. These 4 banks account for about 75% of the retail/commercial banking revenue in Australia and are roughly equal in size.

Giant Bank does not have a good understanding of the profitability of its retail customer base, and more specifically individual segments.

One segment that has been of particular concern to them is the "youth" customer segment. This group encompasses all customers under the age of 22.

Giant Bank wants Bain to help answer two questions:

Question 1: What is the average annual profit of a Youth customer?

Question 2: What should Giant Bank's strategy be to maximize long term profits for this customer segment?

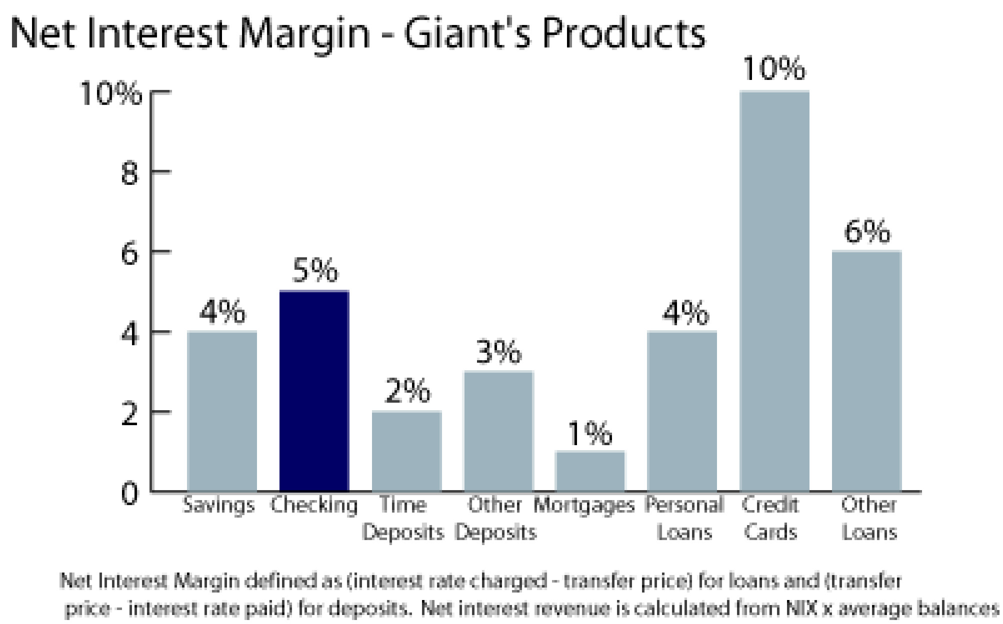
For Q1:

To calculate the average annual profit of a youth customer, we need to know the annual revenue our client makes off a youth customer and the cost that incurs to serve that customer.

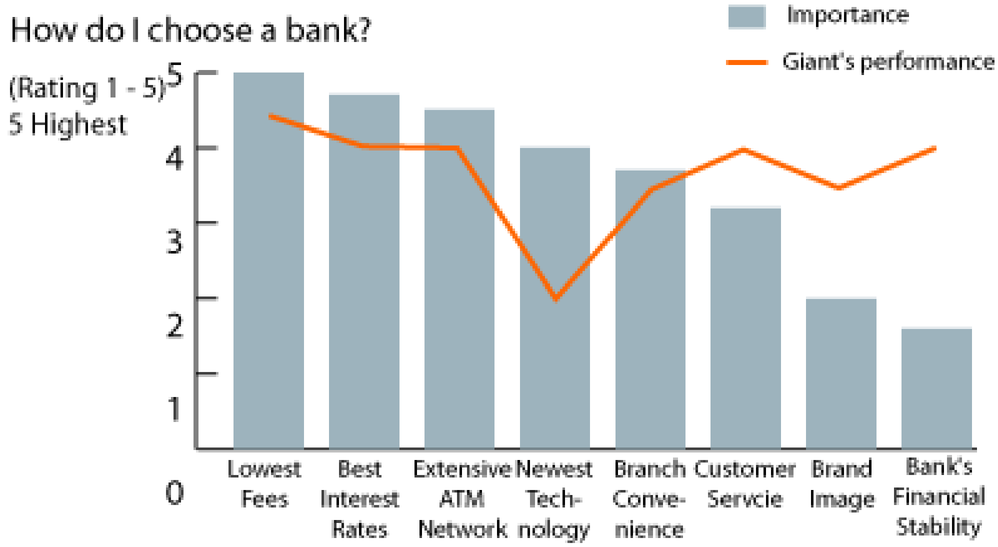
Given upon request

- Revenue source: interest revenue and fee revenue (see chart below)

Charts given upon request (Note: not all charts are needed to answer the questions):



Customer Purchase Criteria - Youth



Products Purchased/Average Balances - Youth

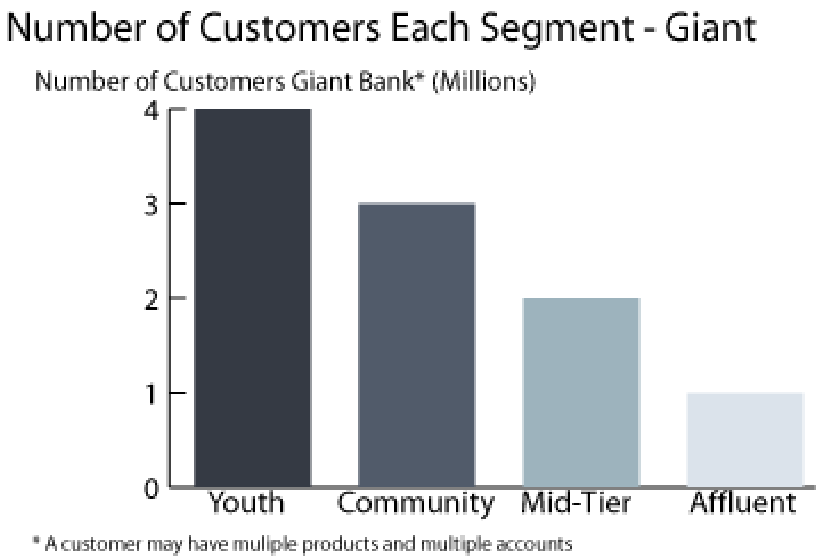
	Percent with Product	Average Balances of Those with Product
• Savings	100%	$500
• Checking	80%	$100
• Time Deposit	20%	$1,000
• Mortgages	4%	$50,000
• Personal Loans	10%	$5,000

Fee Structure

- Because of Giant Bank's history of being Australia's "community bank", Giant Bank's only fee comes from ATM charges for use of other bank's ATMs
- Currently $1 per transaction

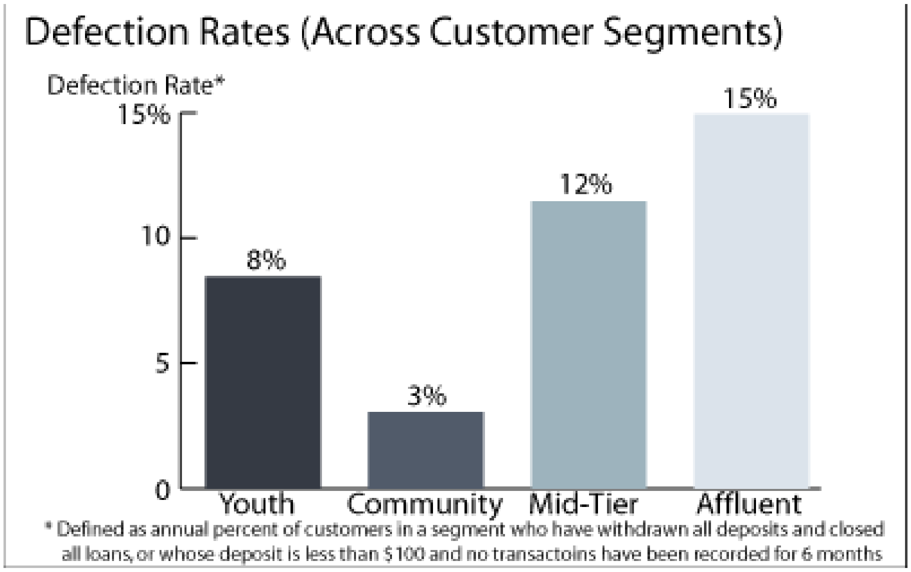
Average Monthly Transaction Log Per Customer

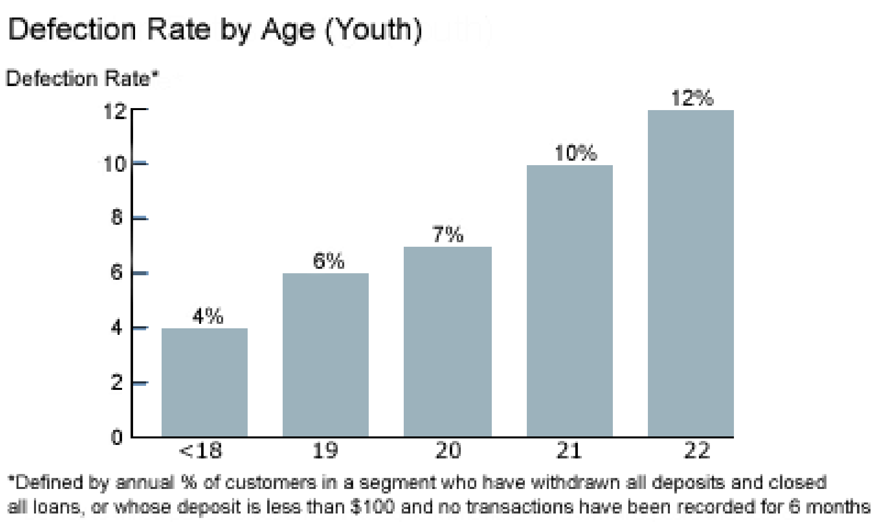
	Branch	ATM	Phone
• Youth	2	7 (2)	2
• Community	5	3 (1)	1
• Mid-Tier	4	8 (2)	2
• Affluent	4	7 (2)	2
		(#) = transactions using non Giant ATMs	

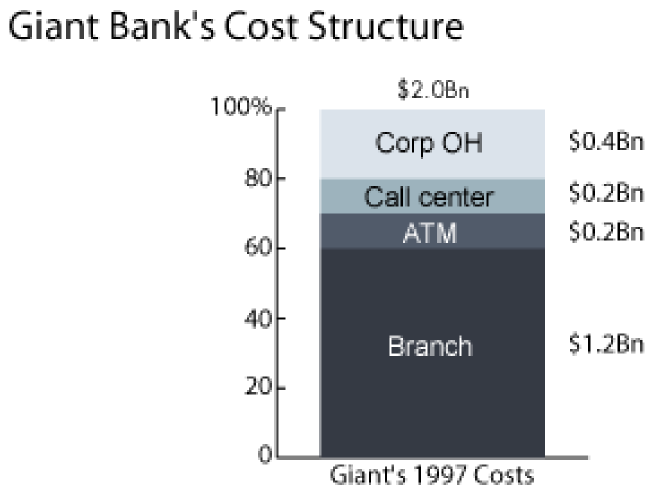


Number of Products for an Average Customer

	Savings	Checking	Time Deposits	Mortgages	Personal loans	Credit cards	Total
• Youth	1.0	0.9	0.2	0.1	0.1	0.0	2.3
• Community	0.9	0.3	0.0	0.0	0.0	0.0	1.2
• Mid-Tier	1.0	1.0	0.7	0.6	0.2	0.5	4.0
• Affluent	1.0	1.0	0.9	0.8	0.1	0.7	4.5


Defection Rates (Across Customer Segments)
Defection Rate*
15%
10
5
0
8%
3%
12%
15%
Youth
Community
Mid-Tier
Affluent
* Defined as annual percent of customers in a segment who have withdrawn all deposits and closed all loans, or whose deposit is less than $100 and no transactoins have been recorded for 6 months


Defection Rate by Age (Youth)
Defection Rate*
12
10
8
6
4
2
0
4%
6%
7%
10%
12%
<18
19
20
21
22
*Defined by annual % of customers in a segment who have withdrawn all deposits and closed all loans, or whose deposit is less than $100 and no transactions have been recorded for 6 months



Interviewer: The following are the correct answers to Q1:

Answer: Profit per Customer

Step 1:

Calculate Revenue Per Customer by Interest Revenue and Fee Revenue

Interest Revenue	% with Product	Avg Balance	Net Interest Margin	Annual Revenue
• Savings	100%	$500	4%	$20
• Checking	80%	$100	5%	$4
• Time Deposits	20%	$1,000	2%	$4
• Mortgages	4%	$50,000	1%	$20
• Personal Loans	10%	$5,000	4%	$20
				$68

Fee Revenue	
• 2 non-Giant ATM transactions per month x 12 months x $1/transaction	$24
Total revenue per customer	**$92**

Answer: Profit per Customer

Step 2:

Calculate Cost Per Customer by Allocating Total Cost by Cost Driver

Costs	Driver	% Allocated*	Total Cost	Costs for Segment
• Branch	Branch Transactions	23%	$1.2Bn	$276M
• ATM	ATM Transactions	47%	$0.2Bn	$94M
• Call Center	CC Transactions	47%	$0.2Bn	$94M
• Corp OH (Includes people, IT, etc.)	Customers (or accounts)	40%	$0.4Bn	$160M
				$624M

* e.g. For branch costs, youth customers consumer $\frac{(4m \times 2/mth)}{(4M \times 2) + (3M \times 5) + (2M \times 4) + (1M \times 4)}$

Cost/Customer

- 4M youth customers — $156

Profit/Customer

$92 - $156 — (- $64)

To answer Q2, some examples:

Good idea:

- **Raise/Introduce fees**
  - Raising/introducing fees accomplishes two objectives a) increase revenue from this customer segment and b) if done correctly, can influence behavior positively e.g. reduce branch visits by charging for transactions.
  - Giant Bank needs to be careful about how to do this however, to ensure that it doesn't lose too many customers. While these customers are negative profit, they are likely positive contribution given the bulk of the costs are fixed. Thus, Giant Bank should raise/introduce fees that either are in line with the market, or is likely something the other 3 banks will follow.
- **Redirect customers to cheaper channels**
  - Channel costs vary significantly. Branch costs (the most expensive) can be 10x-100x more expensive than cheaper channels (e.g. internet transactions can be < $0.01 fully costed).
  - Many customers will migrate to cheaper channels if the appropriate mix of positive and negative reinforcement are applied. Positive reinforcement includes education and making the channel easy to use (e.g. secure and easy login for internet access). Negative reinforcement usually comes in the form of fees.

Has potential:

- **Shut down unprofitable branches**
  - At the end of the day, this is where the bulk of cost reduction is going to come from. However, it is unlikely that Giant Bank has branches which are predominately "Youth" customers. Thus, analysis across all segments need to be conducted before an identification of specific branches to shut down can be made.
  - This analysis will likely be an overall "footprint" analysis of branches quantifying profitability, contribution, and customer segments served.
- **Aggressively cross sell other products**
  - It is clear from the data that the number of products that this customer segment owns is significantly less than other segments (except for Community). One high potential is credit cards.

    - However, it is highly likely that this customer segment doesn't need any of the other products that Giant Bank has to offer. Thus aggressively cross selling may be futile. Further analysis will be required before this action can be recommended. While cross selling has been a hot topic for financial institutions, the results to date have been disappointing.
- **Attract more youth customers through marketing**
    - Giant Bank should not want any more of these customers, and certainly shouldn't spend marketing dollars to acquire more of these customers. However, there is an exception to selectively target older, educated customers in this segment (e.g. 21/22 year old college graduates) who will likely be profitable future customers for the bank.
    - Timing is critical here however…too soon and Giant bank stands to lose money for many years before being able to recoup its investment, and there is no guarantee that the customer will not defect once he becomes profitable.

(Source: Sample case from Bain website)

Context
Gulf Partners, a private equity fund specializing in leveraged buyouts, has asked Bain to evaluate an investment in Singapore-based Acme Packaging.

A private equity firm is a company that has raised money from individuals and institutions to invest in companies that may be a riskier investment but offer the promise of higher returns.

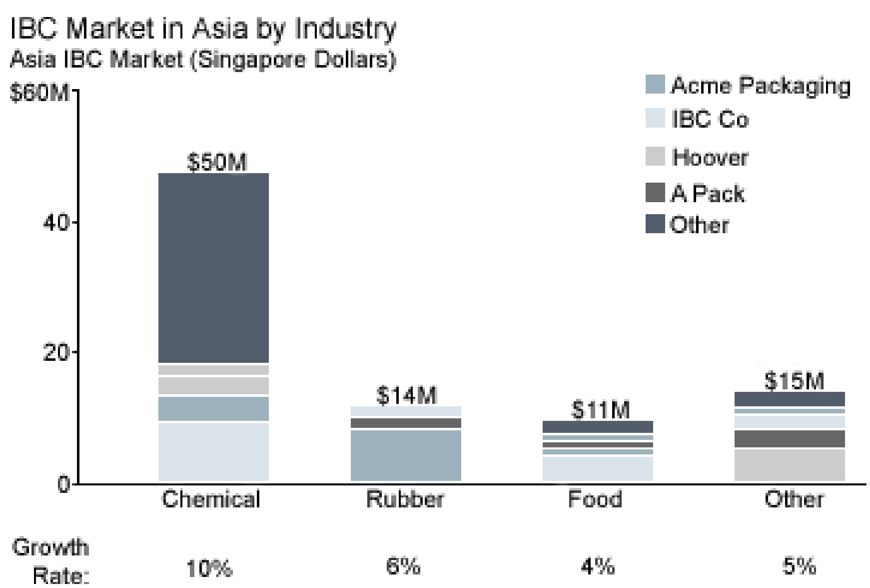
Acme Packaging manufactures and sells intermediate bulk containers (IBCs), which are metal frame crates stacked within shipping containers for the transport of goods. Acme Packaging has manufacturing operations in Singapore and sales offices throughout Asia. 100% of sales are from Asian markets with 80% of sales from rubber customers - mostly tire manufacturers from Japan and Southeast Asia. Acme Packaging has 65% market share within the rubber IBC market and has increased share in the Asia IBC market by 5% over the past 3 years.

Gulf Partners prefers to sell their investments within 5 years with a minimum 40% return on their investment. In order to evaluate whether Acme Packaging can generate high returns, Gulf Partners would like Bain to assess the growth potential for Acme Packaging. They specifically want to know:

Question 1: Can Acme Packaging double its operating income by year 5 (2006)?

Question 2: What growth opportunities should Gulf Partners pursue to increase the value of Acme Packaging?

Charts given upon request (Note: not all charts are needed to answer the questions):



Acme Packaging Income Statement

	1999	2000	2001
Revenue	10.0	12.0	15.0
COGS:	5.0	6.0	7.5
Gross Margin:	5.0	6.0	7.5
Operating Costs:	4.1	4.8	5.7
Operating Income:	0.9	1.2	1.8
Net Income:	0.8	0.8	1.5
Gross Margin %:	50%	50%	50%
Operating Income %:	9%	10%	12%

Gulf Partners' Portfolio

Consumer Products	Financial Services	Manu-facturing	Retail	Other
• Lennon • Johnston • Mellon	• Asia Bank	• Astratech Extronics • FX Convers • Medco	• Home Store • Go-Mart • Consumer Depot	• Instar Services • INXE

Potential buyers

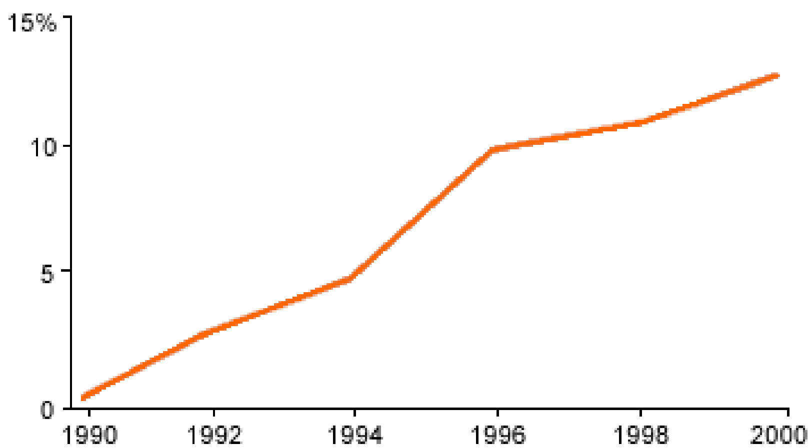
- A Pack sells IBCs in all geographies and has been growing through acquisition. Acme Packaging would fit its growth strategy and strengthen A Pack's position in Asia.

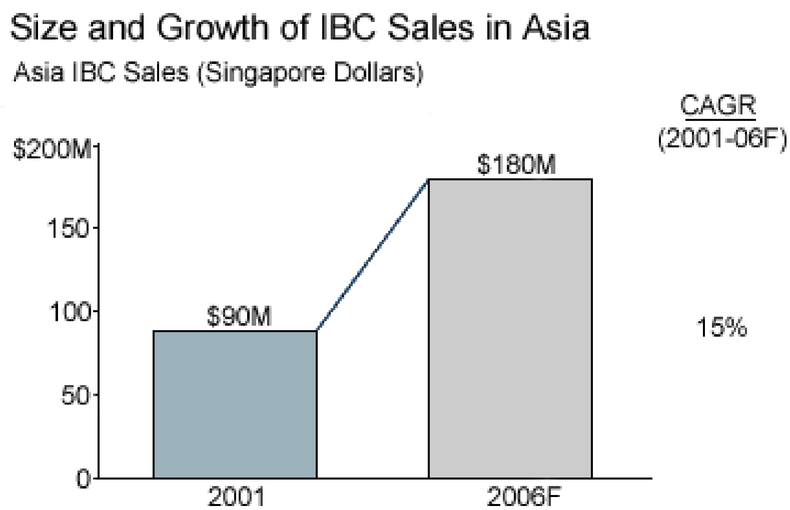
- Hoover sells IECs primarily in Northern Asia due to its limited sales and distribution network. Acme would provide it with a larger network as well as entry into rubber IBCs.

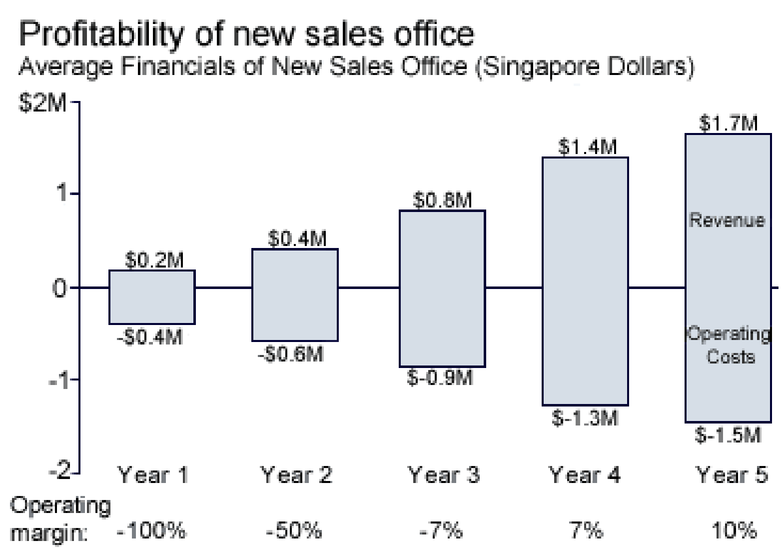
- Greif, the leading IBC company in Europe, is investigating entry into Asia, and they have previously expressed interest in acquiring

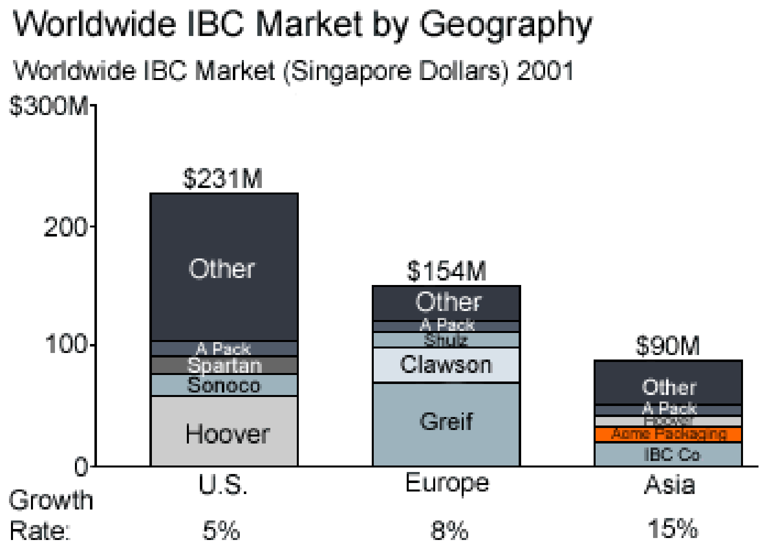
Worldwide IBC Pricing Trends

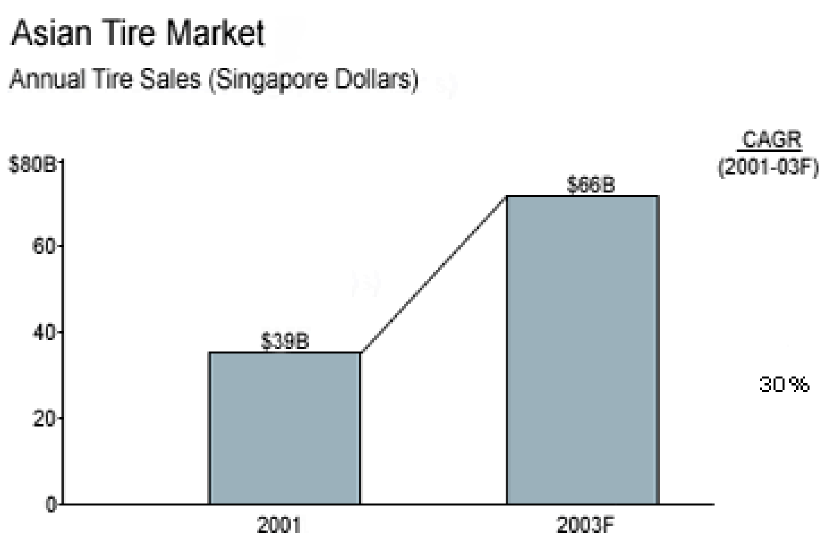
IBC Price Change (Indexed)

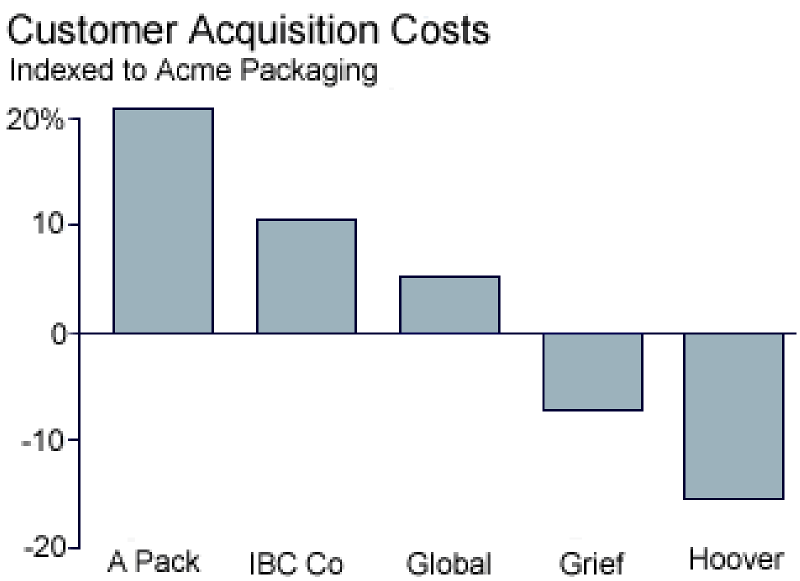


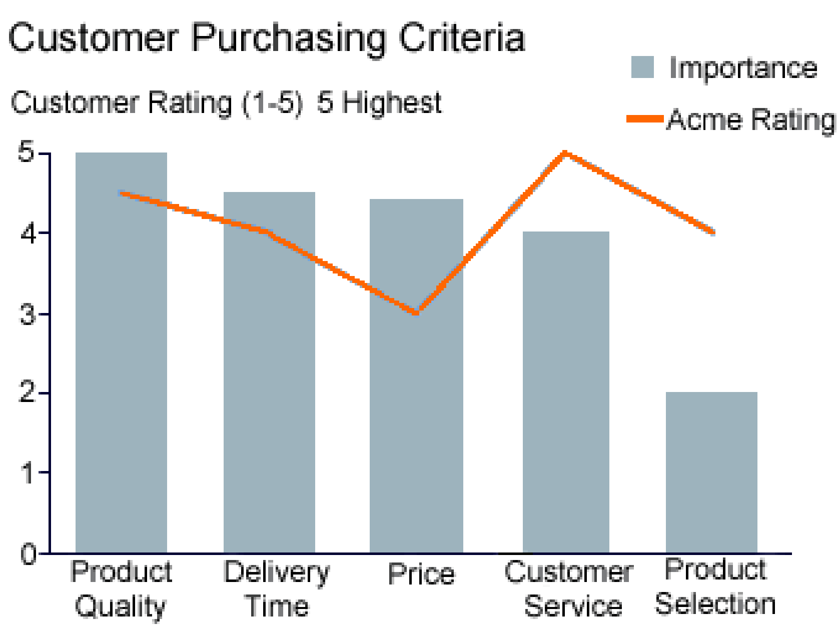

Size and Growth of IBC Sales in Asia
Asia IBC Sales (Singapore Dollars)
CAGR
(2001-06F)
$200M
150
100
50
0
$90M
$180M
15%
2001
2006F


Profitability of new sales office
Average Financials of New Sales Office (Singapore Dollars)
$2M
1
0
-1
-2
$0.2M
-$0.4M
$0.4M
-$0.6M
$0.8M
$-0.9M
$1.4M
$-1.3M
$1.7M
Revenue
Operating
Costs
$-1.5M
Year 1
Year 2
Year 3
Year 4
Year 5
Operating
margin:
-100%
-50%
-7%
7%
10%


Worldwide IBC Market by Geography
Worldwide IBC Market (Singapore Dollars) 2001
$300M
200
100
0
$231M
Other
A Pack
Spartan
Sonoco
Hoover
$154M
Other
A Pack
Shulz
Clawson
Greif
$90M
Other
A Pack
Hoover
Acme Packaging
IBC Co
U.S.
Europe
Asia
Growth Rate:
5%
8%
15%


Asian Tire Market
Annual Tire Sales (Singapore Dollars)
$80B
60
40
20
0
$39B
$66B
CAGR
(2001-03F)
30%
2001
2003F


Customer Acquisition Costs
Indexed to Acme Packaging
20%
10
0
-10
-20
A Pack
IBC Co
Global
Grief
Hoover


Customer Purchasing Criteria
Customer Rating (1-5) 5 Highest
Importance
Acme Rating
5
4
3
2
1
0
Product Quality
Delivery Time
Price
Customer Service
Product Selection

Bain recommends to collect the following facts to answer the questions:

- Size and growth of IBC sales in Asia
- Profitability of new sales offices over time
- Market share of worldwide IBC market by geography
- Market share and growth of IBC sales in Asia by customer industry
- Current and historical income statement for Acme Packaging

To answer Q1, Bain recommends the following:

Step 1: Determine market size in year 5 (2006)
100% of Acme's sales come from Asia. As a result, the relevant market to size is the IBC market in Asia. — **$180M**

x

Step 2: Estimate Acme's market share in 2006
Acme Packaging has market share of 17% (based on $15M in 2001 sales.) Based on historic share gain, it is likely they will maintain or increase their current share. — **17%**

====

Step 3: Calculate Revenue — **$30M**

x

Step 4: Calculate Operating Income
Acme's financial statements indicate that operating margin has improved over time so Acme will probably maintain or increase its current 12% margin. — **12%**

====

$3.6M+

Yes--Acme Packaging can double its operating income by year 5

*Current operating income=$1.6M

To answer Q2, Bain recommends the following:

Bain's Ranking and Rationale for Gulf Partners' growth opportunities are below.

1. Expand presence in Asia by increasing sales in non-rubber customer industries
- The chemical IBC industry in Asia is larger than the rubber IBC industry and is increasing at a faster rate. The market is fairly fragmented, and a fragmented market is easier to penetrate than a market dominated by strong competitors. Acme's presence in the chemical industry, as well as other companies selling across industries, indicates that selling across industries is possible.

2. Aggressively increase market share within the rubber IBC market in Asia
- Acme currently has a 65% share in the rubber IBC market. Although Acme could leverage its current position to gain additional market share, the opportunity is not large. The remaining market share is divided between only two companies, and the remaining customers may not be as profitable.

3. Enter new geographical markets by opening sales offices outside Asia
- Europe represents a growing but heavily consolidated market. 80% of Europe's IBC sales go to five companies. Acme Packaging would have difficulty penetrating a market dominated by strong competitors.

- Although the United States is a more fragmented market, the growth rate is 3x less than the growth in Asia. Furthermore, entering the U.S. versus growing share in Asia would be less profitable for Acme Packaging based on the financials of new sales offices.

- A new office does not yield profit until year 4, and since Gulf Partners wants to sell the business within five years, they are probably more interested in short-term growth opportunities.

(Source: Interview case from Bain Round II, 2006)

Context
Your client is a manufacturer of a revolutionary mattress that uses a new technology that promotes great nights of sleep. It's a small company run by the original inventor, who is fanatical about this technology. They currently have annual revenues of about $100M, selling in all kinds of retail stores.

They are now interested in entering the health care applications market, where this technology has been proven to alleviate the common problem of bed sores in the elderly and chronically ill. The inventor has hired Bain to help him determine whether or not to enter the health care market.

This is a market entry case. A good initial structure will recognize it as such and outline the key factors necessary to assess the market space.

Sample structure might include probing 3 areas:

- Market size
    1. three different health care segments
        - hospitals
        - nursing homes
        - assisted living
    2. for each, calculate a revenue potential by identifying the number of establishments, number of beds per establishment, and the price they'd pay per bed
    3. Also determine the growth rates for each, noting that growth will be fueled by demographic factors and any additional health care trends
- Competitive Space
    1. number and concentration of current competitors
    2. similarity of their product offerings to our client's
    3. other product offerings
- Cost of entry (what would it take to get into these spaces)
    1. cost of mattress (presumably unchanged)
    2. distribution
    3. sales
    4. marketing

Sample case discussion dialogue:

Interviewer: Great. That looks like a good structure. Where would you like to start?

Interviewee: I'd like to start with the market sizing piece to get an initial read on what the magnitude of these opportunities might be in the context of a $100M business.

Interviewer: Sounds good. We have some data, but instead of looking at hospitals, nursing home and assisted living, we're going to look at hospitals as one pool and long term care, which we'll call LTC, as another. So here's what we know. There are approximately 950,000 hospital beds in the US and 1,700,000 LTC beds. One factor you didn't mention in your set-up was replacement frequency – hospitals replace each bed after 7 years while LTC facilities replace beds after 8 years. So how many beds per year are being purchased in each market?

Interviewee: If the hospital beds are replaced every 7 years, we could think of this as a continuous process in which 1/7 of the beds are replaced each year. So this would be [do the math] about 135,000 hospital beds and 212,500 LTC beds, which I'll round to 215,000 if that's alright with you.

Interviewer: Yes, that's fine. We also know that the premium portion of the hospital market is 25% while in the LTC market it's only about 2%.

Interviewee: Ok, so that would be 35,000 premium beds being sold to hospitals and 4,000 to LTC facilities. What is the price point we would sell the beds at?

Interviewer: Our data indicates that hospitals would pay $500 per bed and LTC facilities would pay $300 per bed.

Interviewee: So that would indicate a $17.5M market for hospitals and a $1.2M market for LTC facilities. Although I can already see that the LTC market is very small and even the larger hospital market isn't terribly promising in the context of a $100M company, I'd still like to continue with my explorations here to make sure that we're understanding the full picture. What is the growth of each of these markets?

Interviewer: Hospitals are growing at 1% per year and LTC at 3%.

Interviewee: Although we might expect the LTC to grow a little faster in the next 10+ years as the baby boomers approach this phase of life, neither of those markets is growing at a very promising rate. Let's turn now to the competitive space: who is already selling premium beds to these markets?

Interviewer: It's an extremely fragmented market.

Interviewee: Ok, how do their beds compare to ours?

Interviewer: Our client is positive that ours are superior.

Interviewee: Are premium beds the only product these companies are selling to hospitals and LTC facilities?

Interviewer: No, actually, nearly all of the competitors are suppliers of a broad array of medical equipment and supplies.

Interviewee: That is another red flag for us because it hints at an access problem we might have as a vendor of just one product. I'm cognizant of the time here and am going to push through to this last point about what it would cost our client to get into these markets. What is our current cost structure and what are the current price points?

Interviewer: It costs $350 to manufacture a bed, and current SG&A allocation is $100 per bed, and each bed currently sells for $700-750.

Interviewee: So current costs are $450, but we can expect that SG&A could be higher because of the additional sales and marketing resources it would take to enter a new market. At current price points, the company is used to fairly high margins. If the best-case cost scenario for these new markets is $450, we will still be losing money in the LTC market selling at $300 and gaining only a tiny margin in the hospital market. Neither of these markets is looking very promising.

Interviewer: What would you tell the client?

Interviewee: May I take a minute to pull my thoughts together? [yes]

We have taken a close look at both of these markets and recommend that you not enter either. Neither market is very large and both are growing relatively slowly. More importantly, however, the price points these markets buy beds at are either lower or at your current cost levels, so the potential for profit is nearly zero. Furthermore, based on the profiles of current competitors we believe access to the procurement departments of these markets might be difficult. It's clearly a great product, but these aren't the right markets to extend into.

Interviewer: Great. Thank you!

(Source: Interview case from Booz Allen Operations Round I, RSB 2006 casebook #8)

Context

Our client is a Printed Circuit Board (PCB) manufacturer that has 3 plants - 1 in Philippine, 1 in China, and 1 in the US. The client wants to invest money to expand capacity in one or more plants. Which plant(s) should the client invest in?

Interviewee could ask some clarifying questions upfront or early in the process to understand:

- What is PCB is for?
- How does our client evaluate investment?

Given upon request

- PCBs are used in TVs, radios, mobile phones etc.
- The client wants the first year ROI on any investment to be no less than 10%.

Interviewee should lay down a structure that addresses all the key issues the client should consider when evaluating the investment.

A sample framework could cover the following issues:

- Each plant's current demand and capacity utilization
- Overall demand and supply of the market each plant is in, to understand if there is enough demand to meet the increased capacity
- Price elasticity of each market – how increased supply will affect price?
- Profit margin of each plant (all else being equal, the client should invest in plants that have the highest profit margin)
- Competitive reaction
- Government regulations

Given upon request:

- Annual Demand in each plant is the same: 6M units/year.
- Capacity utilization is close to 100% in all plants
- Assume that there is sufficient demand to meet the additional supply in all markets
- Assume that price won't be affected by the increased supply in all markets
- Price per unit is $10 in all plants

Interviewee should now realize that investing in the plant with the highest profit margin will bring the highest return.

Interviewer should explore the complete value chain to understand cost components of every part of the value chain across the three plants, and identify the plant that has the highest profit margin.

Value chain Analysis

- **Sourcing:**
  How would the cost of raw material be different across plants?

  Raw materials are made in East Asia (in places such as Taiwan). It is cheaper to transport raw material from Taiwan to China/ Philippines than to US.

  The cost of raw material is $1/unit for China and Philippines, and $2/unit for US

  The other factors that affect raw materials purchasing: Supplier Quality and delivery; supplier maturity.

- **Manufacturing:**
  What are the different costs in manufacturing? Neglect fixed costs for now (Plant, property, equipment, Long-term agreements etc.)

  We shall focus on variable costs.
  - Direct Material Cost (it's the cost of raw material)
  - Labor Cost - $20/hr for US; $4/hr for China; $10/hr for Philippines
  - Employee Productivity / efficiency
    - Productivity: 80% for China; 90% for US and Philippines
    - Efficiency: 75% for China; 90% for US; 80% for Philippines
  - Overhead burden – Assume $10/actual labor hour for all countries
  - Scrap rate / rework rate – cost of quality
  - Tax rate

  It takes 6 minutes to produce one unit in all three plants.

- **Warehousing:**
  Why would you need warehousing cost?

  For long-distance transportation, the client would need to carry more inventory on its shelf to compensate for the long lead-time and demand variability during the longer lead-time. It is important to realize safety stock needed to maintain certain service level and reduce stock out costs.

  Warehousing costs are 25% of sales in China and Philippines and 10% of sales in the US.

- **Transportation/Distribution:**
  The transportation cost would be higher when shipping products from country to country.

  Annual transportation costs are: $4M in China; $1.5M in US and $3M in Philippines

- **Docking Costs:**

  These costs include customs, tariffs, inbound taxation rates etc.

- **Marketing/Sales:**
  Ignore in this case

- **Customer Service:**
  Ignore in this case

Interviewer: Let interviewee calculate the unit profit margin in each plant

Variable Cost	**China**	**US**	**Philippine**
Raw Material	$1/unit	$2/unit	$1/unit
Direct Labor (DL)	$4/hr	$20/Hr	$8/Hr
Theoretical Time	6 min/unit	6 min/unit	6 min/unit
Productivity	0.8	0.9	0.9
Efficiency	0.75	0.9	0.8

Scrap	NA	NA	NA
Overhead	$10/Actual DL Hour	$10/Actual DL Hour	$10/Actual DL Hour
Warehousing	20% of sales	10% of sales	20% of sales
Transportation	4,000,000	1,500,000	3,000,000

Here are the tabulated results:

Variable Cost	**China**	**US**	**Philippines**
Raw Material	6,000,000	12,000,000	6,000,000
Theoretical Rate	10/Hr	10/Hr	10/Hr
Actual Rate (Adjust for efficiency and productivity)	6/hr	8/hr	7/hr
Total Hours	1,000,000	750,000	900,000
Direct Labor Rate	4,000,000	15,000,000	7,200,000
Overhead	5,000,000	7,500,000	9,000,000
Warehousing	12,000,000	6,000,000	12,000,000
Transportation	4,000,000	1,500,000	3,000,000
Total Cost	**34,000,000**	**42,000,000**	**37,200,000**
Cost / Unit	**$5.2**	**$7**	**$6.2**
Price/Unit	**10**	**10**	**10**
Margin	**$4.8**	**$3**	**$3.8**

<u>Conclusion:</u>
The plant in China has a higher profit margin due to lower cost structure and therefore expanding capacity in that plant will bring the highest return.

Interviewer: If we decide to invest in a brand new facility in China and move all manufacturing from the US plant to China as well, what are the things we should consider?

<u>Some of the things to consider:</u>

- US facility shutdown costs (severance, plant closures, machine sell-off etc.)
- Union issue
- Facility startup cost in China
- Additional costs to transport products back to US, such as transportation, customs, etc
- Currency risk
- Chinese government regulations
- Impact on brand image in US and US customer relations

Interviewer: Suppose the client decides to move manufacturing to China, what would the client need to consider when deciding whether to invest in new equipment?

Sample answer:

- If the equipment has high value, and a specific asset to the client, the client should consider shipping it overseas vs. selling off in the US and purchasing in China. Of course, the client needs to compare the cost of both options. Leasing in China is another option.
- The equipment needs to have a physical useful life for the 'overhead' allocation to be low.

Interviewer: The client believes that the asset is specific. It is fully depreciated, and has useful life of 10 years. Hence, the client decides to ship the equipment to China. Uninstalling and shipping and then reinstalling will take about 2 months. How should the client do in the interim to keep the business going?

Sample answer:

The client should focus on building a 'bridge' inventory in order to satisfy the customer demand during the timeline between uninstalling and shipping the machine to China; and installing it and running the machine to production.

(Source: Interview case from A.T. Kearney Round I, 2006)

Context
Your client is an electronics meter manufacturer with $200M revenue in the States. They would like to enhance their profitability in five years and they need your advice.

A good framework may address the following areas:

- Have a better understanding of the business the client is in:
  - Market performance - electronics meter market size and growth
  - Product segments
  - Customers
  - Competitive landscape

- To improve profitability, the client would need to:
  - Increase revenue
    - Increase price
    - Increase volume by stealing share, or stimulating demand
    - Expand into other markets
  - Reduce costs
    - Assess the cost structure and/or value chain
  - Optimize product mix to sell more products with higher profit margin

Given upon request

- ♦ The client has only one type of customer for various product segments: utility (electricity only) companies
  - ♦ Utility sector is highly regulated; # of utility companies is stable over the years
  - ♦ Utility company buys the meters and installs them in apartments and buildings to keep track of electricity usage
- ♦ Three product segments (our client is in "Centralized"):
  - ♦ Walk-in – utility company sends teams to drive around apartments and buildings and receive meter reading using RF technology
  - ♦ Centralized – utility company needs to build infrastructure to connect with the meters but does not need to send labor for meter reading
  - ♦ Manual – utility company sends teams to enter apartments and buildings to read meters
- ♦ The market situation of these segments:

Segment	% of Market	No. of Players	Tech Requirement	Growth
Walk-in	50%	15	Medium	Moderate
Centralized	30%	2 (including our client)	High	Fast
Manual	20%	10	Low	Slow

Interviewee should realize our client is in an attractive segment - "Centralized" because of higher entry barrier, fewer competitors and fast growth, although it is not the biggest.

Interviewee should then explore opportunities to increase revenue.

Given upon request
- Current price per meter: $30 (walk-in) vs. $50 (centralized); no information on price sensitivity.

Options to increase revenue:
- Increase price:
  - There are only two companies in "Centralized" segment. However, increasing price might lead to share loss to other segments because targeted customers are the same.

- Decrease price to gain more volume in "Centralized"
  (Ask interviewee what would be the expected cost level of each segment.)
    - "Centralized" may have the highest cost structure because of high tech requirement, followed by "Walk-in" and "Manual". Based on the current price and cost structure, our client is unlikely to compete with players in other segments on price alone.
- Expand into "Walk-in" segments
  (When interviewee realizes our client could expand into the second most attractive segment – "Walk-in" ("Manual" segment seems too small and has poor growth), give the following information)
    - Our client has the technology to enter other segments, however, researching and applying the licenses for "Walk-in" products will take about four years.
    - Our client is too small to acquire or form a JV with a player in the "Walk-in" segment.
    - On the other hand, players in other segments cannot easily enter our "Centralized" segment in the near future because of technology hurdle.
- Other expansion ideas
    - Develop new customer segments (non-electricity)
    - Expand into new markets, e.g. overseas
    - Develop new products

Interviewer: All the other expansion ideas will take more than five years. What could other players do even they cannot enter our client's segment in the short run?

Sample answer:
Those companies could under-cut our price due to their lower cost structure and try to take customer away from our client. However, we need to find out what our customers value the most. They might not be price sensitive.

Interviewer: Ask interviewee what are utility companies' decision factors.
Sample answer:
- Upfront investment: meter cost and infrastructure (for "Centralized" only)
- Ongoing cost: labor and maintenance
- Relationship: all players in the market have similar relationships with utility companies
- Customer service
- Switching cost: very hard to persuade utility companies to switch from one product type to another due to previous investment; main source of growth is from meters for new locations.

Interviewee should realize upfront investment for "Centralized" is higher but ongoing cost will be lower because of labor cost saving.

Interviewer: Ongoing cost savings of "Centralized" can more than justify the higher upfront investment, however, utility companies care more about upfront cost when buying meters. Ask interviewee how our client can persuade utility companies to buy "Centralized" meters.

Sample answer:
- Leasing the meters instead of selling
- Allowing customers to pay by installments

By now, interviewee should realize it is hard to increase revenue (on top of the segment growth), and our client needs to decrease cost in order to improve profitability and competitiveness.

Options to reduce cost

Given upon request

- No information on cost structure
- Currently, client has only one plant in the U.S.

Interviewee should do value chain analysis and brainstorm ideas to optimize value chain components

Sample ideas:

- R&D – improve design to lower cost
- Raw material – use cheaper substitutes, negotiate with suppliers for better price (or shop around for best suppliers), leverage economies of scale
- Manufacturing – deploy labor-saving technologies, make process more efficient, improve utilization, outsource (brainstorm potential issues with interviewee), relocating production to Mexico (brainstorm possible locations and potential issues with interviewee; main idea is to minimize distribution cost increase and lower production cost), JIT production
- Distribution – optimize warehouses and distribution network

Interviewer: Ask interviewee how to construct a DCF (Discounted Cash Flow) analysis for plant relocation in Excel, ignoring tax. Brainstorm on Excel layout and items.

Given upon request:

- Existing equipment will be moved to new location and existing production workers would be terminated (brainstorm potential issues with interviewee).

Sample answer:
The simplest way is to come up with an incremental analysis, i.e. difference between the current situation and the future one.

- Columns: Year 0 to 5 (example)
- Main items:
  - Cost savings (*ask interviewee how to calculate*) – # of units * (labor $ saving per unit – extra distribution $ per unit)
  - Initial investment (year 0) – land (if necessary), relocation of equipment, compensation to plant workers in the US
  - Working Capital (WC) Requirement and Change in WC
- Calculation: assume certain growth rate for unit production in each of the first five years and calculate the terminal value for year six onwards based on perpetual growth rate; discount each year's cash flow to year 0 using cost of capital (ask the interviewee what it is).

Interviewer: Ask interviewee to describe the definition of WC and its main source.
Sample answer:

- Definition: Current Asset – Current Liability
- WC is positive because companies normally need to pay their suppliers before they receive money from customers.
- Main source of WC is inventory.

Interviewer: Ask interviewee why our client may require more WC in their new plant.
Sample answer:

- They might need more safety stock due to:
  - Potential manufacturing issues due to new labor and plant
  - Possible distribution issues – longer distance and hence higher chance of delivery delay

Interviewer: The DCF analysis of plant relocation has a positive NPV. Ask interviewee to make a recommendation.

Main points of recommendation:

- Limited opportunity to increase revenue beyond "Centralized" segment growth
- Cost cutting is necessary to improve profitability, for example, plant relocation
- Risks and issues associated with plant relocation and other cost cutting measures, e.g. labor and regulation issues of relocating plant, intellectual property issues with outsourcing
- Next steps

(Source: Interview case from Deloitte Round I, RSB 2004 Casebook Case#35)

Context
Your client is a major window manufacturer with significant share. However, they are looking to grow revenues and have asked for your help.

A good framework would include the following:

To grow revenue, the client can do one of the following:
- sell more current products to current customers
- sell current products to new customers
- make new products to sell to current customers
- make new products to sell to new customers

I'd like to examine each of the four options to see which one has the most impact on growing revenue. Then I would also assess the risks associated with that option to form a recommendation.

(This case focuses on Option 1: sell more current products to current customers)

To find out if the client could sell more products to current customers, I first would like to understand our product portfolio and revenue performance of each product line by channel, by region, and by customer segment to see if there are any opportunities to improve our revenue by segment. I'd like to further assess the competition by segment with improvement opportunities to see how likely it's for us to gain more market share.

Information given upon request:

- The company manufactures three types of windows, all for residential buildings, a premium window, a mid-range product line, and an economy line.
- Between the three lines there is not significant differentiation in actual quality, but the premium products do have additional features.
- Our client positions all of its product lines based on superior functionality.
- Products are distributed by specialty retailers, hardware stores, and super centers (such as Home Depot).
- The window market has 3 large players and a large number of small "mom and pop" manufacturers.
- Our client's share varies significantly regionally in the US.

Market share	South	Northeast	Midwest
Premium	5%	60%	30%
Midrange	7%	45%	20%
Economy	5%	8%	5%

- The overall size of each of the segments is the same.
- Currently the company only distributes its product in the US.
- The company is profitable and has been for many years.

Interviewee should explore why market share is so low in South region and in Economy product line

Encourage interviewee to brainstorm possible reasons by looking at product price/quality/features compared to competition, customer preference, distribution channel, sales/marketing, etc.

- The real reason why market share is low in South region is because our client's products are designed with features suitable in cold weather but not in warm weather.
- The real reason why market share is low for the Economy product line is because our price is higher than competitors' and customers are price sensitive.

Recommendation:

- To gain market share in South, we could produce new product lines with features more suitable for warm weather. However, we need to examine the incremental revenue and incremental costs of doing so to make sure it's profitable. We can also look into acquiring a company that makes products more suitable for south if it makes more financial sense.
- To gain market share in the Economy product line, we can reduce product features in that product line to make the price more competitive.

An excellent answer would also include the following:

- To increase revenue, we could sell to new customers, such as commercial customers. We may need to tailor our product features and use different distribution channel to serve that segment.
- We could sell to new markets. For example, sell our current products to Canada since our products are superior in cold weather. If we make new products suited for warm weather, we could look into selling to South America and Mexico.
- We could offer value added services to increase revenue.

(Source: Interview mini case from Deloitte Round II, RSB 2006 Casebook Case#19)

Context
Our client is a telecom fortune 50 company. One of its divisions (landline) is facing high churn (3% per yr). They have launched a direct mail campaign to try to re-attain some customers. How can they make their direct mail strategy more effective? They have kept all the information they had on our customers.

A sample approach interviewee could use:

To make the direct mail strategy more effective, I'd like to focus on three areas.

First I'd like to have a better understanding of our customers so we could focus the campaign on the right customer segment. Second, I want to make sure that the content of the direct mail is effective. Third, I want to make sure that the channel we use to deliver the campaign is effective.

To understand our customers better, first I'd like to know why customers switched to other providers. It could be because our competitors offer lower price, or better quality, or better customer services, or more selections.

Interviewer: There is no significant difference in the quality of service provided. It is standard landline service. The client also provides other services such as broadband, and wireless to meet diversified customer needs. Therefore, the main reason for customers to switch is price.

(Note: Interviewer should guide interviewee to discuss customer segmentation.)

Interviewer: What are the different ways to segment customers?

A good answer may include the following:

- Customers can be segmented by different needs. For example, business customers might have different needs from individual consumers. Within the business segment, large enterprise customers might have different needs from small/medium business owners.
- Customers can be segmented by life-time economic value by looking at revenue generated by customer, costs incurred to serve that customer and the number of years the customer stays with us. Since we have kept all the information about each customer, it shouldn't be hard to calculate customer economic value.

The direct mail campaign should target at customers who have had high life-time economic value or have potential to bring in high economic value.

The content of the campaign should focus on what customers value the most and target at the reason why customers left in the first place. Since customers leave mainly because of price, the campaign can focus on current promotions and discounts.

It's also important to effectively utilize distribution channels. For example, we could use higher cost channel such as standard US mail to reach customers with higher profitability, and use lower cost channel such as internet to reach customers with lower profitability.

(One important point is to realize that the cost of serving every customer is not the same. Costs of serving customer depend on frequency of customer calling the service center, how often bills are not paid on time; etc. The client can use the data to compute cost of serving the customer. Hence, it's important to segment customers based on "profitability" and not revenue.)

(Source: Interview case from ZS Associates Round I, RSB 2006 Casebook Case#20)

Context
Your client is a Cleaning Supplies Manufacturer. They are trying to redesign their Sales Force and have approached you for advice.

A good clarifying question to ask in the beginning:
What is the reason behind the redesign initiative? Is it because the sales force is not meeting sales goals or because of some other reasons?

Interviewer: Good question. The client has found out that its sales force performance is below industry average and wants to improve sales force effectiveness through the redesign.

Interviewee should first structure the analysis. A sample approach:

First, I'd like to find out how the sales force is currently structured. Does each salesperson sell multiple products or each salesperson is specialized in selling certain products?

Then, I'd like to assess sales force performance by product category to identify areas to focus on first. I would use metrics such as annual sales per salesperson to assess the performance.

Third, I'd like to understand the selling process such as how sales people reach customers and how much time is spent on what tasks to identify where the inefficiency exists. We could do a benchmark analysis if data is available. I will also look into the resources/tools used by sales force to see if resource allocation might have affected sales force effectiveness. It's also important to check the incentive system to see how sales people are compensated. We need to make sure that the incentive system is in line with the company's financial objectives.

Once I identify the problem, I will explore ways to increase the sales force effectiveness and analyze possible impact and risks should we implement any changes.

Interviewer: show the following exhibit upon request and ask what products the client should focus on first to improve sales.

Four product lines A, B, C, D

	# Customers	Current Revenue	Prior Year Revenue	%Change
A	**12,000**	**$24M**	**$18M**	**33%**
B	**24,000**	**$30M**	**$35M**	**-14%**
C	**6,000**	**$24M**	**$20M**	**20%**
D	**3,000**	**$30M**	**$18.5M**	**62%**

A good answer would lay down a few scenarios:

There are a few ways we can use to determine priority.

- If the client is concerned with declining sales, we should start with B because its revenue has dropped.
- If the client is concerned with maximizing revenue per customer, then we should focus on products that have lowest revenue per customer. However, the comparison in such a way might not make sense because products are different and customer segments are different.
- If the client is concerned with revenue performance relative to competitors, then we can benchmark sales data against competition if data available and focus on the ones with the worst revenue performance.

- If we have data on sales force, we can find out how much sales each salesperson brought in by product and focus on products with the lowest sales force effectiveness.

Interviewer: Suppose a sales person can make 3,000 calls per year, and on average a customer must be called 10 times to make a sale. How many sales people should you hire?

Answer: Assuming there is no overlap in customers of each product, there are 45,000 customers in total. If we want to make a sale from each customer, we need to make 450,000 calls and that means we need 450,000/3000 = 1,500 sales persons.

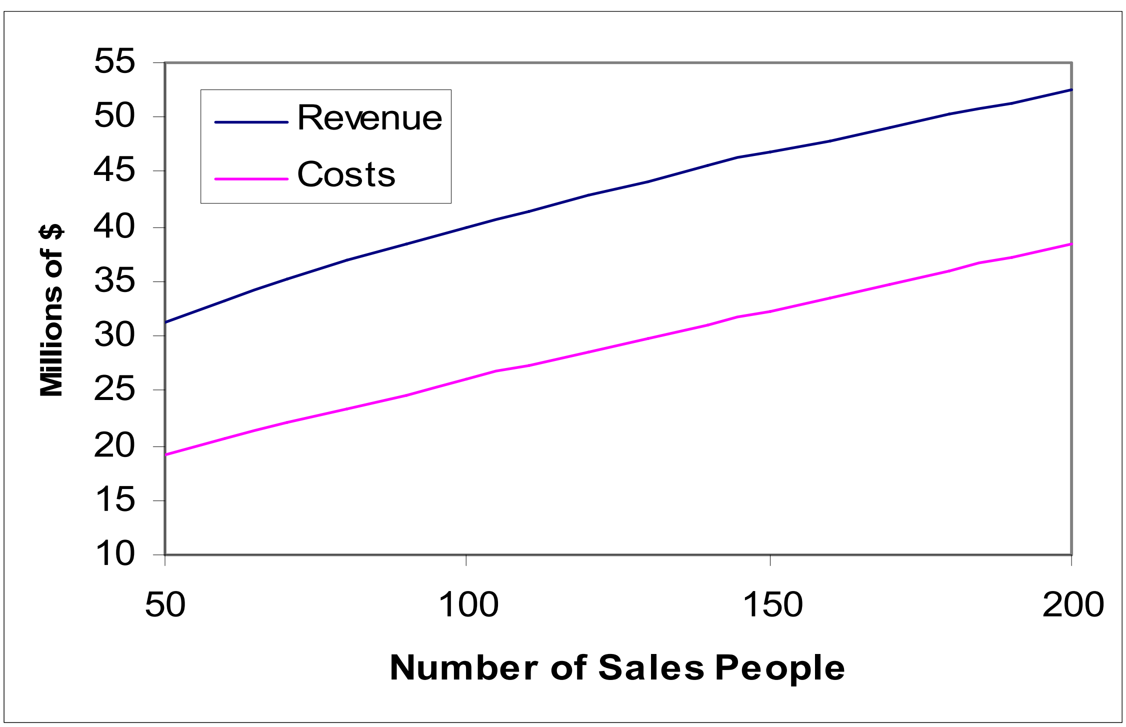
Interviewer: Show the following exhibit. "The Research Team has provided us the following revenues and costs data associated with the sales force. What would be the optimal number of sales people by eyeballing it?"

Answer: The optimal number of sales people is the number that maximizes the profit, i.e. the biggest gap between the Revenue curve and the Cost curve if a vertical line is drawn.

Interviewer: Using the same slide, if you are given the following:
Revenue = 3,000,000*sqrt(N) + 10,000,000 (N = number of Sales People)
Gross Margin = 80%
Fixed Costs = 8,000,000
Assume each sales person makes $100,000 in salary and benefits

Now what's the optimal number of sales people?

Answer:
Profit = 80%*(3,000,000*sqrt(N)+10,000,000)-100,000N-8,000,000
= 2,400,000*sqrt(N)-100,000N
To maximize profit, first derivative should be zero and second derivative should be negative.
- First Derivative: 1,200,000/sqrt(N)-100,000 = 0 → sqrt(N) = 12 → N = 144
- Second Derivative: -600,000/sqrt(N^3) → Negative



(Source: Interview case from DiamondCluster Round I, RSB 2005 Casebook Case#25)

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

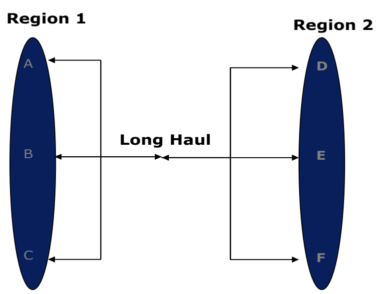
The CEO, who is new and an outsider to the company, is interested in a Route Optimization software that has been developed by one regional subsidiary (Region X) and has significantly improved profitability within the subsidiary. The CEO asked you to see if the software should be implemented companywide. The CEO also wants your advice on where the company should go in the long term.

Interviewee should ask questions to learn more about the software.

Given upon request

The software is used to optimize routes within a region to make truck pick-ups and drop-offs more efficient. The software doesn't optimize long haul routes.

(A, B, C are locations for pick-ups and drop-offs)



A sample approach to structure the analysis:

To assess if we should roll out the software to other regions, I first would like to understand how the software improves profitability. I want to understand what benefits the software offers and the impact it has on both revenue and cost. On the revenue side, maybe the software enabled the client to provide better and faster customer services and therefore customers use our services more often or more customers are acquired. On the cost side, there might be some cost savings opportunity due to route optimization.

Then I'd like to estimate what would be the incremental revenue and cost if we roll out the software companywide. In the meantime, I'd also like to assess the non-financial impact the companywide roll-out might have.

At last, I will discuss some of the long term strategies the CEO can look into.
Interviewer: ***Ignore revenue and focus on cost. Ask interviewee to identify cost buckets of the trucking companies***

Examples of the cost buckets:

- Fixed cost
  - Real estate
  - Equipments including trucks
  - Insurance
  - Overhead
- Variable cost
  - Direct labor (trucker's salary etc)
  - Fuel

Given upon request

- Current pick-ups or drop-offs/ hr: 2. Pick-ups or drop-offs/ hr with the software: 2.5
- Truckers are paid at an hourly rate of $100
- Companywide annual pick-ups are 4M, drop-offs are 4M
- Region X annual pick-ups are 0.8M, drop-offs are 0.8M
- Labor is 1/3 of total costs
- Labor is split 50/50 between pick-ups & drop-offs
- Set up cost to expand the software companywide: $20M.
- Incremental annual cost to maintain and support the software: $15M

Ask interviewee to calculate the incremental cost savings if implemented companywide.

Before using the software, annual labor cost is:
- Region X: ((0.8M+0.8M)/2) * $100 = $80M
- Companywide: ((4M+4M)/2) * $100 = $400M

After using the software, annual labor cost is:
- Region X: ((0.8M+0.8M)/2.5) * $100 = $64M
- Companywide: ((4M+4M)/2.5) * $100 = $320M

Annual cost savings:
- Region X: $80M - $64M = $16M
- Companywide: $400M - $320M = $80M
- Incremental cost savings if implemented companywide (Region X already realized the cost savings): $80M - $16M = $64M

If the software is implemented companywide, incremental cost savings are $64M, incremental costs are: $35M in year 1 and $15M yearly after. Therefore, it makes financial sense to implement the software companywide.

A great answer will also address the non-financial impact of expanding the software companywide on the current IT system and operation, and discuss the possible benefits of enhancing the software to optimize long haul routes.

After assessing the investment in expanding the software, interviewee should lay out a structure to discuss areas the CEO could look into for the long term.

Examples of areas to look into:
- Increase revenue
  - Optimize service portfolio. For example, acquired trucking companies can work together to provide more long haul services
  - Enter new markets (new geographical locations, new customer segments, etc.)
- Decrease cost
  - Consolidate common business functions, such as Accounting, HR
  - Consolidate procurement to increase bargaining power
  - Standardize certain processes