MICHIGAN
BUSINESS SCHOOL
CONSULTING CLUB

Interview Case Book 2004-5

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Welcome MBA student,

The following cases represent an incredible amount of work done by your peers in an effort to help there fellow students case better in there interviews. If you use this casebook and find it helpful please give back by writing up a case for next years casebook.

Last year we received a number of suggestions from both student and recruiters on ways to improve the casebook. Many recruiters commented that Michigan students tend to rely too much on frameworks they had memorized while preparing for interviews. To help ensure students are using fresh case cracking approaches we have removed much of the instruction regarding how to approach each case. As a result some students new to case cracking may find themselves at a loss as to where to begin. It is my feeling that these students are best served by seeking the help of more experienced students and practicing with them not by reading a casebook.

The other major complaint we received was that some cases had incorrect or incomplete solutions. While we have done our best to ensure accuracy of the included cases and removed some clearly misleading cases, some remain. This is because these cases were prepared by your fellow classmates, some got offers others did not. In most of these cases a truly good interviewee will go beyond the "sample solutions" we have included.

In closing I offer the following tips on how to use this case book successfully:

- Read the cases completely before you try to give them to someone
- Try to give the same case over and over; case giving is hard and requires practice.
- Practice cases with many different people, including people you don't know very well

Good luck and go blue!

Regards,

Noah Rosenberg
University of Michigan, MBA 2005

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Practice Case 1: Steering wheels (A. T. Kearney - Round 1)

I. Case scope provided by interviewer:

The CEO of General Motors attended the Detroit car show recently. He was surprised to see that all the models of Volkswagens seemed to have the same steering wheel. They seemed similar in all respects – shape, size, and materials. General Motors, on the other hand, has many different steering wheels for its many cars. The CEO feels there was merit in reducing the steering wheels on GM cars to one model. He wants you to find out how that can be done.

II. Additional information provided after relevant questions:

Manufacturing process

- The steering wheel manufacturing process has three distinct stages – Design, Sourcing/Manufacturing, and Assembling.
- There is virtually no difference in material requirement for each type of steering wheel.
- The same injection molding manufacturing process is currently used to make the different steering wheels.
- There is virtually no difference in the engineering design requirements for each steering wheel. Therefore, from engineering perspective, the same wheel could be used on all cars.
- There is no difference in assembly process for the different types of steering wheels.

Customer needs

- There is no market requirement (customer driven or company promoted) to have different steering wheels on different cars. Steering wheels do not serve as product differentiators.

Cost

- GM has 10 lines of cars, each with a different type of steering wheel.
- GM purchases all of the 10 types of steering wheels from the same supplier.
- Each year 100,000 steering wheels are bought for each line.
- The steering wheels cost $10 each.
- The supplier gives a 5% discount for every doubling of an order size.
- They also think that by consolidating the steering wheels to one type, they can buy all wheels from one vendor. In that case, the vendor will give us a 20% discount on the steering wheel.

III. Sample solution:

Since GM's business is making and selling cars not steering wheels, they were probably looking at this to save costs. So that covered the company's point of view. However, I wanted to make sure that steering wheel types don't give GM a competitive advantage or effect consumer demand. That took care of competitors and customer part of the picture. The final piece was financial cost savings. My approach was to verify these thoughts and put together a plan to realize maximum cost savings.

I recommended that the client consolidate the steering wheel types to one type and source the steering wheels from one vendor only. This will help the client realize cost savings of at least 32%. However, before executing this plan the client must make sure that:

- There are no peculiar engineering requirements that make the steering wheel unfit for a car type.
- The steering wheel type does not adversely affect sale of cars.
- The vendor has sufficient capacity to make at least 10MM steering wheels and more as per predicted growth in demand.

There may be other areas like headlights and tail lights, moon roofs, and dash board components that could also be consolidated across the different cars types. Our team will be willing to explore those areas of cost savings for the client as well.

The interviewer was looking to see how well I could gauge a business I knew nothing about. He said that he knew I didn't have prior auto industry experience and that was why he gave me this case. He wanted to assess if I could:

1. identify the key issues
2. structure the problem in the context of the overall business
3. make necessary recommendations.

Arriving at the answers was easy. He wanted to see how I arrived at my recommendations, and then apply the lessons learnt to other parts of the business.

Practice Case 2: Train engine manufacturer (A. T. Kearney - Round 2)

I. Case scope provided by interviewer:

Our client is a Venture Capital company that has invested in a train engine manufacturing company. This company has been losing money, but the client thinks there is potential to turn it around. They would like to see a turnaround as early as one year. I have to meet with the Venture Capital company two days from today. Can you form an agenda for us?

II. Additional information provided after relevant questions

- There are only two locomotive engine manufacturers in North America.
- The customers are the big North American railroads, there is only one other competitor and they make engines similar to the ones built by this company. Price is the only differentiator.
- The cycle from manufacturing to selling takes over one year. Since the sales cycle is over one year, any increase in revenues will not be realized before one year. Only cost savings would be immediately discernible.
- 60% of costs are for raw materials used in building a locomotive engine.

III. Sample solution:

- I focused my attention on raw materials. I looked at the demand forecasting currently employed by this business.
- I then looked at the supplier market. Since there are only two locomotive engine manufacturers, I think that this company may have more bargaining power than the raw material suppliers. The company should be able to negotiate a better deal if this is indeed the case.
- I enquired about the capacity utilizations of the suppliers to make sure that they are well positioned to satisfy increased demand from this company.
- Then I looked into new technology, engineering designs that may help the company reduce its raw material costs.
- Finally, I looked at the remaining cost buckets for this company – manufacturing, and sales. Though I suspect that the savings here would not be as pronounced as in raw materials, there may be immediate cost savings available from these activities as well.
- After that, I would discuss options to increase revenues of the business. Perhaps we can look at shorter manufacturing time. Perhaps the company can introduce new models in existing markets, or new and existing models in new markets. The company could enter the

market for engines for different railroad gauges (meter gauge etc.). They could also introduce steam engines, coal engines and electric engines for new markets like Latin America.

Practice Case 3: Cardboard manufacturer (A. T. Kearney - Round 1)

I. Case scope provided by interviewer:

Our client is a cardboard manufacturer that has two plants for which we gathered the following data:

	Plant A	Plant B
Sales ('000 $)	**45,000**	**75,000**
Cost of Paper	**65%**	**63%**
Other Goods	**6%**	**5%**
Labor	**18%**	**13%**
Other Manufacturing	**6%**	**5%**
Depreciation	**3%**	**3%**
Profit	**2%**	**11%**

What does this data tell you?

You have been hired in to improve the performance of Plant A to similar levels as Plant B. What do you suggest?

Interviewer tip: This case has a lot of math. Put the candidate under pressure to nail the math quickly. Allow them to approximate, but keep them under pressure.

II. Additional information provided after relevant questions:

- The industry is manufacturing of cardboard boxes for packaging
- Both plants are in Benelux, owned and operated by a central HQ division. Each plant has completely delegated authority and is its own profit centre. Each plant manages its own sales and its own customers.
- Both plants have similar processes: Print – Cut – Fold – Glue. The last step is optional and is only needed for the premium customers.
- Both plants have similar equipment
- The average salary in each plant is the same - $45,000. Assume that everyone gets paid this amount.
- In Plant A: 15% of the total workforce is in sales; 35% of the workforce is represented by full time employees (management, maintenance): 50% of the workforce is represented by operators. Morale in Plant A is very low.
- All we know about Plant B is that they have 35 sales people.
- Each plant has different customer mix, but it is not important for the case.

- Plant's A customers are not very good at forecasting demand and as a result the average production run at A is much less than at B. Changing production runs is a very labor intensive step.
- We could bring the number of product changes at A in line with B we could cut operators by 10% and full time staff by 20%

III. Sample solution:

We need to reduce labor from 18% to 13%. A 6% reduction is around $2.3M.

A. The total labor bill for Plant A is around $9M. With an average wage of $45,000, then Plant A has 200 people of which 30 people are sales staff. This is very high compared to Plant B.

In Plant B the 35 sales people sell approximately $75M and in Plant A the 30 sales people sell approximately $45M. Therefore each sales person in Plant B sells approximately $2M of product. If plant A's did the same, we would only need 20 people. We could layoff 10 people and save $450,000.

B. By bringing down the number of product changes we could then save (200*50%*10%) 10 shift operators and (200*35%*20%) 14 full time staff, a total of 24 staff, or around $1M.

C. If we could improve the morale we could save 10% of the shift costs. That is another $450,000 saved. So we have now identified around $2M of savings, which is the majority.

Practice Case 4: Music retailer (Bain - Round 1)

I. Case scope provided by interviewer:

Our client is a large national retailer whose music segment has seen declining profits over the last couple of years. You have been hired to help deal with this problem.

II. Additional information provided after relevant questions:

- Profits used to be $80M but are currently very low.
- Suppliers sell directly to us. No logistics costs.
- There are 4 big players in the market all similar size to us. We do not know if they are making money. Two are similar large retailers and two are specialized music suppliers.
- Market has been shrinking over the last couple of years
- We hold both new releases and catalog CDs.
- Income Statement:

Revenues from New CDs	-$704M
Revenues from Catalogs	-$444M
Total COGS –	$900M
Store rental overhead	$150M
Labor expense	$90M
Profit:	$8M

- The price of a new CD is $12 and the price of a catalog CD is $15.
- The cost to us of either type of CD is $10and is similar to other player's cost. We hold minimal inventory
- 90% of our space is catalogs and 10% is used for new CDs.

III. Sample solution

We can allocate the costs using Activity Based Costing. We have $704M revenues of new releases. At a price of $15, this means we sell around 60M new CDs and around (404/12) 30M catalog CDs. Hence:

	NEW CDs	CATALOG CDs
Revenues	$704M	$444M
COGS	$600M	$300M
Space overhead	$15M	$135M
Labor	$60M	$30M
Profit	$30M	(-20M)

The new CD business is profitable for us, but the Catalog business is unprofitable.

The reason we have low profitability is that the Catalog CDs are loosing money.
The new CD business is still profitable and over the coming weeks my team is going to look at: whether we can optimize the space used for catalog CDs, whether we would lose any cross selling opportunities if we reduced/removed the catalog CDs and what product we can best place in the space previously occupied by catalog CDs.

Practice Case 5: Aerosol can manufacturer (Bain Round 2)

I. Case scope provided by interviewer:

Your client is an aerosol can manufacturer. They buy sheet steel, cut it into shape, paint it, weld it into a cylinder, apply a top and bottom and then sell them to their customers. They do not fill the can. Over the last 5 years their sales have increased from 80M to 120M, but their profits have decreased from+10M to -40M. They want to know what they should do.

II. Additional information provided after relevant questions:

- Depreciation costs are the same and there has been no additional fixed asset expenditure.
- We have seen a steep increase in labor cost. The increases account for about a third of the total cost increase.
- Their pricing basis is Steel price + Value added, so they automatically pass on all cost increases/savings to their customers.
- 5 years ago the average price we get for a can is 1p and now it is 3p. What does it mean?
- The costs of paint have increased by 40M over the last 5 years.
- Painting is a capacity limiting step.
- Company is foregoing additional sales – and have an opportunity cost associated with this, but that hits the top line, not the bottom line.
- Our customer requirements have changed: they are demanding higher quality.
- Historically we sold 40% to industrial clients, 30% into household applications and 30% into consumer packaged goods. This has now changed to 20/30/50.
- For industrial clients we used stickers rather than paint.

III. Sample solution:

The cost basis increased by 90M over the last 5 years and I will started by looking at why these costs may had increased.

The reason our client is loosing money is their shift to the higher priced consumer segment. The additional quality requirements in this segment, in particularly on the painting side, have limited our capacity and increased our cost basis. Over the next weeks my team is going to look at: costs and benefits of capacity addition, Outsourcing the painting to a 3rd party and growing their industrial part of the business again.

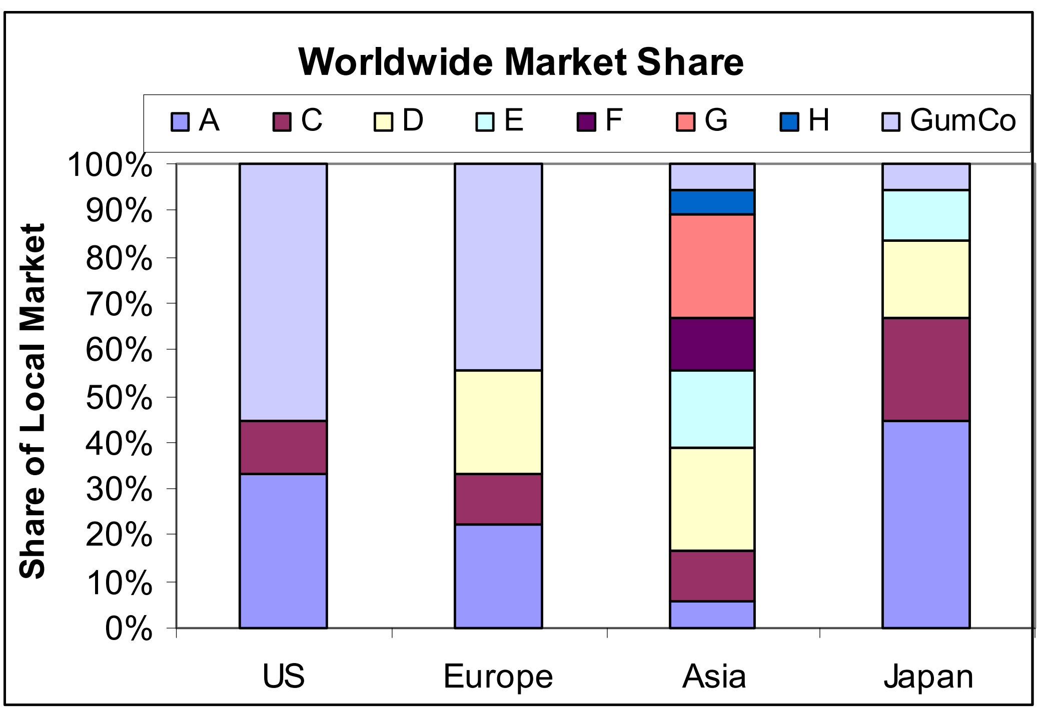
Practice Case 6 GumCo (Bain - Round 1)

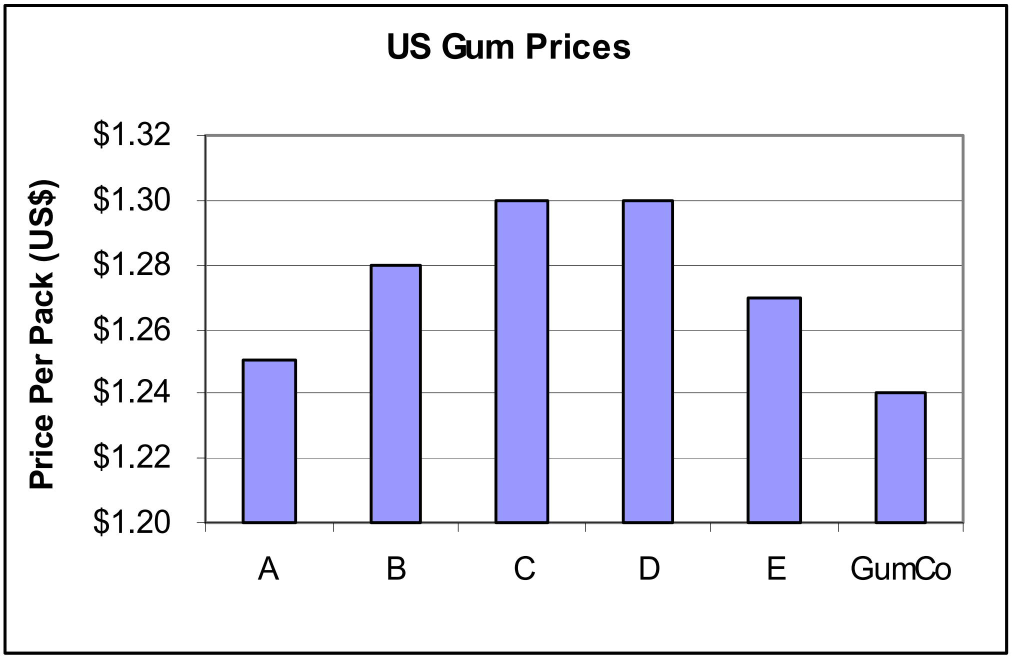
I. Case scope provided by interviewer:

Your client is GumCo. They have 25% margins and have been traditionally focused on gum and mints. A new CEO has just been appointed and he has promised the GumCo shareholders that he would double revenues, while maintaining margins, over the next four years. Their current revenue is $2.7B. The CEO comes to you for help.

II. Additional information provided after relevant questions:

- Gum is 75% Revenue, Mints are 25% of Revenue
- Gum is growing at 4% annually
- Mints are growing at 7% annually
- We don't think we can steal any more market share from our US competitors
- We have a very strong brand, built over several years.
- No possibility of growth through innovation.
- Total Size of Asian Market = $2.5B
- Total Size of Japan Market = $1.6B
- There are two companies we could acquire:
    - A: Juice Company with strong brand equity and distribution system in Japan
    - B: Chocolate Company with weak brand equity in the US.





III. Sample solution

First, I structured the case:

- Growth In Existing Market
- Growth In A New Market (Geographically)
- Growth In A Related Market – Leverage Skills
- Growth In Unrelated Market

Second, as I gained new information, I calculated the exact savings from each action. The goal, encouraged by the interviewer, was to add up to $2.7B.

Third, I estimated the amount of market share that could be gained in each market based on our brand transferability, the size of the competitors and the growth of the market.

Fourth, I recommended acquiring the Juice Company since it was overall a stronger business and allowed us to enter the Japanese market. The chocolate company was tempting since it is also sold in the candy aisle, but our brand would not leverage well into the candy segment. Additionally, the customer in candy was much younger than our average customer (mints and gum are older). Our customer is more similar to juice customer.

My result was:

Home Market Growth:	$0.6B
Price Increase	$0.5B

Increase in Asia Presence	$0.9B
Increase in Japan Presence	$0.3B
Growth through Acquisition	$0.4B
Total Improvement	$2.7B

Other points would be: implementation risks and challenges of entering new markets.

Practice Case 7: Home goods retailer (Bain - Round 1)

I. Case scope provided by interviewer:

The client is a mall-based retailer of home goods. It owns about 500 stores throughout the US. They experienced a drop in sales and profits and hired you to find the root causes and come up with solutions to improve the situation.

II. Additional information provided after relevant questions:

- Both sales and profits declined over the last 3 years or so, having grown steadily prior to that point.
- There are three segments in the home goods market: discount stores (e.g. Target), specialty stores (e.g. Bed, Bath, and Beyond), and other stores.
- Overall sales have increased over the last 3 years, with discount and specialty segments growing and "other" segment (the client fell into this category) declining.
- Our client did somewhat better than its segment, but worse than the overall market.
- The client is "stuck" in its segment.
- Cost structure of the three segments. Costs as a % of sales:

	Client	**Target**	**Bed, Bath, and Beyond**
Profit Margin	5%	25%	25%
SG&A	15%	15%	15%
COGS	40%	40%	40%
Fixed Costs	40%	20%	20%

- Rent is the main reason for higher fixed costs: client's stores are in the malls and competitors are free to choose their own locations and likely own the buildings. Client had long-term lease contracts and was "stuck" in the malls.
- Client's products fall into two broad categories: textiles and kitchenware. Kitchenware sales were going up, while textile sales were down.
- The client's merchandise is different from competitors' merchandise. For example:

Towels	**Client**	**Bed, Bath and Beyond**	**Target**
Good	10%	10%	80%
Better	70%	50%	10%
Best	20%	40%	5%

III. Sample Solution:

I made the following recommendations:

1. Focus on textiles first, then do the same type of analysis for kitchenware.
2. Compute sales per square foot both by product line and quality for each store.
3. Use results to dedicate more shelf space and more prominent display to the best-performing products.

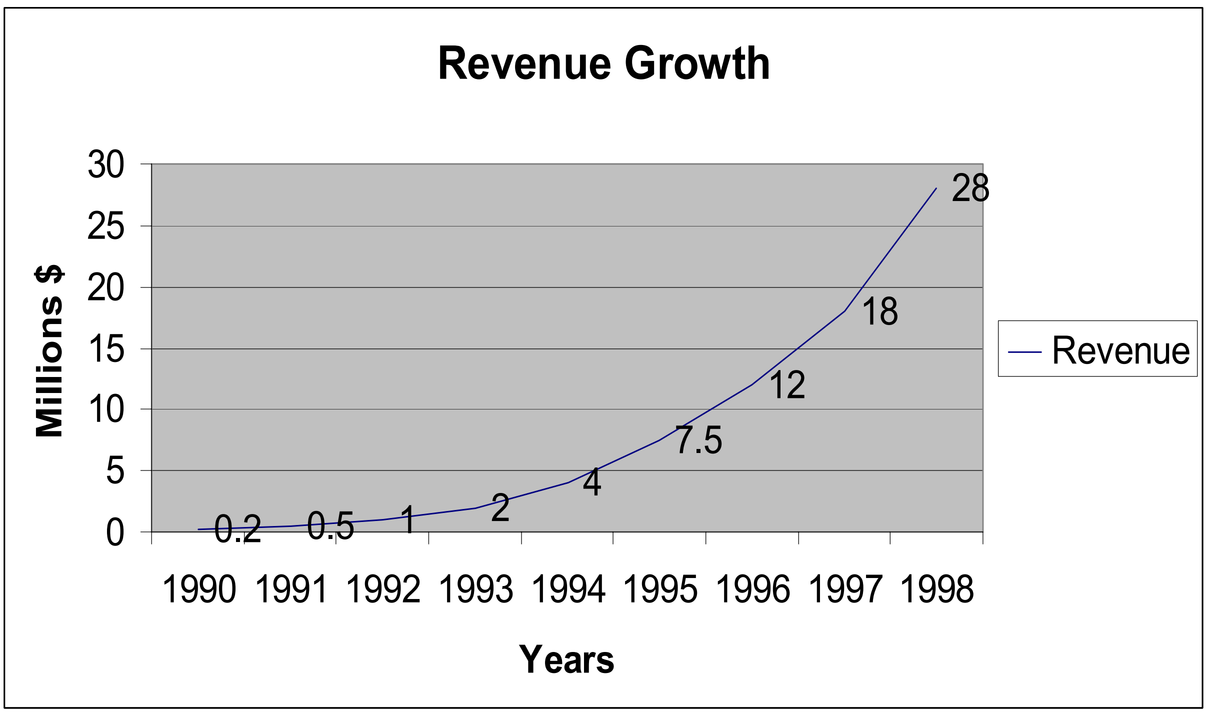
Practice Case 8: Clothing retailer (Bain - Round 2)

I. Case scope provided by interviewer:

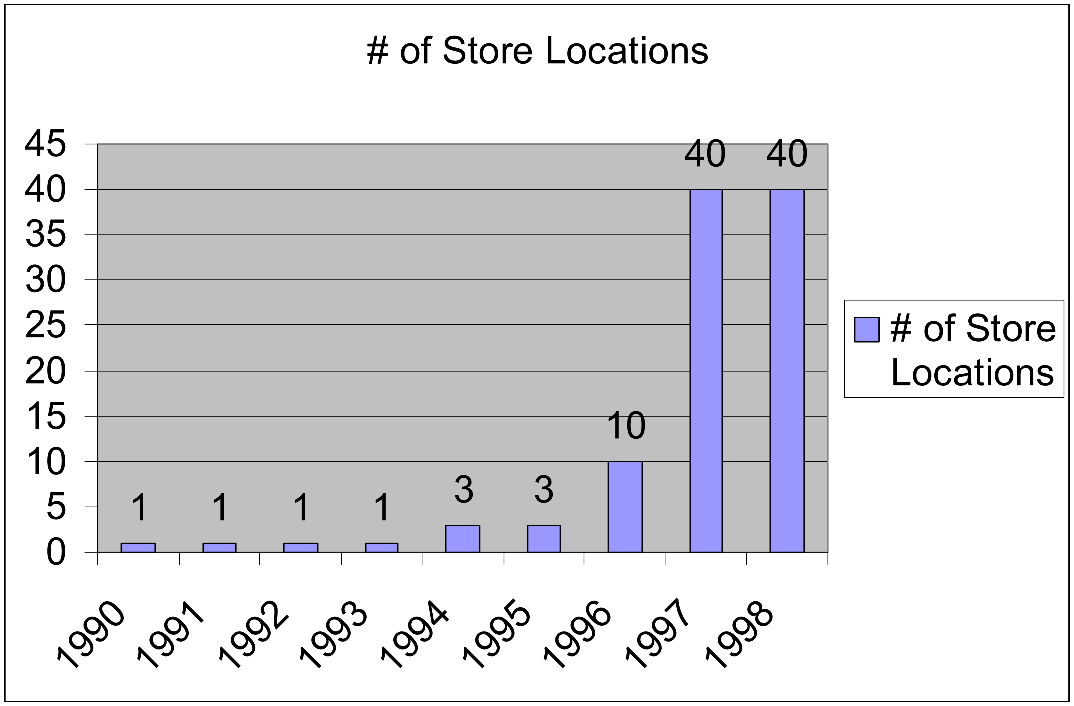
Your client is a clothing retailer similar to the Gap or Abercrombie & Fitch. They have expanded their number of store locations and achieved significant sales growth. As a result, they are considering an IPO, however, recently the company had moved from profits to losses. The CEO needs to understand why this has occurred, and what needs to be done to become profitable again.

II. Additional information provided after relevant questions:

Revenue:
When asked about revenue growth, the partner produced this graph:



When asked about number of store locations, the partner produced this graph:



<u>Costs:</u>

- Assume fixed costs of $1 million per location. This includes lease costs, utilities, store manager, etc.
- Assume variable costs equal to 20% of sales. This includes cost of clothing, sales people, etc.
- Corporate overhead is minimal.

III. Sample Solution:

The key to this case is to notice that sales increased for the first location over time. In 1993, the company would have made $600M on sales of $2MM ($2MM*80% margin - $1MM fixed cost). Subsequent store openings should experience similar sales ramp up. Once the candidate realizes this, then it becomes apparent that the client is realizing losses because of the large number of stores opened recently.

Recommendations for the client include:
1. If the client wants to go IPO and show profits, then they must slow the rate of store openings so that a larger percentage of stores have entered the profitable portion of their lifecycle.

2. Develop reporting systems which will allow management to assess the profitability of individual locations, rather than reviewing financial performance in aggregate.
3. Review performance of successful locations to understand what reasonable performance levels are for new store locations at various points in their lifecycle. Use these hurdles to assess the performance of newer locations, and determine whether some locations should be closed.

Practice Case 9: Champions league (BCG - Round 1)

I. Case scope provided by interviewer:

Our client is a German television broadcasting company. It has rights for broadcasting Champions League Soccer Tournament in Germany. We have been asked to decide whether to broadcast it on pay-TV channel owned by the client or on the free channel also owned by the client.

II. Additional information provided after relevant questions:

Interviewee has to come up by himself with notion of incremental revenues and cost of serving and acquiring customers.

- The revenue sources for the two options are: Ads for free TV and additional subscribers for pay TV.
- In first round, there are 4 groups with 4 teams each. Each team plays with each other team within there group in the first round. There are 3 German teams. They are all in different groups. We are going to broadcast only games with their participation. Second round is quarterfinals with home and guest games. Then semifinals come. And then final – one game. 30 seconds of ads are $50K at any stage. A game has 25 min of ads.
- Can assume that the German teams advance through all rounds
- If we decide not to broadcast the game on free TV, we will still get the same minutes of advertising at $20k/minute
- If we decide to broadcast on pay-TV, we will get 1M more subscribers.
- Pay TV: Subscription fee is $10. Price per month $5.
- No customers will leave if you decide not to broadcast on pay-TV.
- Project only for 1 year.

III. Sample Solution:

1 round = 3 × 6 = 18 games broadcasted
2 round – 8 games
3 round – 4 games
Final – 1 game
Total: 31 games.

Free TV

Ad revenue per game = 25 × 2 × 50K = 2.5M

We have also the opportunity cost. With no game broadcasting we can get $20K per minute.

Incremental revenue per game = 25 × (100 – 20) = 2M
Total incremental revenue = 31 × 2 = 62M
No additional cost.

Pay TV

Incremental revenue will be 1M × (10 + 5 × 12) = 70M.
But the acquisition cost is $5 per new customer and it costs $6 per year to serve one customer.

Incremental profit will be 70M – 1M × (5 + 6) = 59M.

Given this information, the incremental profit for pay TV is $59M and for free-TV is $62M. Our client should broadcast the games on free-TV.

Push the interviewee to come up with exact numbers.

Practice Case 10: Orthopedics company (BCG - Round 1)

I. Case scope provided by interviewer

Your client is the CEO of a US Orthopedics company (that manufactures and markets joints/shoulder/hip replacement parts). The company is a global company with revenues of $2 billion. They are merging with a global European Orthopedic manufacturer with Revenues of $ 1.5 billion. You have been hired to assist with Post-Merger Integration issues. What opportunities do you see and what advice can you give to the client?

II. Additional information provided after relevant questions:

- Value chain: R&D-Sourcing- Manufacturing-Distribution-Sales (+HR/Finance & IT)
- Plant A manufactures products selling for $0.5b at $0.3b cost. By transferring production to Plant B they can manufacture the same products for $0.2 b. However they would have to incur a shutdown cost of $50Million and Plant B expansion cost of $ 200 Million.

III. Sample solution

As soon as I knew this was a merger case I followed the standard structure of evaluating synergies in value chains and highlighting risks and risk mitigation strategies. I examined three things:

- Value chains of both companies
- Synergies in value chain that would provide Cost Savings and Incremental Revenues
- Cultural Integration issues.

Opportunities for cost savings

<u>R&D</u>
Patents
Combining Research Staff and cutting costs on Labs.
Knowledge transfer on existing projects.

<u>Sourcing</u>
Supplier consolidation : Higher buying power.
Access to new supply sources.
Knowledge of supplier previous contracts (transparency) with the other entity.

<u>Manufacturing:</u>

Economies of scale
More optimum capacity utilization (if current plants were under-utilized)
Knowledge exchange on production best practices

Distribution:
Access to new distribution channels and new markets
Cross-Selling opportunities
Higher supplier power

Consolidating plants:
We would increase our profitability by $100 M per year at an additional investment of $250M ($200M+$50M).

Other issues we have to consider if we shutdown Plant A.
Labor union issues.
Any Government Regulations/Labor Laws
Cultural integration.

Other issues: There are also significant pricing advantages that can be gained through this merger. One of the firms charges more and has very strong brand equity among the doctors. While no numbers were given, discovering revenue synergies wins bonus points.

Practice Case 11: Pick-up truck market (Booz Allen Hamilton - Round 1)

I. Case scope provided by interviewer:

A company is considering entering into the pick-up truck market. An investment of 1 billion dollars is required to build a plant, should they enter? Currently, 750,000 pick-up trucks are sold in this market.

II. Additional information provided after relevant questions:

Market and company data

Current Price	30K
Plant Capacity	200K
Elasticity of demand	3

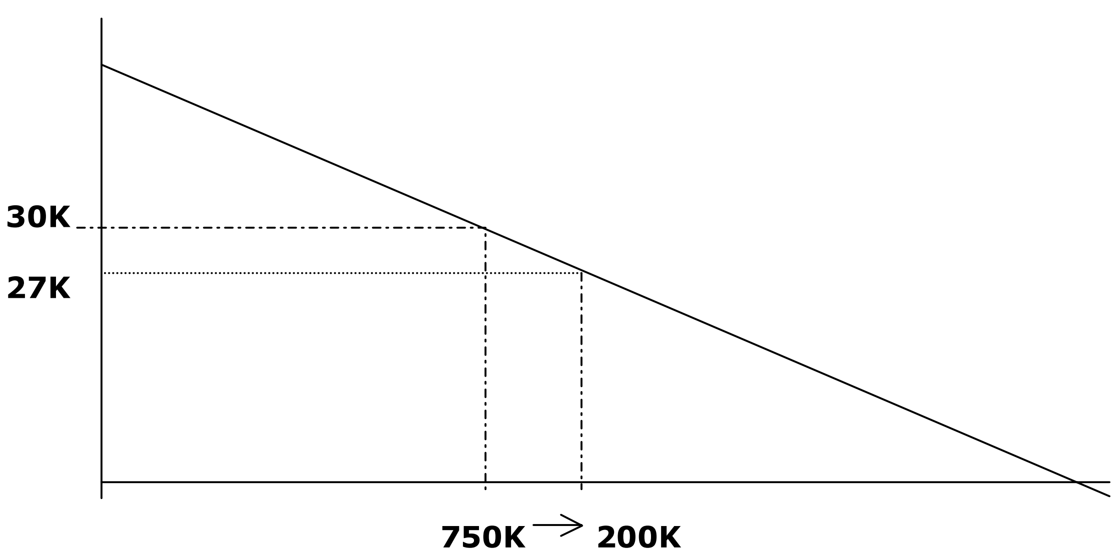
Variable cost = 20K
Our cost of capital is 10%

III. Sample Solution:

First estimate the impact of the entry on the price:

- The percentage change in Q=200/750=30% (approx.)
- Using Elasticity of demand = %ΔQ/%ΔP;
- %ΔP= (30%)/3 = 10%
- Therefore, the new price will be 30K less 10% which is 27K

Demand curve for pick up trucks in this market



Second look into whether they can make money at this price.

- Variable cost = 20K
- Therefore contribution margin = 7K; we can sell 200K so contribution per year is 1.4 billion dollars. The plant has a life of ten years so a total of 14 billion dollars will be made.
- Our cost of capital was 10%, therefore there is a capital charge of 100M dollars per year for a total of 1 billion dollars.
- The $1 billion must be returned at the end.
- Thus, total profit is 12 billion dollars.

The interviewer asked about the Cournout equilibrium and whether it is surprising, based on the case, that Toyota had entered the truck market.

This is a basic Booz Allen profitability case. New entrants reduce the price in the market and must make a careful assessment of whether they can be profitable give the demand elasticity.

Practice Case 12: Family oriented cars manufacturer (AT Kearney - Round 1)

I. Case scope provided by interviewer:

Your client is the manufacturer of family oriented cars in the country Benelux. He only sells through dealers which he owns. He recently attended a seminar on customer loyalty and he wants you to find a way to solicit customer feedback and identify how loyal his customers are?

II. Additional information provided after relevant questions:

- The company makes a full range of cars.
- They are marginally profitable.
- He has 10 dealerships across the Benelux and has never solicited this sort of feedback before.
- The company does have a customer complaint department and does have a list of all their existing customers.
- People buy from us because we have good cars and they like to buy a local car.
- The company charges a slight premium over the big players.

III. Sample solution

1. Understand the scale and scope of the business
2. Identify areas where customers come into contact with the company (garages, forecourts, annual maintenance checks, customer complaint department)
3. Identify what sort of information you want to collect Examples include: critical incident and switching path analysis and life time value of customers
4. Identify how you are going to collect it? Letters, phone calls, standing at garages, internet feedback forum, focus groups.

The interviewer then asked me for some specific questions I would ask in my survey.

e.g. “What do you value more on our car – 5 doors, or air conditioning?”
“How do you compare our car to a Volvo in terms of safety?
“Would you buy a car from us again?”
“Can you give us an example of behavior at the forecourt which you can remember?”

Practice Case 13: Car lubricant (Mckinsey - Round 3)

I. Case scope provided by interviewer:

Your client is a seller of car lubricant. It has historically made significant profits, but recently it has come under threat and we have been hired to address three concerns.

1. **Over a few previous years consumers believed that they needed to change their oil every 10,000 miles. They have started to realize that in fact they can get away with only changing their oil every 20 – 30,000 miles.**
2. **Historically in the US 80% of the market is in DIY and 20% in DIBSE (Do it by someone else). This has started to shift in favor of DIBSE. Our client has a 2nd position in the DIY market but only a 10th position in the DIBSE market**
3. **The CEO of the lubricant business has promised his shareholders a 200% increase in profits over the next 5 years.**

What do you suggest we do?

Note: Push the interviewer not to draw a framework Just outline and discuss the issues.

II. Additional information provided after relevant questions:

- The DIBSE outlets can be broken down as follows:
  - 35% of the market is "Quick Lube", of which 60% is owned by one of our major competitors
  - 20% of the market is OEM related dealerships
  - 15% is small "mum and Pop" shops
  - 10% are small regional chains
  - 5% are owned by Wal-Mart who are entering this market
- Our major DIY customer is Wal-Mart, where we are the price leader.
- The margins in DIBSE are half the margins in DIY.
- Additional data for DIBSE market entry:

Fixed Costs:	
Marketing	45,000
Rental	36,000
Equipment	15,000
Utilities	14,000
Fixed Labor	(ask how much they expect)
5 mechanics at	40,000 each

- The client expects to charge $25 for an oil change and the variable costs for an oil change is $20.

- Each garage has three bays. Each car change takes 15 minutes. Car owners drive their cars themselves onto the bay.

III. Sample solution

First I would explore partnering with Wal-Mart to sell to their DIBSE business?

Interviewer: Why would Wal-Mart want to source from us?

Me: I think we can leverage our relationship to Wal-Mart, pointing out that people are buying our product in the DIY segment because of our value proposition, our brand name and their trust in us. We will continue to advertise our product and people are going to ask after it. Secondly as Wal-Mart is new to the DIBSE business – and this is not necessarily a logical progression for them – using a premium lubricant in their garages will help inspire confidence.

Interviewer: How would you structure a deal to protect your margins in the DIY business?

Me: I think we should be able to negotiate either a volume agreement, or a supply location agreement to protect our DIY business.

Interviewer: OK, what else:

Me: I think we should look at tying up a deal with the OEM garages, by focusing on the OEM producers and advertising with them we can link our brand to their cars.

Interviewer: That is not going to work. In the US each OEM garage has the right to sell what cars he wants to and to use whatever lubricants he wants in his garage. The OEMs have no power over the individual garages.

Me: OK, in which case we will need to use our brand presence in the DIY segment to create a pull effect onto the garages. For example we can co-advertise at shows such as the Detroit Auto show to create demand for our lubricants when they get their new, expensive, cars oil changed. This will create an incentive for individual garages to stock our product.

Interviewer: Good. Now the client has been thinking about vertically integrating into the DIBSE business. Do you think that is a good idea?

Me: It will depend on how much margin is available in that business, how easily we are able to cross sell to our existing customers and whether there are any synergies with our existing business.

Me: In which case, the variable contribution per car change is \$5. The total fixed cost is \$310,000. Hence we need to process 62000 cars per year to break even. Assuming we are open 300 days a year, we need to process around 200 cars per day to break even.
200 cars per day – assuming a 10 hour day, means we need to process around 6.5 cars/bay/hour.
Our capacity is 4 cars/bay per hour, hence this does not make sense.

Interviewer: So what do you suggest?

Me: Well what we could do is see whether we can use this opportunity to cross sell other products to the car owners while they were at our garage.

Interviewer: Good. If we go with that strategy, our price will go up to \$48 and our variable costs will increase to \$28, but it will take 45 minutes to process each car.

Me: OK, so our variable contribution has now increased to \$40, which is 4 times higher than our previous case. Hence the number of cars we need to process/bay/hour will drop to around 1.5. Our capacity has, however, also dropped to around 1.2 hence we still can not break even.

Interviewer: good. You bump into the CEO of the firm in the lift, he asks you for a summary update, what do you say?

Me: The reason you are loosing profits is a shift in the industry from DIY to DIBSE. We believe we can capture some market share in DIBSE through a deal with Wal-Mart, and have investigated the possibility of vertically integrating into the garage industry – but do not currently believe that the returns justify the investments. Over the next couple of weeks, my team is going to work further to identify further opportunities to use your strong brand name to build your presence in the DIBSE segment.

Practice Case 14: Chicago transit Authority (Diamond Cluster - Round 1)

I. Case scope provided by interviewer

Our client is the Chicago Transit Authority (CTA). They have received $300MM and want us to identify which of the 20 different technology projects should be implement and in which order. Currently, they have a 30 year old Mainframe system. They have written bridge/translation code to interface with some of their newer systems. However, everything is controlled by this mainframe. How would you advise them?

II. Additional information provided after relevant questions:

- CTA is a public service. They may take on negative NPV projects if it serves the public. They may also prioritize based on public, not financial, needs.
- CTA does not want to fire its employees.
- Almost all CTA technology employees know only old mainframe systems.
- No one knows the original code for the mainframe system. Bug fixes are being done by people who only know bits and pieces of the system.
- CTA has enough money to do all 20 projects.
- The mainframe system in use is from 1970s and there are not many people who can support it. However, almost all systems are controlled by this system.
- There are two high profile projects – ERP system, and Smartcard for toll booths.

III. Sample solution:
First I analyzed the mainframe core. I would first assess the impact of each project on three areas of CTA's technology infrastructure:

1. Impact on the core mainframe system.
2. Impact on translation/bridge software.
3. Impact/requirement for new system.

I would then assess the person hours needed to implement the project. I would then organize the projects using the following criteria:
1. How critical is the project to public needs?
2. Does the project impact critical systems of existing infrastructure?
3. Economic impact of project – measured in dollars and person hours.
4. Personnel training required for new system.

I looked briefly into the two high profile projects, using the criteria above. I guessed that the Smartcard project is more critical and I would choose that over an ERP implementation.

This case was really about keeping the business goals of the client in mind. The most important issue was to realize that CTA's goal is NOT to cut costs but to provide service. I was later told that CTA had enough money to do all the projects. They were required to implement some money losing projects as well because they were legally obligated to implement them. The interviewer also wanted to see what criteria I would use to prioritize different projects. He wanted to see if I could logically structure my approach, and assess the impact of my recommendations on the technology infrastructure and business goals of the client.

Practice Case 15: Medvision (Mckinsey - Round 1)

I. Case scope provided by interviewer:

Our client is Medvision, an X-ray equipment manufacturer. Its products are currently 98% analog and 2% digital, both of which are sold directly by sales force. The client's European division is suffering from declining profit. The client has brought us in to find why its profit are declining and what to do about it.

II. Additional information provided after relevant questions:

- Market: There is price pressure by buyers (hospitals) to control costs.
- Company:

  -Revenue breakdown:

machine/equipment	800M
films	2500M
service	100M

  within films:

1999 price	6.67	2003 price	5.00
1999 volume	300M	2003 volume	500M
1999 revenue	2000M	2003 revenue	2500M

  -Some salespeople give more discounts to clients than others.

III. Sample solution

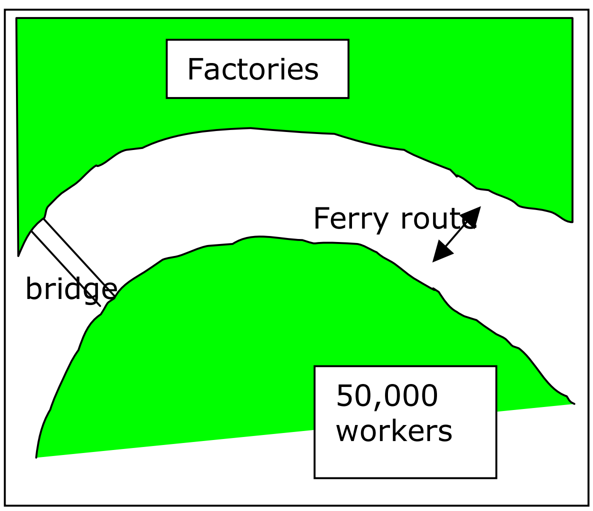
- Explored the product mix and was told three kinds of revenue sources for the company. Looked into revenue and cost and was told costs were already cut to the bones.
- Focused on revenue for films as it was the biggest revenue stream, and I would first explore the changes over the years. I have found the price went down by 25% over 4 years. The interviewer confirmed that the buyers were exerting pressure on the price.
- Then he pulled out a table of sales revenue and discount given by salesperson. I pointed out that some salespeople were giving far more discount than other people and this could adversely affect the actual price the company can get.
- The interviewer asked to give recommendation at that point. The reason for declining profit is decrease in price of films. Key drivers were buyers' pressure and problematic sales force practices. The company should focus on the driver it can control (i.e. the sales force) and change its commission structure to align the sales force interests with company's interests.

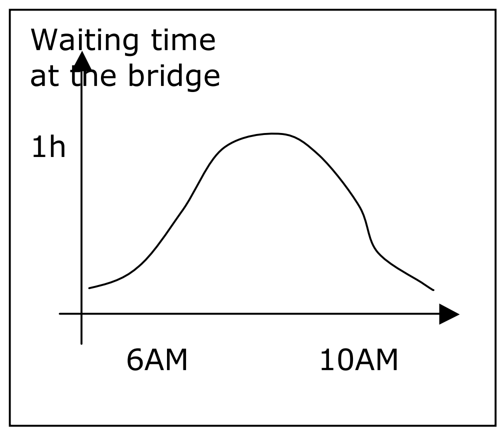
Practice Case 16: Ferryboat company (Mckinsey - Round 2)

I. Case scope provided by interviewer:

Your client is a ferryboat company that has been approached by a city major to bid on a 50 year exclusivity right to service commuters who wish to cross the river (see map below). So far there is only one bridge crossing the river and traffic during peak hours is just horrible. Therefore the mayor sees this bid as an easy and cheap way to improve commuter's journey.
What would be your approach to determine how much your client should bid for it?

II. Additional information provided after relevant questions:





- The factories are in fact steel mills
- 3 ferry competitors on the market
- Traffic jam only during weekdays
- Population is stable

III. Sample solution

My idea was to go over an NPV calculation and say that this is the maximum amount the client could bid for this project:

Detail of my analysis:
- Revenue: if we gain market share the traffic condition will improve on the bridge so there is a limit to our potential market, WTP, Price elasticity, seasonality

- Cost: Fixed cost (boat investments, parking slot, cashier…they are determined by our peak capacity), Variable cost (gas, labor is this really variable?)
- Discount rate: rate of the transportation industry?

The second part of the discussion was about the other competitors / game strategy:

- Do we have strategic advantage? (no)
- How can we build one? (marketing, financing)

Finally, the discussion was about the what is the appropriate discount rate:

- Could be a major source of difference with the competitors evaluation
- Need to estimate the risk related to the steel mill industry (this industry is declining, however the major is planning to attract new IT business in the area)
- Need to assess housing development near the factories

Practice Case 17: Commodity Quota (Booz Allen - Round 1)

I. Case scope provided by interviewer:

Your client sells a commodity product in Europe. Currently, this commodity is sold using a quota system and European markets are protected. The quota allows a company to sell a certain number of units in a particular European market. Eastern Europe will be joining the western part of Europe and the total volume of the commodity sold will be the combination of the two markets. However, the price in Eastern Europe is less than in the west. What will happen once the two markets join.

II. Additional information provided after relevant questions:

- Essentially, a company has the right to sell a certain quota of this commodity and the market is protected.
- *Note, I didn't ask for elasticity of demand until later, I asked for everything else upfront.*

	European Union	Eastern Europe
Price	17.5	10
Q (max quota)	2,000,000	500,000
Q (company)	400,000	30%
Profits	3.4 Million	150,000
Elasticity of Demand	0.5	1

- Q(max quota) is the total sold in the markets before they become a single market, Q (company) is the total units the company can sell in the market. The company has 30% of the Eastern Europe market which amounts to 150,000 units. The variable cost per unit is $9 per unit.

III. Sample solution

The company pays no fee to sell in this market so the company makes profits beyond what would be expected because Q is restricted.

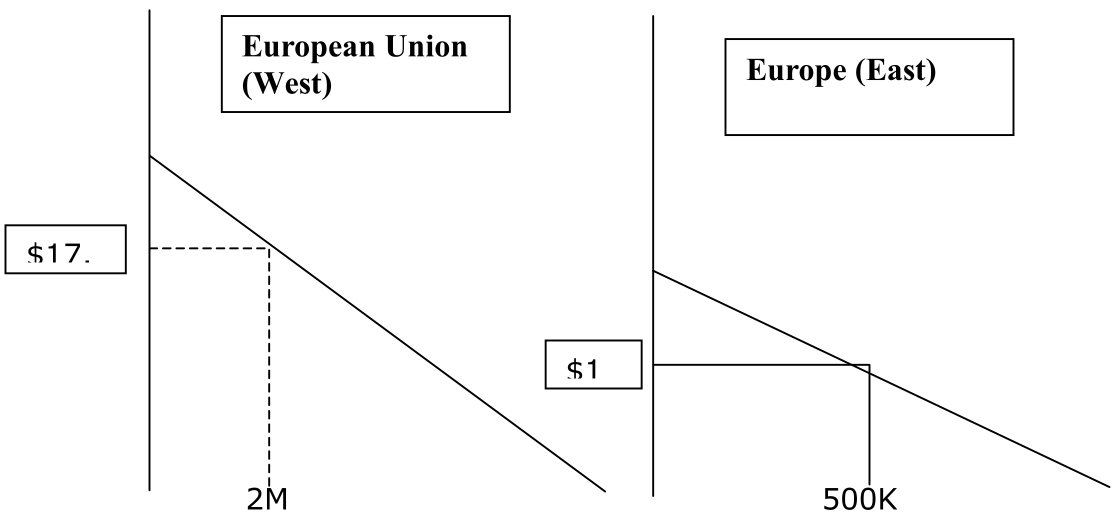
In Eastern Europe the price is lower, therefore, goods will flow from the East to the West where people will pay more until the markets reach equilibrium.

After you draw the graph you can start to speculate as to what will happen when the two markets merge. The price must move up for the East and down for the West. I was asked, "How would you find out what the price would be?" after I had told the interviewer the direction of the price movements.

That's when I said I would need to know the elasticity of demand. Using the elasticity of demand = $\%\Delta Q/\%\Delta P$:

- If the price in the west decreased 10% (1.75) then Q would increase to 2.1M.
- If 100k units went from East to West the Q in the East would decrease by 20% (100K/500K)
- Price in the East would increase by 20%.

These calculations could be repeated until the price was solved for.



Practice Case 18: Beer Tanzania (Mckinsey - Round 1)

I. Case scope provided by interviewer:

Your client is "SouthBeer" a beer producer in Tanzania. SouthBeer used to be the only supplier of beer in Tanzania until a few years ago when North Beer entered the market. In retaliation SouthBeer entered the Kenyan market.

What do you expect happened to the revenues of SouthBeer in the Tanzanian market?

II. Additional information provided after relevant questions:

- Ask the interviewee what could have happened? Expect prices to drop from a monopoly position based price, to a market price. NorthBeer entered the market with low prices to build market share.
- What else could have happened? Cost increases:
    - COGS may have increased due to smaller volumes being sold in Tanzania.
    - Marketing costs may have increased to stop NorthBeer's entry and
    - Labor costs may have increased due to second potential employer being available.
- In fact after a couple of years both the Kenyan and Tanzanian parts of the business were making a loss. What should SouthBeer do?
- NorthBeer is also not making money
- NorthBeer has 90% market share in Kenya and SouthBeer has 80% market share in Tanzania.
- Information given – we think the MS of S beer in Tanzania is worth $80M and the MS of N Beer in Kenya is worth $180M.

III. Sample solution

Suggested to buy out NorthBeer's share. Calculated the market share of NorthBeer in Kenya = market share of SouthBeer in Tanzania = 20M

However when evaluating how much you would pay for the business also needs to consider:

- Is profitability of market share related to market share %, or have we captured a high profitability niche market?
- Cost cutting opportunities
- Cross selling opportunities

Interviewer then asked: How would you go about estimating future revenues streams, ignore volumes but focus on how would you get good pricing data?

- Inflation -> get from governmental sources
- Analyze/compare previous inflation data to beer prices
- Predict inflation impact on beer prices

After the interview the interviewer provided the following information: eventually NorthBeer and SouthBeer bought each other out in the other's territories and they set about a JV in a third country to leverage their expertise and to get used to working together.

Practice Case 19: Bank Mauritius (Mckinsey - Round 2)

I. Case scope provided by interviewer:

Your client is a bank in the Mauritius. The population of Mauritius is 1 million and the average income is $10,000 per year. The bank has hired you in to find ways of boosting their revenues.

How can the bank increase its revenues?

II. Additional Information

None

II. Sample solution

Discuss the range of different means of revenue generation for the bank:
1) Interest bearing accounts: Can they offer a range of accounts targeting different parts of the market?
2) Credit cards: can they issue credit cards as a means of gaining additional revenue. This would depend on how wide spread credit card usage was in the Mauritius.
3) Extend other financial services such as insurance or share dealing options.
4) Look to expand to other islands such as La Reunion or other territories.

Interviewer: Let's focus on the opportunities available in the life insurance market. Describe whether or not a bank has any sources of competitive advantage in this market.

Answer: The main sources of competitive advantages are:
Trust: the bank has established relationships, and people believe that the bank is going to be around long term to pay out on any life insurance policy.
Branch presence: the bank has a wide reach, allowing easy marketing of life insurance in branch.
Information: the bank knows details of each customer's accounts and can thus target those customers who would be most valuable to them.
Cross Selling: linked to the last point, the bank can cross sell to it's existing customers.

Interviewer: OK, so how large do you estimate the life insurance market to be?

People who are going to buy life insurance are those who have dependents and want to leave them money in case they pass on. Let’s assume the average marriage age in Mauritius is 20 and the average lifetime is 80 years. Then total number of people who might be interested in a life insurance is around 600,000 ((80-20)*1,000,000).

Interviewer: What price would you charge a 25 year old?

Answer: Present Value of future earnings will on average be a continuity of $10,000 per year for 40 years discounted to today. If we approximate this to a perpetuity and assume a 10% discount rate, then this value is $100,000. If we assume that 1:1000 25year old die, then the cost of us of a pay out is $100.
Allowing some additional room for cost, profit and adverse selection, let’s say we charge $150.

Interviewer, that sounds low, say $200. In which case how big is the market?

Answer: The total market would be about $120 Million

Practice Case 20: Dog Food (Bain - Round 1)

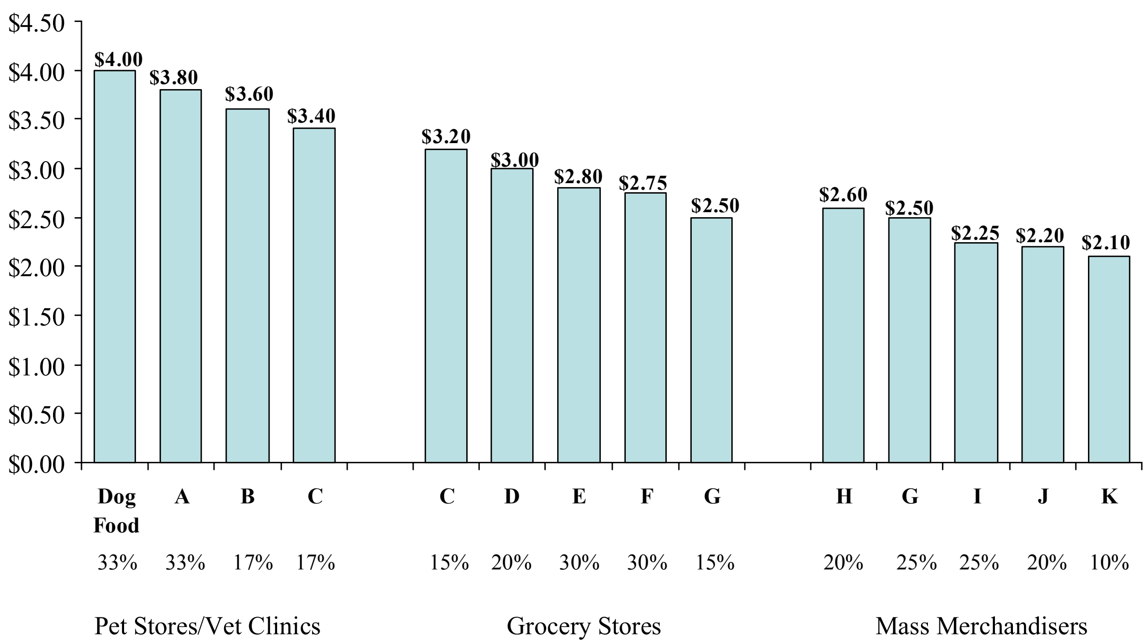
Note: many Bain interviews use slides to present information after questions are posed in the interview. Start by giving the interviewee the first slide. Present the rest of the slides when interviewee asks appropriate question.

Dog Food

- Your client is a maker of premium dog food sold exclusively in pet stores and vet clinics. They had $500M in sales in 2003.
- Revenue growth had been steady at about 10% for the past 15 years, but since 2001 has declined to 2% annual growth.
- The CEO has a target of $800M in sales in three years. What recommendations would you give in order to achieve this?

Bain Rd 1 – Dog Food

Market Share and Price by Channel



Bain Rd 1 – Dog Food

Market Share and Growth by Channel

Channel	Size	Growth	Ave. Price
Mass Merchandisers	$1.0B	9%	
Grocery Stores	$2.5B	4%	
Pet Stores/Vet Clinics	$1.5B	6%	
Total/Average	$3.5B	6%	

Bain Rd 1 – Dog Food

Dog Food Co. Cost Structure

Cost	Premium	Low Cost
Raw Materials	$1.20	$0.60
Manufacturing/Equip	0.80	0.80
Warehousing/Distribution	0.80	0.60
Sales & Marketing	0.80	0.70

Bain Rd 1 – Dog Food

Practice Case 21: AOL
(Diamond Cluster - Round 1)

I. Case scope provided by interviewer:

Its early 2003 and you are staffed at a leader ISP. It's been a dismal year with declining profits for this company and the CEO has recently announced that this will be reset year and that they are looking forward to 2004 being a rebound year with aggressive revenue growth. The CEO has been getting mixed messages from 3 camps within the organization. One camp thinks AOL should focus only on content and ditch the dial-up service offering. Another thinks they should focus on connectivity alone and a third camp thinks that the best strategy to grow revenues in 2004 is to focus on both. We've been asked by the CEO to recommend some actions. We are the first team meeting, what issues do you think we should look at to assess the situation and come up with a recommendation.

II. Additional information provided after relevant questions:

The discussion was fairly high level and did not involve any numbers (at least none that were used in calculations). The goal was to develop a high level approach and some ideas for revenue generation for the ISP.

Information given:

- Client offers connectivity through a dial-up service only, and provides content to its customers
- Client has considerable proprietary content
- New content takes 6-12 months to create.
- The competition in the dial-up space has been fierce and has been driving prices down.
- Our client currently charges on average $20/month for its service.
- They currently have have 27 million customers,
- 17 million customers have left this year alone
- Customers can be categorized by age and value drivers
- < 20 yrs - driven by price, looking for cheap connectivity
- 20-45 yrs – has wider bandwidth needs
- >45 yrs – convenience and simplicity
- Two options are currently being considered
    - o Partner with local DSL/Cable service provider to offer their service with a broadband version of the content
    - o Our client chooses the right connection (DSL/Cable) for its customers and what's located in their area.

III. Cracking the case:

In order to make sure I understand our client's revenue model, I would like to know what specific products and services provides?

Ok, our client offers connectivity through a dial-up service only, and provides content to its customers.
Do they develop all of their own content or do they partner with other content developers?

They develop content as well as partner with others to provide content.

Ok, now that I have a clearer understanding of what our client does, I'd like to look at the reasons why profits have been declining? First, I'd like to start by understanding our current revenue streams. Has there been significant price decline in the past year?

Yes, the competition in the dial-up space has been fierce and has been driving prices down. Our client currently charges on average $20/month for its service.

So, it looks that at least part of the profit decline has come from decreased revenues due to pricing pressure. Now, I'd like to look at the customer base and understand the trends there. Has our client been losing a significant number of customers?

Yes, they currently have 27 million customers, but in 2003 so far, 17 million have left.

I'd like to learn more about the segmentation and value drivers of the client's customers? Have the customers that they have lost come from a specific segment?

Well, we can separate customers broadly by age groups:
< 20 yrs - driven by price, looking for cheap connectivity
20-45 yrs – has wider bandwidth needs
>45 yrs – convenience and simplicity

I would guess that our client is losing a lot of customers from the 20-45 age group due to the competition from broadband providers. Has our client thought about developing a broadband product offering?

Yes, we think that our client should focus on the broadband opportunity to see how it can prevent losing customers from this segment.

What considerations do you think they need to make to assess this opportunity?

Well, they would need to assess the costs of offering the new service vs. the potential revenue they would be able to generate by stopping current *customer churn as well as attracting new customers. They could either develop their own broadband service or focus on content and allow customers to choose their own broadband service.*

What do you think are some of the costs that would be associated with developing a broadband product offering?

I think that the following costs would need to be considered:
Technology: building/leasing new infrastructure, partnerships
Content Development: content for broadband
Advertising: to attract new customers and retain current customers
Additional Overhead: customer service staffing and training costs

Ok, let's talk about how they would provide the broadband service. They basically have 2 options. 1) Partner with local DSL/Cable service provider to offer their service with a broadband version of the content 2) Our client chooses the right connection (DSL/Cable) for its customers and what's located in their area. Which one do you think they should choose?

They should probably choose the one that will allow them the most control over their costs. I think that would be to have our client choose the connection for their customers.

Ok, so, we're in 2004 and we some quick revenue generation ideas. Keep in mind that most content takes 6-12 months to develop internally. Do you have any ideas for other products and services that our client could generate revenues?

Entertainment and Education products such as: On-line music, providing news and traditional TV programming via the web, children's educational games such as partnering with Leap Frog learning systems for buying downloading educational games etc,

You are in a meeting with the CEO and he wants to know what we've found so far, what do you say to the CEO?

I think the best route to increasing revenues for 2004 would be to focus on the segment of your customers where the majority of churning is happening, that is the 20-45 age group whose value driver is greater bandwidth. We should look at partnering up with some broadband service and content providers to develop a product offering for this segment.

Practice Case 22: Auto consolidation (Mckinsey - Round 2)

I. Case scope provided by interviewer:

Your client is a company which has experienced growth in the past through acquisition. It is composed of the following areas:

Automotive parts – this has three different areas within the division
Construction materials
Automotive parts – this division owns four separate companies

They would like you to identify consolidation and off-shoring opportunities

II. Additional information provided after relevant questions:

- Auto parts division #1 produces metallic parts and sells to OEM's
- Construction materials division produces plumping, electrical, and other building materials. Their customers are construction companies.
- Auto parts division #3 produces rubber parts and sells to OEM's
- The company does not operate any call centers
- Auto businesses ship directly from its plants to customer plants (no warehouses)

III. Sample solution

I looked at areas of opportunity and then identified off shoring and consolidation opportunities for each area. It was very important to identify levels at which consolidation can occur.

Initial Structure:

Cost (tailor to specific industries)
SGA
- PPE
- Purchasing
- Other Operational
  - Distribution
  - Design Services
  - Best Practices in general

Revenue
- Cross-selling

Main opportunities are between auto areas. Due to different automotive products, I recommend that automotive divisions remain separate, but there is opportunity to consolidate much of these businesses.

Cost

SGA
Selling – Should consolidate sales forces across automotive divisions. I would like to see a central director over both to ensure use of best practices. We should be able to have sales people who rep all of the rubber companies instead of individual reps for each subsidiary.
G&A - Accounting, Billing, Finance, should be consolidated to reduce cost and improve quality. Billing, some accounting, and some finance can be sent to India. This has been common in many industries and should not be difficult to accomplish.

PPE
Since much of SG&A is being consolidated we can combine some/all of our headquarters
Utilization – We need to see where there is opportunity to consolidate and achieve high levels of manufacturing and design utilization (balanced with growth plans). Main areas are across metallic auto, across rubber auto, and maybe minor opportunities with metallic auto and construction.
Foot print rationalization - Balance this with customer locations/distribution and manufacturing costs. Could be big opportunities to send manufacturing to China

Purchasing
This must be centralized to maximize our buyer power across all three areas and reduce headcount

Other Operational
Distribution - Main opportunities between auto areas. These divisions share customers. Therefore, distribution network may have substantial opportunities for trucking/shipping.
Design Services – Tied in to utilization tick. Again consolidate within each of the auto areas and share best practices across both. Offshore much of computer aided design and lower level engineering work that requires slightly less communication. This should save you 50% where used and can also improve timing because you will have teams working around the clock.
Best Practices in general – Structured product development process, etc

Revenue
Cross-selling in auto – Central director will help focus the sales team to leveraging contacts across areas. You may be tempted to go to OEM's as central supplier and even offer integrated solutions, but this will not give you supplier power with them. It would likely make you a bigger target for price givebacks. Integrated solutions have been popular with the OEM's, but

suppliers are less profitable in these arrangements. Therefore, I would keep separate rubber and metallic salespeople and products, but leverage network and best practices. This set-up will be more like an in house manufacturer's representative

Practice Case 23: Music Retailer (Bain - Round 2)

Note: Allow interviewee to approximate, but keep him under pressure.

Case scope provided by interviewer:

Our client is a large national retailer whose music segment of their business has seen declining profits over the last couple of years. You have been hired in to help deal with this problem.

II. Additional information provided after relevant questions:

- Profits used to be $80M now running minimal profit.
- Suppliers supply directly to us. No logistics costs.
- 4 big players in the market. Similar size to us, do not know if they are making money. 2 are similar large retailers and 2 are specialized music suppliers.
- Market has been shrinking over the last couple of years.
- We hold both new releases and catalog CDs.

Income Statement:

• Revenues from New CDs	$704M
• Revenues from Catalogs	$444M
• Total COGS –	$900M
• Store rental overhead	$150M
• Labor expense	$90M
• Profit:	8M

The price of a New CD is 12$ and the price of a catalog CD is 15$
The cost to us of either type of CD is 10$.

III. Sample Solution:

Me: Having established that the market is shrinking and we have already seen consolidation to a few big players, it is going to be hard to capture any additional market share through acquisitions or marketing ploys.

I assume that the cost we pay for a CD is similar to other players, and that we hold minimal inventory?

Interviewer: Correct

Me: I would like to look at the profitability of each part of this business. Do we have any data on how the overhead costs are allocated?

Interviewer: What do you think?

Me: I expect that the costs will be allocated by square foot space occupied. Can you tell me how much space we have dedicated to New and Catalog CDs?

Interviewer: 90% of our space is catalogs and 10% is used for new CDs.

Me: interesting, in which case we can actually allocated those costs better and carry out an ABC analysis on each part of the business. I will assume that the labor costs are similar to each and can be divided by the number of CDs we sell.

Interviewer: Sounds a good assumption.

Me: We have $704M revenues of new releases. At a price of $15 , this means we sell around 60M new CDs and around (404/12) 30M catalog CDs. Hence:

	NEW CDs	*CATALOG CDs*
Revenues	*$704M*	*$444M*
COGS	*$600M*	*$300M*
Space overhead	*$15M*	*$135M*
Labour	*$60M*	*$30M*
Profit :	*$30M*	*(-20M)*

So the New CD business is profitable for us, but the Catalog business is unprofitable.

Interviewer: what are your recommendations?

Me: The reason we are not making large profits in this segment of your business is that the Catalog CD part of the business is loosing money. The New CD business is still profitable and over the coming weeks my team is going to look at: whether we can optimize the space used for catalog CDs, whether we would lose any cross selling opportunities if we reduced/removed the catalog CDs and what product we can best place in the space previously occupied by catalog CDs.

Practice Case 24: Air Freight (Bain - Round 1)

I. Case scope provided by interviewer:

Provide interviewee with slide 1

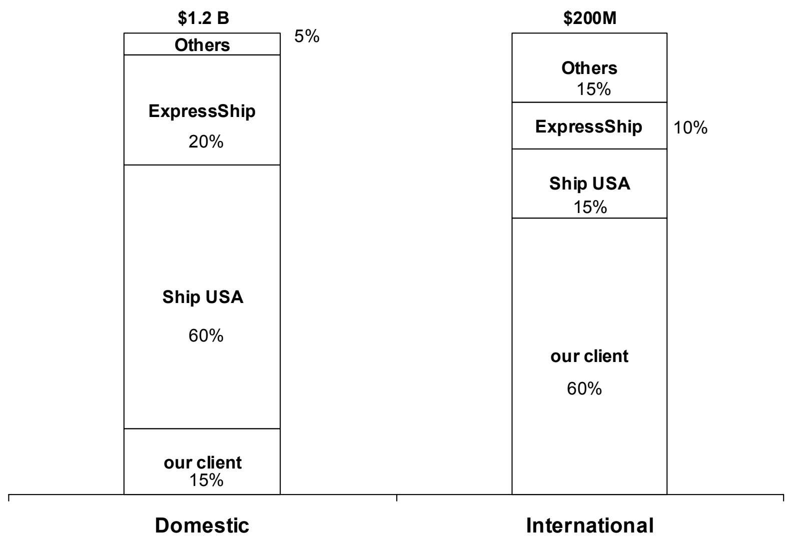
- Your client is a major air freight shipper. They operate in the US and 60 other countries
- They have significant international share, but a much smaller share in the domestic market
- Recently some larger domestic competitors have entered the international market.
- Our client has had only marginal profits and with the new entrants to the international market are concerned that they will not break even this year. What should they do?

Bain Rd. 2 – Air Freight Co.

II. Additional information provided after relevant questions:

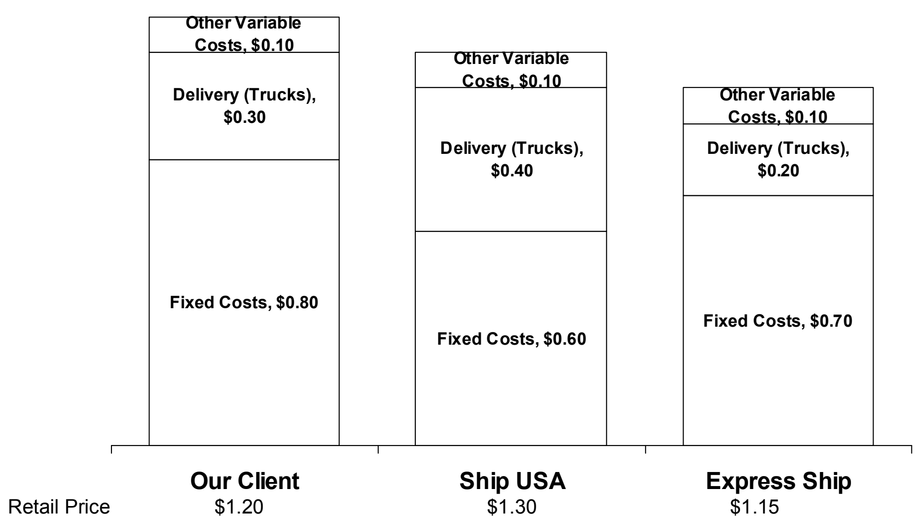
After the interviewee develops a framework and asks appropriate questions provide them with the following slides.

Market Share: Express Air Freight



Bain Rd. 2 – Air Freight Co.

Cost Structure



Bain Rd. 2 – Air Freight Co.

Other information provided:

- Our client reduced prices to compete with lower prices than Ship USA. However this did not move share significantly
- Retail prices provided in the cost structure slide are typical of US rates
- Express Ship has lower delivery costs because it has significant share in the US ground business, which our client does not compete in.
- International growth is expected over the next 10 years
- The client has optimized variable costs. There are no major cost savings (direct the interviewee away from this area after they mention it)

III. Sample Solution:
It is important to recognize that our client will not be profitable in the express air business because it does not have domestic scale, which is still key for the shipping business. Even with growth in the international business they will have significant difficulty competing, especially as new entrants come in.

Recommendation: Attempt a merger or partnership with Express Ship. Our client could provide international service and Express Ship could provide domestic services. The interviewee should address the risks associated with this plan.

Practice Case 25: Medical glove manufacturer (Bain - Round 2)

I. Case scope provided by interviewer:

Your client is a medical glove manufacturer that sells directly to hospitals in two segments. The first segment is "exam gloves", which are single gloves that come in Kleenex boxes. They are disposable and made of latex. The second segment is surgeon gloves, which are used in operating rooms. They come in pairs and they must be of high quality and sterile. The client has come to you because its profit and revenue growth has been slower than that of the competition. They want to know how they can fix this and, in general, how they can improve shareholder value.

You also have the following initial information:

Segment	Q	P	Clients' MS%	Gross margin
Exam gloves	1 billion units (singles)	5 cents	30%	30%
Surgical gloves	200 million units (pairs)	50 cents	50%	50%

II. Additional information provided after relevant questions:

Client's growth: 2% growth rate.

Exam glove segment:
- 15-20 competitors
- Client is market leader with 30% market share
- Company A has 20% MS
- Company B has 10% MS
- 15 smaller players, most of them new entrants, control the rest of the market.
- Price has been falling somewhat, margins are being squeezed
- 7-8% growth

IMPORTANT: growth comes from new customer segments (police department, fire department, etc. who have a need for such gloves given increased fears of HIV and other diseases, new safety standards).

Surgical glove segment:
- 3 players
- Client is market leader with 50% MS
- Company B has 30% MS (same company B as above)
- Company C has 20% MS (they do not sell exam gloves)
- 2% growth
- stable prices
- Both company B and C are growing faster than us

IMPORTANT (do not give this piece of information away unless specifically asked): not all surgeons have the same needs when it comes to gloves. For example, some need thicker gloves (e.g. bone surgeons) than what is currently available, so they use 3-4 pairs of gloves, one in the other.

Cost structure:
Variable costs

- Raw materials is 60% of variable cost. This is mostly the cost of latex, which is a commodity. The client has maximized any purchasing economies of scale due to its size.
- Labor is 20% of variable cost.
- Overhead is 20%.
- Fixed costs
- We have a plant in Malaysia, where we produce the gloves, similarly to competitors.

Manufacturing issues:

- Surgical gloves are more difficult to produce because they need two molds instead of one, the fingertips need to be bent, sterilization is a bigger issue and thickness is higher.

Sales issues:

- We sell to all major hospitals in the US and we have reasonably far-reaching operations abroad.
- We have good relationships with the hospitals we sell to.
- Hospitals have need for many different accessories, not just gloves: gowns, tablecloths, masks, needles, scissors, etc.

III. Sample Solution:

- State how (by what measure) you will maximize shareholder value and list the factors impacting that measure that you will have to look at.
- IMPORTANT (many people miss this): Prioritize which segment to look at first by calculating the current profit made in the exam glove segment ($4.5 M) and the surgical glove segment ($25 M).
- Identify the key issues that need to be addressed in each segment (with a greater focus on the surgical segment:
- Surgical segment: we are not leveraging our dominant position and good relationships in this market. Growth is lagging behind our competitors.
- Exam glove segment: our margins are being squeezed and we are not serving the new growth segment that is outside hospitals.
- Provide recommendations:
- Surgical segment:
- Innovate with existing products. E.g. do a survey of surgeons and assess their needs. Introduce product modifications, e.g. a thicker gloves for bone surgeons.

- Cross-sell new products (e.g. masks, tablecloths, gowns) with high profit potential by forming alliance with or acquiring manufacturers of these items. Talk about trade-offs of such a diversification strategy (management time, organizational issues, cost-accounting with SKU proliferation).
- Exam gloves:
- Sell to the new growth segment of police and fire departments through established distribution channels.
- Consider out-sourcing manufacturing of exam gloves to increase management attention on profit-making business and perhaps even cut manufacturing costs.

Practice Case 26: ABC Company (AT Kearney - Round 2)

I. Case scope provided by interviewer:

Your client ABC company has one main customer, XYZ. Revenues from XYZ have been declining. How should they grow revenues from XYZ

II. Additional information provided after relevant questions:

This is a "generic" case and the aim is to discuss issues that are relevant to almost any industry/company
XYZ represents 30% of ABC's revenues
ABC has over 100 customers in total

III. Sample Solution:

This is a very broad case, so the candidate should outline potential issues and how they could be addressed. Using business logic and explaining rationale is key. One approach to cracking the case is the following…
Understand why XYZ revenues are declining

- changing needs
- dissatisfied w/ ABC
- quality
- price
- service/relationship
- changing product mix
- Changes in macro-environment/XYZ's ability to compete

Based on insights gained above develop solutions

- If needs/technology is changing, does it make sense for ABC to begin producing new product/service? start using a new technology?
- If dissatisfied
- Improve quality → develop plan & clearly communicate to XYZ to explain plan to meet quality standards
- Evaluate pricing (volume, pricing matrix, etc)
- New relationship team, faster deliveries, etc.
- Why is mix changing? have XYZ's outputs changed?
- What is going on in macro-environment?
- Recession? Does that explain decline?
- Is XYZ less competitive? are we part of the problem?

- Are XYZ's customers changing?
  -ABC may not be able to control these factors

Long-term/Big Picture

- Are other customers at risk?
- Is company too dependent on XYZ? Should they diversify revenue base?

Practice Case 27: Dinosaur
(AT Kearney - Round 2)

I. Case scope provided by interviewer:

This case was given in several parts. When giving this case discuss the first question and move on to each subsequent question.

Your client is an entrepreneur. A live dinosaur has just been found in Africa and will be auctioned off. There is only one. Your client would like to buy the dinosaur and use it as the centerpiece in a new animal themed park he would like to open.

What is the maximum price that our client should bid for the dinosaur?

How should the park be designed to maximize profits?

Our client will need to go to the financial markets to raise capital to build the park. How would you determine an appropriate discount rate?

II. Additional information provided after relevant questions:

Push the interviewee to make reasonable assumptions for all data that is needed. The only additional information provided was that the park will be in a major metropolitian area in a developed, Western country.

III. Sample Solution:

To determine the maximum price it is necessary to figure the amount of profit that can be made by opening a dinosaur theme park.

Revenue = number of visitors x ticket price
ancillary sales (food, souvenirs, marketing promotions, etc.)

Costs = Fixed costs (building/set up of facility, dinosaur purchase)
Variable costs

Assuming that there will be a virtually unlimited number of people who want to see the world's only dinosaur, the number of visitors is determined by capacity. Therefore, designing the park to maximum capacity is key. To determine the capacity you must figure out the best layout for the exhibit.

(There is no right answer, but it is important to evaluate alternatives and propose the "best" solution) The interviewee should draw out several potential alternatives and calculate capacity using Little's Law

$$R = I \times T$$

Determining an appropriate discount rate may not be possible, but the interviewee should propose a methodology for determining the rate using benchmarks. The key is to find benchmarks for companies/industries where the key asset has an indeterminate life.

Practice Case 28: Antique store (AT Kearney - Round 1)

I. Case scope provided by interviewer:

Our client had an antique store in downtown Chicago that could not meet the sales targets. Therefore in order to attract customers, the owners of the store (a couple) have started to make home made sandwiches. After a while the sandwiches have become famous around the area, so they have increased their profits and they kept going. Currently, they want to expand by opening new stores, but they do not know whether it is a good strategy. They want you to develop their strategy to grow regarding the cost and the business drivers.

Interviewer Hot Tip: A*lthough it was a first round case, it was given by a partner. He barely gave data, therefore I made assumptions most of the time to proceed. He continuously asked for creative and reasonable ideas.*
Since the partner did not speak at all, I put down my structure and followed it. Therefore it was not a dialogue. During the case, it was hard to understand whether he liked my structure and ideas, but he gave very good feedback at the end. The key in such cases is to keep confidence, stick to your structure and proceed with reasonable assumptions. And a creative recommendation would be a great final.

II. Additional information provided after relevant questions:

- The store mostly serves sandwiches during the lunch time. 75% of the revenue is generated by lunch with the rest after 1pm.
- The store is fully utilized during lunch and under utilized at other times.
- Sandwiches are 50% of the revenues, desserts 10%, chips 10% and drinks 30%.
- Variable costs: raw materials, labor and processing. Fixed costs: rent, SG&A, insurance and depreciation.

IV. Sample Solution:

I put some effort to understand the competition and the customers' value drivers that would give me a direction to focus about the direction and the mode of the growth that I could recommend for my client. Here are some of my findings and assumptions:

- Competitors are the restaurants around serving mostly from 11:30am– 1:30pm.

- Rents are high in downtown Chicago and the new stores need to breaking even soon to enable further growth opportunities.
- Most customers are working people who want a quick lunch and some non-working people and the students.
- Currently there is no delivery service, this can be another option to generate additional revenue.
- They need to keep the reputation of serving home made delicious sandwiches in an antique decorated atmosphere.

After that, I focused on the direction and the mode of the growth applicable for my client. Starting with the option of opening new stores, I have listed the alternatives and evaluated each one briefly.

Mode of growth:

- With internal resources
- Alliances
- M&A

Direction of growth:

- Internal business
- Vertical integrations
- Diversification (related and unrelated businesses)
- New geographic areas

There is no right answer and a conclusion to be reached in this case. You need to be comprehensive enough while finding out the best growth strategy for the client regarding the prioritization because it is not possible to cover everything in detail in 25 minutes. I found out that our client can open new stores in limited numbers in Chicago because of the difficulty of finding available stores in downtown and the high rents. However our client might try to expand by not keeping the original format (not antique decorated big store) in Chicago. Also they can make the sandwiches for the groceries and other fast food stores. Delivery might increase their customer base and also they might keep the store utilized after rush hours. By keeping the format, they can open new stores in strategic locations of other big cities. One but profitable store in each big city might be good enough for our client (I could not make a break-even because did not have any data). Products might be expanded according to the location and the customer base. Why only sandwiches?

Practice Case 29: Hedge Fund (BCG - Round 1)

I. Case scope provided by interviewer:

Your client is $2B hedge fund. Previously they selected investments based on a complex mathematical model. However, about 2 years ago they started seeing lower returns. To address this problem they added a research team to help evaluate investments.

If the model recommends an investment money is invested. If the model and the analysts agree on an investment a larger percentage is invested than if only the model recommends the investment.

The research team consists of 4 Senior Analysts and 3 Junior Analysts. The CEO is extremely pleased with the new research team and the uplift in returns they have seen as a result of the new investment methodology. However, he does not feel that the team is properly structured and has asked you to advise him on structuring the team. What issues would you consider and how would you structure the team.

II. Additional information provided after relevant questions:

- The overall goal of the hedge fund is to maximize returns and they tolerate a high amount of risk
- Individual investors invest between $20M-$100M
- All seven researchers currently report to the head of trading
- When the trading department has a question on an investment the head of trading will contact one of the Senior Analysts and ask him to evaluate an investment. The Senior Analyst will then prioritize the request and divide it between him/herself and the Junior Analysts
- Investment research (even an individual request) can usually be broken into several discrete pieces
- The CEO does not want to fire anyone

After a brief discussion of compensation/rewards and reporting lines, the interviewer directed me to the issue of leverage. Upon asking if the work could be broken up between Junior and Senior analysts he provided the following data:

- Both Junior and Senior analysts feel that they are doing work that is beneath them
- If investment research work was pushed down to the lowest competent level the work could be divided as follows

	Sr. Analysts	Jr. Analysts	Research Assistants
Data Gathering	25%	25%	50%
Analysis	20%	80%	0%
Synthesis	80%	20%	0%

If there is 100 hours of research work to do it would be broken up as follows

Data Gathering	20%
Analysis	60%
Synthesis	20%

Hot tip:
Considerations
How to compensate
Reporting lines
Appropriate leverage

III. Sample Solutions: Please synthesize how you cracked the case.

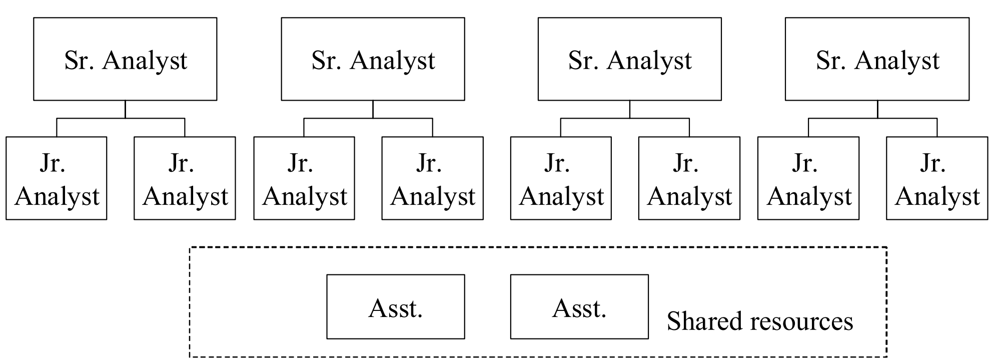
Using data provided on work allocation I calculated how many of each level of worker would provide appropriate leverage to the senior analysts.

If a research project takes 100 hours it would be broken down between (in hrs):

	total time	Sr. Analyst	Jr. Analyst	Assistant
Data Gathering	20	5	5	10
Analysis	60	12	48	0
Synthesis	20	16	4	0
TOTAL HOURS	100	33	57	10

Therefore, one senior analyst should have roughly two junior analysts and one assistant can be shared between 3 Senior analysts.

Thus, based on the current four Senior Analysts our client currently has they should create the following organizational structure



The following additional implications/points provide additional insight:
There will be additional capacity for the assistants; however, because they are the cheapest resources you do not want them to be the bottleneck
There should be little resistance by any involved parties. While the Jr. Analysts will no longer report directly to the Trading Head, they will no longer be doing work that is “beneath them” and will have a manager trained in their field.

Practice Case 30: Paper manufacturer (BCG - Round 2)

I. Case scope provided by interviewer:

Our client is a paper manufacturing company. Their product is grease-proof paper which they sell in rolls to "bag converters." Bag converters are companies which combine 2-ply paper, popcorn, oil, and a "receptor" to make microwaveable popcorn. (When microwaved, the receptor gets hot and pops the corn.) Converters supply retailers.

Our company uses wood pulp and chemicals to make paper. A recent innovation at the R&D department has increased the grease resistance of our paper by 10 times. The client needs help in deciding on whether to switch its production facilities to manufacture this new type of paper. (This is an either/or decision).

II. Additional information provided after relevant questions:

- The company is operating at capacity
- The market is pretty small—4 primary competitors dominate it
- Customers don't care much about how grease-proof the paper is
- The costs to a converter are (currently):
- 30 cents-2-ply paper bag
- 10 cents-receptor
- 5 cents-popcorn and oil
- 5 cents—assembly
- Our current cost of producing the paper are (per 2-ply paper bag) 25 cents
- This cost is 50% fixed and 50% variable

III. Sample Solution:
My approach was to evaluate the additional value to customer and compare it with the cost of switching to the new process.

First, I wanted to understand the benefit of this innovation. As end consumers don't care about the grease, we have to look to converters. I suggested that they might be able to switch to 1-ply bags now, an important change because bags represent 60% of their costs.

The interviewer confirmed this.

Proceeding from this assumption, I stated that as long as we could charge less than the current 30 cents per bag, the converters would be willing to purchase our product (there is no additional cost to them to use 1-ply instead of 2-ply).

The interviewer told me to ignore our switching costs and to look at maintaining profitability.

I then evaluated change in our costs:
I assumed that fixed cost per bag will remain the same (50%*25 cents=12.5 cents)
I assumed that variable cost per bag would be cut in half (50%*50%*25 cents=6.25 cents)

The interviewer confirmed these assumptions.

The total cost per bag to us becomes 18.75 cents.
In order to maintain the current profit margin (30 cents-25 cents=5 cents) we need to charge 18.75+5=23.75 cents
This is a good deal to the converter, who currently pays 30 cents

(You can look on this on per-sheet basis, instead of per-bag basis. In that case, you need to make twice as much profit per sheet because you are selling only half the volume. You should then charge 18.75+2*5=28.75. This is still better than 30 cents.)

Strategic Implications:

This is a profitable proposal for both us and our customers

As we are currently at capacity, this innovation would in effect double our capacity

We could capture some new business and increase our market share by selling this cheaper, better paper, and now we have the capacity to meet this increased demand

We should implement as soon as possible and lock in converters in long-term contracts before our competitors can replicate this innovation

There will be switching costs, such as downtime, training, etc.

Practice Case 31: Energy producer (BCG - Round 1)

I. Case scope provided by interviewer:

Our client is in the energy business and makes electricity. The CEO is deciding on making a capital investment to expand capacity. How should we advise him?

II. Additional information provided after relevant questions:

- $100M investment to produce 2,000 units/week (units are Megawatts of electricity).
- Client uses natural gas fired generators.
- Variable costs are gas and labor, gas costs $40/unit and labor is $10/unit.
- Market price is $100/unit.

III. Sample Solution

What are the fixed costs involved in the investment?

$100M investment to produce 2,000 units/week (units are Megawatts of electricity).

Before assessing the fixed costs, I want to know what are the major inputs (i.e. raw materials) used in generating electricity.

Our client uses natural gas fired generators.

Ok, so, I think that the major variable costs involved would be the following:
Natural Gas
Labor
Distribution – infrastructure to connect utility grid
What are the actual costs for each of these buckets of costs?

Let's say that the variable costs are gas and labor, gas costs $40/unit and labor is $10/unit.

Ok, so now that we have looked at both the fixed and variable costs involved, I would like to assess the potential revenue that may be generated from this investment.
Given that electricity is a commodity product, I would like to know the current market price of electricity in our client's market.

$100/unit. Given the data you have now, will this investment be profitable in the long-run and how long would it take to pay-back?

Calculate contribution margin and assuming they are able to sell the full capacity of 2,000 units/week.

Revenue = 2,000 units/week * $100/unit = $200,000/week
Variable Cost = $50/unit * 2000 units/week = $100,000/week
So, they would make a profit of $100,000/week or $5,200,000/yr

So, the payback period for this investment is $100M/$5.2M ~ 20 yrs

How would you evaluate whether this was an appropriate investment?

Based on the payback period of 20 years, I would compare the payback period to the useful life of the new plant.

The useful life is approximately 30 years. What else could you do?
Look at the payback period of similar investments our company has made to determine if this was in-line with this payback period of those investments. I could also use industry benchmarks.

Good. The payback period for similar investments is between 15-20 years. What else should you consider in assessing this investment.

Since this analysis assumed 100% capacity utilization, I would want to do further sensitivity analysis to test that assumption. For example, what would be the impact on our model if revenue if there was not enough demand to justify the new capacity?

That's a good point, how would you go about estimating new demand for electricity.

So, the things that drive new electricity demand would be new home starts, business growth – i.e. industrial complexes, growth in consumer devices that use electricity, such as white goods.

What other trends or areas would you look at?

I would look at consumption trends such as the move towards low energy appliances and how that might impact the projections.
I would also look at the moves that competitors are making, i.e. the impact that new capacity from competitors might have on my ability to set prices.

Synthesis and Recommendation: Given that the payback period is within same range as similar investments, I would recommend that the CEO go ahead with the investment after considering some of the risks mentioned (the sensitivity of demand and potential competitor moves).

Practice Case 32: Consumer package goods (BCG - Round 1)

I. Case scope provided by interviewer:

Our client is one of the world's leading consumer packaged goods producers. They are going to launch a new product and need to decide which of two alternative methods to use to go to market. One is the "direct store" system, the other is "warehouse delivery". Which one should they chose?

Interviewer Hot Tip: *Profitability is the main driver. Therefore you need to compare the cost structures of both thorough the value chain and potential revenues. But never forget to consider other issues.*

II. Additional information provided after relevant questions:

Currently both systems are used by 50%.
Per product costs through the value chain for both options:

Direct Store Delivery:

plant	To distribution center	In dist. Center	To store	In store	SG&A	TOTAL
$1.75	$0.40	$0.35	$1	$1	$0.50	$5

Warehouse Delivery:

plant	Retailer dist. center	Retailer ships	Store clerk merchandiser	TOTAL
$1.75	$0.30	$0.70	$0.25	$3

III. Sample Solution:

My recommendation to our client will be based on the most profitable delivery system. Therefore I will first compare both systems in terms of costs and revenue potential.
Good.

(Then I got the above data). So direct store delivery seems more costly. What are the prices we charge for both?
Price per product charged in direct store delivery is $7 and $6 for warehouse delivery.

So contribution margin for direct store delivery is $2 and it is $3 for warehouse delivery.
So will you recommend warehouse delivery?

Not so quick. I presume that direct store delivery might have some advantages over warehouse delivery that affects sales positively. So at the end, direct store delivery may be more profitable.
Like what?

We probably attach more importance to keep our products in healthy conditions in our own distribution centers. We can take additional precautions to prevent waste. However the retailers might not be that sensitive because most of the cases they return the waste products to the manufacturers.
Second, we can also ship with less damage, because our current trucks that we use in direct delivery are designed for our own products. However the retailer is carrying lots of stuff.
In direct delivery, our own employees will put our products to the shelves. They take care of shelf design more than the retailer.
All those factors might contribute to the sales increase.
Good. Thank you.

The important point in this case was not to limit the analysis with the profitability per product. There are also qualitative issues (which can be quantified if the interviewer has data) to consider in order to come up with a recommendation.

Practice Case 33: Hybrid corn producer (BCG - Round 2)

I. Case scope provided by interviewer:

Corn farmers usually save a portion of the harvest to use as seed for planting it next year. However, in countries with high GDP, farmers typically purchase and plant hybrid corn, which is bred for specific characteristics, such as insect resistance. Another important characteristic is yield—how many bushels per acre can be grown from the seed.

Our client has developed a new hybrid with higher yield and would like to know how to price it.

II. Additional information provided after relevant questions:

- This hybrid increases the yield from 80 bushels per acre (industry average) to 90 bushels per acre.
- Farmers sell corn at $10 per bushel.
- 2 bags of seed corn are needed per acre, regardless of whether regular or hybrid seed corn is used.
- Cost to farmer per bag is $80.
- No additional costs (fertilizer, equipment, time, etc.) are incurred by farmers when switching from regular seed corn to hybrid corn.
- There is no cost to client to switch to producing this new hybrid. The development costs have been taken care of in the R&D budget. (You can make up these numbers when giving the case to make it more interesting).

Complication:

The interviewer complicated matters by telling me that a weather event occurred 30 times in the last 150 years, which caused the crop to be completely wiped out. Determine how this would impact pricing

III. Sample Solution:

I suggested determining the pricing strategy by looking at value to customer and comparing that to our cost. I asked questions related to this approach (understanding the customer's business model)

Value to customer is:

Extra 10 bushels/acre*$10/bushel=$100/acre

- This is pure profit, because the customer still only has to buy two bags of seed corn. The additional value to customer per bag is therefore $50 (because 2 bags are needed per acre).

- Based on these data and the current cost per bag, we can charge up to $80+$50=$130/bag.

When I asked whether the value of this hybrid is apparent to the customer, I was told that research has been published in a magazine that farmers trust, so this shouldn't be hard to sell.

The cost to the client is the same, so we can charge up to $120 per bag (we would want to leave some money on the table to induce purchase and gain additional market share).

We should launch this as soon as possible to lock in contracts with farmers before our competitors get to market with their version of this product.

Complication:

All of the above seemed pretty obvious. The interviewer complicated matters by telling me that a weather event occurred 30 times in the last 150 years, which caused the crop to be completely wiped out. I was asked whether and how this would impact pricing.

As a result, the value to the farmer is reduced (the payoff is uncertain: 30/150=20%). The value becomes 80%*$50=$40, so we can charge up to $120 per bag.

Practice case 34: Bank merger (BCG - Round 1)

I. Case scope provided by interviewer:

Bank A and Bank B are negotiating to merge their check processing facilities. Check processing consists of all the steps required to process a check received in any bank branch, from collecting all the checks in all the bank branches and sorting them through making the necessary balance adjustments to the accounts involved and filing them away.
You were hired to analyze this merger.

How would you do it?

First tell me the major data / information you would need to make a thorough analysis and then whether or not you would recommend it.

II. Additional information provided after relevant questions:

- Investment to make the merger = $200 M (shared in half by both banks)
- Bank A current check processing unit cost = $ 0.4
- Numbers of check processed by bank A in a year = 200 M
- Bank B current check processing unit cost = $ 0.5
- Numbers of check processed by bank B in a year = 200 M
- Cost of capital = 10%
- Bank A and B estimated the check processing cost per unit if the merger occurs = $ 0.36

III. Cracking the case:

First, I mentioned all relevant points necessary to analyze the case (financial->investment needed, cost of capital, expected benefits due to merger; operational-> how the checks are collected from the branches, how they are processed, synergies in terms of process and best practices, etc, so we could see whether there is any room for improvement. Then I said that we should do an NPV analysis to verify the viability or not of the merger.

If you work the numbers you will get the NPV for bank A -20M and for B +80M. So the merger would be good for bank B but not for bank A. However, since the overall combined unit cost is reduced by the merger, it creates value and should be made if the NPV for A were also positive. To do this we should reduce the investment for bank A and increase the investment for bank B. The best case scenario would be splitting the added value by merging the banks. That is, making both banks realize the same NPV through the merger. For this to happen, bank A should invest 50M and bank B 150M. This way both banks would end up having NPV of 30M and the merger will likely go through.

Practice Case 35: Window manufacturer (Deloitte - Round 1)

I. Case scope provided by interviewer:

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

II. Additional information provided after relevant questions:

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 lines based on superior functionality
Products are distributed by specialty retailers, hardware stores, and supercenters (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

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

Key insights:
Many of the windows are designed with features that are usefull in cold regions not hot ones
This firms economy windows are still more expensive than the competitions.

III. Sample Answers:

I began by trying to better understand the industry and the company. I was provided with information at this point about the three segments, but not share numbers. I then further explored into the product lines and was given share information.

Next, I explored ways that the company could grow revenues including:
International Expansion
Focusing on distribution and sales in the South
Increasing share in the economy segment

The interviewer then asked me why we might have lower share in the South and economy. It was then revealed that many of the features our client focuses on are designed for cold weather, not sun/heat. Additionally, our economy line windows are still more expensive than competitors that offer very few features.

In order for the client to grow revenues they should consider:
Acquire a small player with strength in the South and economy segments: since there are so many small players and our client has been profitable this should be possible.
Reduce features and reposition economy line: this should allow the company to reduce costs (with fewer features) and be able to compete better against economy competitors
Expand internationally: I suggested starting in Canada, since our windows are superior for cold environments.

Practice Case 36: Pharmaceutical company (Booz Allen Hamilton - Round 1)

I. Case scope provided by interviewer:

The client is a pharmaceutical company with manufacturing plants in the US, Mexico and other locations. The client recently undertook a benchmarking exercise. They observed that one particular plant had very high per unit costs.

This plant produced only one type of drug in three different types of packaging. This drug requires a unique manufacturing process. It is an OTC drug.

The management is trying to figure out what is driving such high unit costs and then what could be done about it.

II. Additional information provided after relevant questions:

General Information

- Plant located in New Jersey.
- Wage rates in New Jersey are higher by about 40%
- Utilization in New Jersey plant is about 33% of capacity

Cost data for anomalous plant

Variable

- Total cost is at least double of the other plants
- Variable costs are estimated to be at least 40-50% higher.
- Cost of direct labor was 40% higher than other plants
- Worker productivity was comparable
- Other costs (Direct material, administrative, transportation costs, etc.) are comparable

Fixed

- The plant utilization was 33% against an average of 70%. Cost allocation used total fixed costs proportioned to the produced lot.

III. Sample answer:

The basic framework that I laid out initially was–

1. Cost structure of the anomaly plant and the other plants
2. Process specific questions
3. Capacity utilization

After figuring out that cost overruns were caused by labor and capacity issues the interviewer pushed me for potential cost cutting solutions.

Possible solutions:
Manufacture other drugs on the same line
Not possible since the equipment is set up uniquely for this drug and other drugs produced by company cannot be manufactured at this plant

Sell plant, outsource production to competitor
Interviewer said that the management was not in favor of this since they did not want to lose control of manufacturing

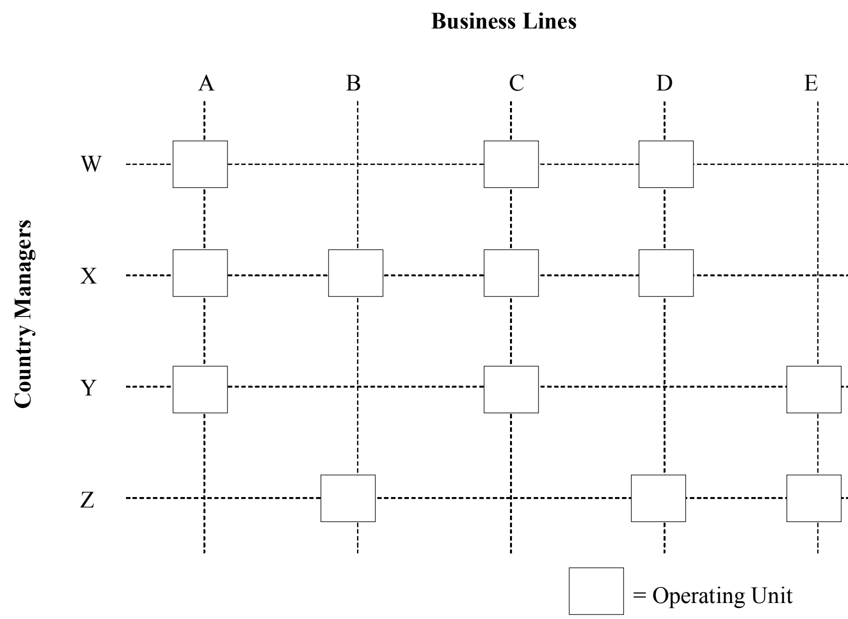
Enter a joint venture with someone where they sell the plant but tie up close to 40% of the capacity captive to their requirements in the contract. So unit costs are lowered.
This, the interviewer told me, was what the company actually did.

Practice Case 37: Diversified company (Booz Allen Hamilton - Round 2)

I. Case scope provided by interviewer:

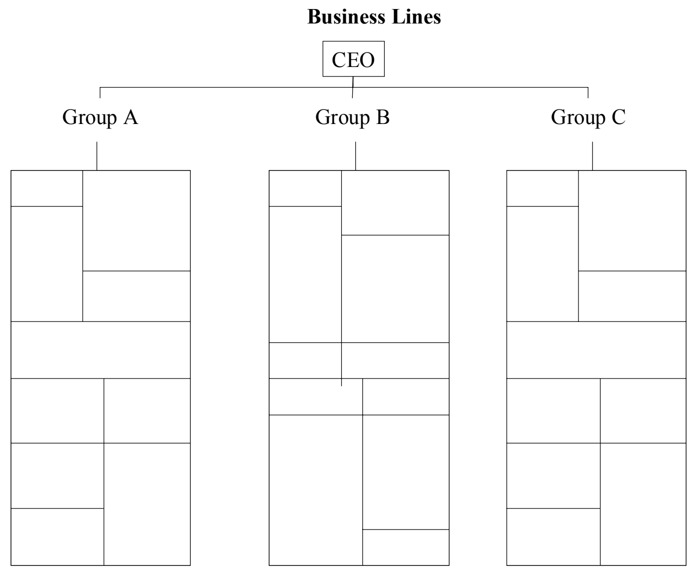
Your client is a large, global diversified company. Some of their businesses include consumer products, steel refining, and financial services. Currently they are organized in a matrix fashion, with operating units reporting to both business line heads and country managers. However, the operating units have developed considerable autonomy and often play the country managers off the business line heads. As a result, the company is operating as 200 independent companies.

Current Organizational Structure



The CEO wants to reorganize the company into "Natural Business Units" or functional silos. However, he wants to know how
He can ensure that synergies across business units are still leveraged (because there are some)
He can convince his managers to work together to extract synergies

Proposed Organizational Structure



II. Additional information provided after relevant questions:

No additional information was given.

III. Sample Solution:

Steps:

1. Identify what synergies there are
2. Define metrics to evaluate how business heads work to extract synergies with other business units
3. Put incentives in place to reward synergies

Identifying synergies:
There may be multiple ways to do this, but this is one…

← Spectrum of Work →

Common Functions (i.e. purchasing, technology, etc)	Potential Synergies (i.e. Marketing)	Unique Work (i.e. manufacturing, Etc)

Within this spectrum of work, synergies can be found in 2 areas (not Unique work). The common functionalities should be easiest to group together to obtain economies of scale and scope.

Finding synergies in the potential area will be more difficult. One method to identify them is to evaluate customers of each business unit. If customers are similar (i.e., both the Steel Unit and the Financial Services group make loans to medium size businesses) then there are some likely synergies.

In order to create buy-in and sell this to the executives the CEO must show the benefits of cooperation to his executives
Potential savings from common functions
Potential increased revenue/profits from bundling (for example) products with other business units

Define Metrics:

These may need to be subjective or 360-degree reviews from other business units

Incentives:

Performance against "synergy metrics" must be included in executives' compensation in order to give the new structure and synergy promotion teeth.

Practice Case 38: Biotech technology (Booz Allen Hamilton - Round 1)

I. Case scope provided by interviewer:

Your client is the CEO of a biotechnology company, which has recently found a way to double the carbohydrates and proteins in corn using bioengineering methods. The client believes the product has commercial value. They have hired you to determine if the product has value and to whom. Additionally, it is your job to determine how much value it has.

II. Additional information provided after relevant questions:

The client is looking to enter the U.S. market (which is also its production location).
R&D costs are sunk.
No money has been spent yet on commercializing the product (i.e., manufacturing, selling, etc.).
The additional carbohydrates and protein are the only differences between the new and old corn.
Customer segments: 10% human consumption, 10% industrial production, and 80% animal feed.
Major value drivers by customer segment:
Humans: taste and nutritional content.
Industrial production (extracting starch to produce ethanol products): carbohydrate content
Animal feed: nutritional content
The following information on nutritional requirements was given:

Animal Feed Information	Carbs	Protein	Price
"Old" corn	50g /bussel	25g /bussel	$2.50
"New" corn	100g /bussel	50g /bussel	?
Soy	0g /bussel	50g /bussel	$3.50
Daily Requirement	1000g /day	1000g /day	

III. Sample Solution:
Interviewee: Before structuring my approach, I would like to ask a few questions to understand my client better. Where are we considering producing this product and what is our geographic market?

Interviewer: Good questions. We are only targeting the U.S. market, which is where we are considering production as well. Consumer preference for corn varies by geographic location so this is an important point.

Interviewee: Is the only difference between our product and traditional corn the additional carbohydrates and proteins?

Interviewer: Yes.

Interviewee: Okay, this is how I would like to approach this problem. I would like to segment the market and look at value drivers for each customer segment. Once we determine consumer preferences, we can look at the key drivers of our product to determine which segments they add value to. We can then look at market size, growth, and competitive landscape for the targeted segments to understand our revenue potential. Finally, we need to understand the bottom-line profitability by looking at pricing strategies.

Interviewer: Sounds reasonable.

Interviewee: I would think that the primary consumers of corn are people and animals. Does this seem accurate and are there other major consumers?

Interviewer: There are three categories of consumers: humans (10%), industrial proteins (10%), and animals (80%).

Interviewee: (While my interviewer was talking, I drew a table with the consumer segments by column and possible value drivers by row.) Okay, for each consumer segment, I'd like to evaluate consumer behavior and value drivers for each. Humans probably purchase corn based on taste and nutritional value. Industrial production is based on starch content, so carbohydrates would be the main driver. For animals, I would think that nutritional content is very important to keep the animals healthy.

Interviewer: That's correct. However, human consumption of corn depends on vitamin & mineral content versus carbohydrate & protein content. Animal feed, contrarily, requires a certain number of carbohydrates & protein.

Interviewee: Interesting. What this tells me is that our target segments for our new product would be industrial production and animal feed. Given that animal feed is 80% of the market, I would like to focus on this segment first.

Interviewer: Sounds good. Currently, animal feed consists of two main products: corn and soy. Farmers determine mix by choosing the lowest priced combination. We have the following information on current content, pricing, and daily requirements.

Animal Feed Information			
	Carbs	**Protein**	**Price**
"Old" corn	50g /bushel	25g /bushel	$2.50
"New" corn	100g /bushel	50g /bushel	?
Soy	0g /bushel	50g /bushel	$3.50
Daily Requirement	1000g /day	1000g /day	

How would you price the new corn product to push the old corn product out of business?

Interviewee: Let's consider how much a farmer would pay for an old corn and soy mixture. In order to satisfy the 1000/day carb requirement, you would need 20 bushels of corn (satisfying 500g/day of the protein requirement), which would cost $50/day. Because soy is cheaper per unit of protein ($3.50 for 50g versus $2.50 for 25g), the farmer would purchase 10 bushels of soy to satisfy the remaining 500g/day protein requirement. This would cost $35/day. Therefore, the total cost to the farmer is $85/day. In order for the farmer to be indifferent between new and old corn, the new corn should cost $50/day. Because the farmer would only purchase 10 bushels to satisfy the carb requirement, the price/bushel would be $5.00. However, in order to encourage switching between the old and new corn products, you would have to provide incentives to the farmers (e.g., charging $4.99).

Interviewer: Is this the profit-maximizing price?

Interviewee: Let's think about this. Revenue equals price times volume. Depending on how elastic demand is, we can gain volume by pricing lower. How could we gain volume? Well, we could encourage farmers to purchase our product alone to satisfy the daily requirements, therefore pushing both the soy and old corn producers out of the market. If we priced at $3.50, farmers would be indifferent between our product and soy in terms of protein value. We would earn sales of $70 (20 bushels times $3.50/bushel to satisfy both requirements using new corn), which is higher than the previous scenario of earning $50/day. Additionally, farmers would be better off because their total cost is now $70/day versus $85/day.

Interviewer: Good job. What else would you consider?

Interviewee: Given that this technology is easily replicable, we would need to focus on R&D to maintain our head start in the industry. Once others see that we have created a "monopolistic" situation, they will jump on this opportunity to enter this business. Additionally, when we consider pricing strategies, we need to account for switching costs for our customers and factor this into pricing.

Interviewer: Sounds good. Do you have any questions about our company?

Practice Case 39: Auto manufacturer (Booz Allen Hamilton - Round 1)

I. Case scope provided by interviewer:

Our client is one of the big 3 automobile manufacturers in United States. Its international division which is responsible for selling to Europe, is making loses. In 2003, their loss was $1.1B. They want to learn the reasons for this loss and what they need to do to turnaround the division.

Interviewer Hot Tip: *In this case, "one of the big 3 automobile manufacturers" is the most important statement. As we know, big 3s have very broad customer base and different automobiles. Starting the case aware of this point, prevents you asking irrelevant questions. Rather you can focus the other important statement; "loses in division which is selling to Europe".*

II. Additional information provided after relevant questions:

- Revenues have declined for the last 3 years. Revenues were $5.5B in 2000, and $4B in 2003.
- Average price of a vehicle has declined from $25K (in 2000) to $20K (in 2003).
- Quantity sold has also declined from 220K (in 2000) to 200K (2003).
- There's no material change at the cost side.
- Revenues have declined for the last 3 years from $5.5B in 2000 to $4B in 2003.
- Average price of a vehicle has declined from $25K (in 2000) to $20K (in 2003).
- Quantity sold has also declined from 220K (in 2000) to 200K (2003).
- selling to dealers. Our cars are mostly preferred by a niche segment who likes big and high-end cars. Our segment is comparably small but it was profitable.
- Demand is still strong for our cars and we have a loyal customer base.
- No information on competitors or competitor pricing

(Here I told couple of ideas specific to automobile industry and the nature of demand in Europe in order to find the real problem. The interviewer liked all of them; however none of them were the real problem causing the decline in the price. Then I found the real cause; which was currency issue.)

Currency changes. In 2000, 1 Euro was $1.2, in 2003 it is $1 on average. Our price was 21K Euro in 2000, it is 20K Euro now. Approximately 16% decline in the value of dollar makes us worse of while selling in Euro.

III. Sample Solution:

We found that our client has been making loses because of the currency effect, more specifically dollar's declining value against Euro. Since our client is one of the big 3 auto manufacturers, then it has manufacturing facilities also in Europe. I recommend our client to produce in Europe to sell to the European market. Therefore our client doesn't suffer from the currency effect.

Of course, capacity is an issue here. If the European facilities are not enough to handle additional capacity, then our client should decide based on a cost-benefit analysis whether the costs of increasing capacity can be compensated by the increasing revenue. Since this is longer term solution, in more short term, our client should try to make agreements with the dealers to increase the price or to receive the payment in terms of dollars. Since switching costs are higher for the dealers, they may be willing to make an agreement according to their margins. Besides, our client should expand its sales to other segments rather than high-end niche segment. Then there might be serious volume advantageous.

Practice Case 40: Telecom provider (BCG - Round 1)

I. Case scope provided by interviewer:

Our client is large telecom service provider. In the past the telecom industry has enjoyed a monopoly as various regional telecom companies established monopolies under government protection. Recently the US government has passed a new law that allows competitors to enter other regional areas where there is already an incumbent present. The competitor (new entrant) can lease incumbents infrastructure and target incumbent's customers. The incumbent will HAVE to charge the price set by the govt. The client has seen some cannibalization in their region so they set up a new division to penetrate other regions. However, for the last 2 years that venture/division has been unprofitable. The CEO wants your judgment before he makes a decision to shut the division down.

II. Additional information provided after relevant questions:

- Number of current customers signed up by new group: 1MM
- The avg. price per customer per month of $38.60. It is 10% less than the competition.

Cost structure

- SGA is $5.10 – half of which is FC and other half is VC.
- Client believes that they can reduce SGA by 10% at most without affecting quality of business.
- Government has set a price of $36.90 that client has to pay to the competitor per customer per month.

III. Sample Solution:

I would like to understand the revenue structure of the client. Can you tell me how many customers does the client have?

1 MM

I think that client has done really well by gaining 1MM customers in just 2 years in a new territory. Seems like the client has good service offerings.

The client offers a very good quality service.

What about prices? Is there also a standard price for each customer or is there some price discrimination?

You are right there is some price discrimination but I have the avg price per customer per month of $38.60. This price is 10% less than the incumbent player.

Why is client charging 10% less than the incumbent?

Interviewer: What do you think?

Me: I think this is an aggressive pricing policy to penetrate a new region

Interviewer: Sounds good

Let me go to the cost drivers now. Could you tell me the FC and VC drivers? Obviously the govt set price will be a big factor.

SGA is $5.10 – half of which is FC and other half is VC. Also, govt has set a price of $36.90 that client has to pay to the competitor per customer per month.

Ok, looks like the client is not even making money at an operating level. I.e. ignoring FC client is still losing money per customer. Obviously, the $36.90 that client pays to incumbent cannot be changed because it is set by the government policy. I'd like to look at SGA and understand whether client is operating at industry average or not.

Good point. Client believes that they can reduce SGA by 10% at most without affecting quality of business.

OK, reduction of 10% on $5.10 of SG&A does not even let the client break even. You mentioned that there is some price discrimination and the price you gave me was an avg price. Could you tell me about customer segments?

Yes, there are non-business consumers and business consumers.

Probably the price to business customers is higher as compared with non-business. Because, of peak load pricing and inelastic nature of business consumers.

You are right.

Could you tell me what percentage of client customers are business vs. non business?

90% non business and 10% business.

The client is heavily relying on a very price sensitive segment of the market and thus pressured to reduce margins. I recommend that the client should not close the non-business division but try to switch from targeting non-business to targeting business consumers and create an opportunity to charge higher prices.

This is what BCG recommended the clients. Thank you.

Practice Case 41: London Museum (Mckinsey - Round 1)

I. Case scope provided by interviewer:

Your client is a London Museum which has an "encyclopedic" range of attractions. They receive 5M visitors a year and currently break even with 50M £ of revenues and costs.

The government has told them that they are withdrawing 5M £ of funding next year and the museum has hired us in to look at some of their costs and revenues streams.

II. Additional information provided after relevant questions:

Touring Exhibits

- One revenue stream is touring exhibitions. Each year the museum sends on average 12 exhibitions to another museum. The average cost per exhibition is 60k.
- Revenues for touring exhibits over the last seven years: 80K, 70K, 70k, 60k, 40K, 40K and 50K.
- Variable costs comprise most of the exhibits cost (insurance, traveling curator, transportation)

Capital Investments

- Each year they get 6M £ to invest in capital projects and they want us to determine their returns.

Previous year investments

- £1.5M in building maintenance
- £3 in fixing the main courtyard and advertising that it was fixed. (most of it was spent on advertising)
- £1.5M on installing security cameras.

- The additional advertising brought in an extra 10% of visitors.
    - o Each visitor brings in £3 in contributions from fees and £3 contribution from profits in the gift shop.
    - o Assume visitors will not come again and will not tell any friends.

- The security cameras are part of a 5 year project where the same amount of money will be invested each year.
    - o Museum saves 500K on security guards for first 5 years and £1M in perpetuity.

III. Sample Solution:
What are your thoughts?

Well the total average income over the last 7 years is 410K and the total average cost is 420k. Hence on the average we loss money – ignoring any discount factor.

OK, What do you propose:

An number of options:
Focus on the big exhibits which make money and cut out the small, less profitable ones.
See if we can send exhibits to more than one location
Only do exhibits in the Good years, and store them during the bad years.

OK, lets focus on sending them to more than one museum. What do you think the costs are?

Obviously there will be some fixed costs to get each exhibit ready, but the main costs will be variable, in particularly insurance and specialized packing/transportation. So it may only be profitable to send to more than one location if the additional transport costs are smaller than the net revenues.

Excellent, they also send a curator along with each exhibit. The museum asked us to look at their capital budget. Each year they get £6M to invest in capital projects and they want us to determine their returns.

This year they invested ¼ in building maintenance, ½ in fixing the main courtyard – but actually when we dove into the costs we found that the majority of the money was spend advertising to people that they had fixes the main court yard – and ¼ on installing security cameras.

Extra info:
The additional advertising brought in an extra 10% of visitors and the security cameras is part of a 5 year project where the same amount of money will be invested each year. We expect during the installation that we wills save 500K on security guards and after the project is complete we will save 1M / year on security guards. The building maintenance is fixed and hard to calculate a return on.

Each customer brings in a £6 contribution. 500,000 visitors extra = £3M additional revenues. Was told to assume that these extra visitors will not come back and that they will not tell their friends. Expenditure is £3M, hence a zero NPV project.
Suggested looking at other ways to better spend their advertising money to increase their NPV. However, on the whole as museums will be stewarded

towards maximizing the number of people that come through so this advertising investment makes some sense even if the NPV is negative.

During the building of the security cameras the net costs are:

- Year 1 – 5, 1M net costs. Then from year 6 onwards I make 1M savings
- Assumed a 10% cost of capital and a perpetuity for the savings, although stated that a) the cameras will need annual maintenance and b) they will need to be replaced every 10 - 20 years or so. However can approximate to a perpetuity of savings.
- Perpetuity of savings is 10M in year 6.
- Present Value of savings (I had to estimate) is 6M
- Present value of net costs is (again estimates) at 4M
- Hence the NPV is +2M.
- Hence this is a positive NPV project and should be encouraged. (n.b actual NPV calculation is +1.8M)

Also said that all these investments are sunk costs and what we also needed to look at was future investment plans.

Practice Case 42: American Airlines (Mckinsey - Round 2)

I. Case scope provided by interviewer:

You are the CEO of American Airlines. You are just informed that the price of oil has dropped to nearly $0. Basically, consider the idea that you can acquire oil as easily as you could water. (Assume that there are no significant costs in transporting the oil, acquiring it, etc.)

Who are the first three people you would call within your organization as the CEO? Explain your motivations for contacting each of these people and what you hope to accomplish just having received this information about the price of oil.

II. Additional information provided after relevant questions:

Would competitor airlines have access to the same low cost fuel? Yes

III Sample solution

There are many solutions to this case, a good solution will have a solid upfront framework (touching on most of the major issues) and show some creative thinking.

Sample answer:

The 3 individuals I would contact:

CFO – The goal would be to understand how our oil/fuel costs play into larger cost structure per flight. If oil were a significant portion of costs per flight, would there be an opportunity for us to lower costs and allow us to offer more competitive pricing on certain routes. Also, I know we have been taking losses on flights, so would lower costs allow us to increase capacity in order to increase revenues? Is there some difference in fuel costs between direct flights and indirect flights (1-stop or 2-stop)? Perhaps we can now afford to fly more direct flights between long distances because of lower fuel costs and gain an edge against competitors.

Marketing Department – To better understand the current level of consumer demand for the industry and to see if there are any opportunities to add additional flights on existing routes or new routes in order to raise revenues.

I would want to better understand the perceived value of direct and indirect flights and if there is opportunity for us provide lower priced direct flights out of Chicago since that is our hub.

Scheduler/Operations Department – To understand where exactly, in terms of our current flights and destinations, we could add flights and what cities we could better serve. Any operational aspects of our system that is inhibited by fueling costs.

Interviewer: Okay, let's focus on your first conversation with the CFO. You mentioned that you would consider lowering your prices with your lower fuel costs. However, your competitors can then lower their prices as well and you could potentially get into a price war, further depleting your revenues. Are you sure about this? What else might you consider?

Answer:
That's a good point, since competitors would have access to same low cost fuel and assuming they have a similar cost structure. One possibility would be to differentiate our service. For example, some competitor airlines out of Chicago likely have lower airfares than us for certain destinations, but they have 1 to 2 stops in between. AA, on other hand, offers all direct flights out of Chicago (because the city is our hub) for a slight premium. Perhaps, we can now lower our prices to compete with indirect flights prices but with the added value of a direct flight. It serves to our advantage that Chicago is our hub and one of the busiest airports in the country because this will give us huge volumes of direct flights.

Another possibility would be to consider the Southwest model for AA. Now that oil is cheap, does it become economical for us to operate flights very short distances such as a Chicago to Detroit and offer a more convenient option to driving, other modes of transportation.

Practice Case 43: Medical device manufacturer (Mckinsey - Round 1)

I. Case scope provided by interviewer:

Your client is a medical device company. Recently they acquired a company that produces heart stents[1] The CEO feels that the previous management had not maximized the market potential for these heart stents. He has asked you to determine what the potential market size is as well as determine the best method to distribute the product.

II. Additional information provided after relevant questions:

Market size

- Approximately 1% of people over the age of 55 will need open heart surgery in any given year
- Heart stents are more effective than other alternatives
- All insurance (including medicare/Medicaid) will cover heart stents
- Only cardiologists/cardio-surgeons perform the surgery where heart stents would be used
- There are two other companies that produce heart stents, but we are the clear market leader with over 50% of the market today.

Distribution

- There are three distribution options
- Use our current proprietary sales force
- Create a distinct sales force for heart stents
- Have medical distributors distribute our product
- Our current sales force is comprised primarily of pharmaceutical style sales-reps with little or no medical training
- Other heart stent manufacturers use distributors
- If we were to build a new, distinct sales force it would be comprised of surgeons who would do a heart surgery alongside a cardiologist and show them how to use the heart stents
- It is not a problem to hire qualified sales reps for a new sales force

[1] Heart stents are small "things" that keep arteries propped open during open heart surgery. They are left in afterwards to prevent the arteries from collapsing. Alternatives to heart stents are drugs or not using anything.

III. Sample Solution:

Market sizing: Started with the US market and then expanded to other developed countries with advanced health care

Assumed 300M Americans

100M	0-25 yrs
100M	25-55 yrs
100M	55 yrs +

100M x 1% = 1M heart stents each year in US
Assumed 3x US for world market → total 4M

Compared alternatives:

-Drugs – may be less effective, risky, and costly
(risk: patients may not take drugs after leaving hospital)

-Nothing – high risk

How to distribute: I weighed the pros & cons of each alternative and ultimately recommended a new sales force as the most appropriate. However, if there is only a small market (i.e. new market such as Peru, Singapore, where sales figures are not predictable and we have no relationships, distributors may be best method at first)

	Current Sales Force	New Sales Force	Distributors
Cost	• Need to hire add'l reps • Mix of Fixed/Variable costs • "Middle" cost option	• Most expensive • Large fixed costs w/ some variable	• Purely variable costs • May be most cost-effective for a small market
Effectiveness	• Skills (not doctors) not appropriate for in-depth consultation and demonstration • Have relationships with hospitals	• Most effective • Will need to build new relationships	• Have relationships w/ Dr. & hospitals • May not be able to demonstrate product properly • Also sell competitor products: may not push ours best
Other	• May resent higher paid new sales force	• Will take time to set up new sales force	

Practice Case 44: Medical device (GlaxoSmithKline - Round 2)

I. Case scope provided by interviewer:

Before meeting the interview we received a ½ page write up to look over for about 20 minutes.

The case read as follows:

GSK has a prescription migraine medicine, IMITREX, which belongs to a class of medicines called triptans. IMITREX was the first medicine in this class (introduction to the US market in 1993) and has patent protection in the US until 2009. It remains the market leader despite the emergence of 5 direct competitors in the triptan class. Triptans compete with other nonspecific prescription pain relievers. IMITREX also competes with over the counter headache products. The volume of OTC use is at least 10 fold higher than the prescription medicines for migraine. An IMITREX prescription for 10 tablets costs approximately $150 at the retail pharmacy level (1 Tablet per migraine headache), although many patients have health insurance and pay a co-pay of $20 to $30 per prescription. OTC headache medicines cost approximately $5 for a bottle of 30 tablets (2 tablets per headache).

Task

- **How would you structure your analysis and determine if this was the right direction for the brand?**
- **If you were going to switch from Rx to OTC, when do you think it should occur in the lifecycle of the product?**
- **Would you need any additional information?**
- **Would any competitive issues change your decision or affect your analysis?**

II. Additional information provided after relevant questions:

Are there any new entrants expected in the prescription migraine market?
No

What type of conversion rate is expected in the OTC market?
Unknown

Do we have any information of the price elasticity of demand in the migraine market?
No

III. Sample Solution:

While additional information was not readily available to crack this case it was necessary to recognize that current consumers will be willing to pay $2 to $3 per pill if these pills were OTC. Paying more than this is unlikely.

In order for the company to earn what they currently do they can afford to charge as little as $15/bottle plus some additional costs if they are able to see an increase in sales equal to the increase in market size of 10X.

Conversion to OTC should be very close to patent expiration, but before full expiration. This is necessary in order to try and convert current customers before the immergence of generics.

Another key takeaway is that some customers may take this migraine medicine even if they only have a headache if it is available OTC. Consumers tend to over-medicate themselves.

Practice Case 45: Oil and Gas Rig (Mckinsey - Round 1)

I. Case scope provided by interviewer:

Your client is an oil and gas company. They own the rights to explore a offshore oil reserve in Venezuela. The oil reserve is good to exploit for 20 years. The production from a single cell will go up in the beginning, reach its peak, and then decline in its useful life. So in order to keep the production level stable, they need to drill new wells during the reserve exploration process. This makes their return on capital goes down. The client currently spend $100M per year on rig (every well needs a rig). They purchase rig from USA. USA has higher labor cost than Venezuela. So the client is thinking should they take this opportunity to build their own rigs use of the opportunity, and if it is proper to do, how should they utilize the opportunity?

II. Additional information provided after relevant questions

- A Rig is a piece of very heavy equipment, weighing thousands of tons. Besides USA, currently there is no other place to purchase rig.
- The market demand of rig is around $1000M annually, and USA rig manufactures are able to satisfy the needs.
- Rig companies in USA are making a profit margin around 5%.
- 50% cost of rig manufacturing is labor related, including wages, benefits, and overhead. It takes US manufactures 1M man hour to produce one rig. Labor related costs in USA are $50 per hour. It includes three components: (1) wage: $25 per hour (2) benefit: $10 per hour (3) Overhead $15 per hour.
- Labor related cost in Venezuela is (1) wage: $5 per hour (2) benefit: $2 per hour (3) Overhead $13 per hour.
- Initial investment required to manufacture in Venezuela is $50M
- In order to evaluate how much it costs to manufacture rig locally, we asked three local companies to bid. They all come up with the same proposal, in which labor related cost is charged as $25 per hour.
- Material costs are the same in both countries

Key information to reveal when questioned:

- The rig manufacturers will experience a learning curve. In the first year, it takes 3M man hours, and in the second year it takes 2M man hours. After that, the learning curve goes flat at 1M man hours.

III. Sample Solution:

I will look at how attractive the business of producing rig is. Then I will look capability to manufacture rig locally. Finally, I will look at how to purse the opportunity, if appropriate.

First I will explore whether the low labor cost in Venezuela is a proper opportunity to pursue. The ultimate standard is whether pursuing the opportunity will bring our client cost saving so that they improve their return on capital.

Projected cash flows from producing rigs locally are:

Year	0	1	2	3	4	…
Savings	(50)	(25)	0	25	25	…

I want to do a NPV analysis. What is the cost of capital?

INTERVIEWER: Well, let's just look at pay back. How many years are needed to pay the investment back?

INTERVIEWEE: The minimum payback time is that the selling price still maintains at the current market price level, so the manufacturer harvest all labor related cost savings and pass none to their customers. In this scenario the cost savings is the profit cash flow the company can achieve. (Notice US manufacturer profit margin is 0%). The payback time is 5 years.

INTERVIEWER: Well, 5 years pay back sounds like a risky business to get into. Local companies may not have enough incentive to get into the business. How do you shorten the pay back time?

INTERVIEWEE: (1) Since this will benefit local labor market, we can get government involved, ask them to provide fund or provide debt guarantee to lower the cost of borrowing. (2) Since we will benefit from the cost saving, we can sign long term contract, for example, 20 years with local supplier. (3) We can use our network in oil and gas business world and help them supply rig to other oil and gas companies.

INTERVIEWER: Is there anything you can think of to accelerate the payback time by lowering labor cost?

INTERVIEWEE: What we can do is to introduce expertise, such as senior engineers, project management, from USA manufactures. This will also accelerate their learning curve.

INTERVIEWER: Anything else? (The interviewer pushed me hard on the cost issue)

INTERVIEWEE: Well, I can look more detailed into labor related cost. Since the cost we used in our estimation is from bidding. I want to get my own estimation to compare. As you said, labor related cost includes wages, benefits and overhead. I will go to labor market and look at the average wages and benefits. I assume overhead cost doesn't change compared to USA. I will look at the rig manufactures in USA to get their labor cost break down to get the figure.

INTERVIEWER: The cost structure in USA is (hourly rate)

Wages	*Benefits*	*Overhead*
$25	*$10*	*$15*

The cost in Venezuela is

Wages	*Benefits*	*Overhead*
$5	*$2*	*$13*

INTERVIEWEE: This adds up only $20, $5 bucks less than what local suppliers bid.

INTERVIEWER: Why do you think it is less from bidding?

INTERVIEWEE: Bidders may consider training cost and get expat from USA to build up competence, etc. They may also accelerate equipment depreciation since we only ask them to bid on one rig. This will make overhead cost higher.

With this new labor cost, the savings manufactures can achieve will be:

Year	0	1	2	3	4	…
Savings	(50)	(10)	10	30	30	…

They only need less than four years to pay back.

INTERVIEWER: Good. We are running out of time. Why don't you wrap up?

INTERVIEWEE:

1) Our client should pursue the opportunity of low cost labor in Venezuela. This will help them achieve cost savings and improve return on capital. Besides, this will also help them achieve a better government relationship, which further helps them in their oil and gas business;

2) Our client should help local suppliers to get into rig manufacture business. They can help them by signing a 20 year contract with local suppliers. They should work together with local government to seeks funds for local suppliers, and to organize some cooperation activity with USA to build up local competence

3) Rig is expensive and quality is important for this product. Local suppliers may be able to produce high quality rig. This is a risk factor to our client. Get good understanding of general manufacturing quality level in this country will allow our client make proper judgment. If quality is a concern, our client will want to form joint venture with local suppliers so that they can have more control on quality. Doing so will also help them further saving cost as well.

Practice Case 46: Power generator manufacturer (Mckinsey - Round 1)

I. Case scope provided by interviewer:

The client is manufacturer of power generators for recreational vehicles. They are the dominant player with close to 90% market share. They attribute their market share to their high quality products. Of late, the smaller players, who have between them close to 10% of the market share, have improved their quality over the years. This is posing a strong threat to the client. Our client has a strong brand and is a trusted name in the market.

Our client sells only to OEMS. There are two types of OEM suppliers: sole source and the dual source. The dual source implies that the customer makes the choice of the generator.

Of the markets they service, close to 95% of their sales comes from the North American region and the rest from Europe.

The client is worried about profitability in the coming years. How do you address the profitability?

II. Additional information provided after relevant questions:
For the profitability question –
Current revenues: $200M
Current Gross Margins: 15%

I was asked to assume two scenarios –
Best Case – Elasticity is 0 and price goes up by 5%; costs remain the same.
Worst Case - Gross margins remains same but there is a 25% drop in revenues. Quantity remains same.

Ask the interviewee to draw up the prices, costs and gross margins for each case. The entire grid has to be made from the above information only. It would look like this –

	Current	Possible - Best	Possible – Worse
Revenues	200	210	150 (25% drop)
Costs	170	170	120
Gross Margins	30	40	30
Gross Margins %	15%	~20%	20%

III. Sample Solution:

I was first asked to describe a framework to analyze the case. There was no further information provided at this stage.
Profitability equation.
Consider the Revenues side. Analyze the price, quantity, Gross margins.
Analyze the channels
Consider the cost side – both fixed and variable to see if there is any optimization possible.
Competition – how they could involve.
Market – growth rates, alternate uses, new markets
Product – any ways of differentiating the product
Product drivers – what determines a customer purchase and choice of product.

For the profitability, I actually drew the grid in the interview. It helped to make the data look neat and was easy to work through.

Practice Case 47: Consumer electronics retailer (Mckinsey - Round 2)

I. Case scope provided by interviewer:

A consumer electronics retailer is considering the introduction of private label brands. Is there value in this product line? What are the sources of value of this program? What are the potential downside risks associated with introducing private label products?

II. Additional information provided after relevant questions:

300 stores nationwide
Private label brands are unbranded products made by an OEM
Margins are high on low end products; high end branded products have low margins
Selling a branded televisions currently offers them 30% margins while a similar private label product would give them 35%

III. Sample Solution:

Downside potential
Brand erosion: Customer may perceive us to be a discounter resulting in an inability to charge premium prices or sell high-end products.
Supplier backlash: Suppliers may not want to supply us if we introduce this private label product. It may cannibalize sales of their items or they may fear brand erosion from supplying our stores.
Poor product knowledge: Thus far we have only been a customer, never a producer. Thus we have no competency in this area and may be taking on too much risk given the mediocre rewards available.

Sources of value:
Promotion: We will be able to price this product more competitively and generate traffic in our stores.
Product knowledge: By, in a sense, becoming a supplier we are making a vertical move that could increase our product knowledge and, consequently, supplier power.
Becoming a supplier: Because we are supplying ourselves, we could also supply other retailers. This may give us more power in the relationship with the OEMs. We may be able to move into other product lines and create a well known private label brand.

Practice Case 49: Integrated oil company (Mckinsey - Round 1)

I. Case scope provided by interviewer:

The client is an integrated oil company and controls the entire supply chain from oil wells to gas stations. They have discovered a new automobile fuel that will increase mileage by 30%. It will also cost 10% more to produce the fuel. The fuel is similar to the old fuel in every other way.

What should they do with the new fuel?

II. Additional information provided after relevant questions:

- There are 5 players in the industry (including our client). They all have equal market share.
- The interviewer asked me to guesstimate what the demand would be like. One approach – the population of the country is about 300M, with 4 people to a household, that makes it 75M households. With one car to a household, it makes it 75M cars. At 20 gallons per week, the weekly demand is about 1500M~1.5B gallons/week
- No special environment concerns or advantages from the new fuel.
- Under no circumstances can the client capture more than 10% of the market due to capacity constraint
- Margins on old fuel are 10%

Complication if the interview is going well

- What if there were two distinct markets? – The private sector and the Government? Assume that the government buys 10% of the total market capacity and buys equally from all players. Should you sell only to the government? What effect would it have on prices?

III. Sample Solution:

Note to the case giver: The case per se does not have a conclusive solution; it is intended to test the ability of the interviewee to integrate and look at different issues with the same case. Some of the specific issues that I got to discus I my interview –

The basic framework I laid out at the beginning was to say that I would go through the various issues of

- Demand issues
- Capacity issues
- Internal issues – whether we could produce it on same machinery, same channel etc.

- Analyze competition
- Environmental issues
- Alternate uses of fuel

Some key issues that were covered in the interview

Pricing
How should they price the fuel? (There is no specific information on prices of existing fuels) but relative to the old fuel, what should be the price of the new fuel?
What would be the margins from the new fuel? Assume that the margins on the old fuel are 10%. Then, the margins would be about 25% on the new fuel. This can be arrived at through following steps –

- Old fuel price: $1
- Cost of old fuel: $0.90
- Gross Margin: 10%

- New fuel price: $1.30 (since it gives 30% more mileage)
- Cost of new fuel: $0.99 (since it is 10% more expensive to produce)
- Gross Margin: @ $0.31, ~25%

What kind of elasticity would auto fuel have?
How do you think competition would retaliate to your suggested price

They could retaliate by lowering prices on the old fuel. Then the question would be how much lower? I used break even theory and said they would drop price until they were only covering variable costs.

Alternately, with the capacity constraint that the client has, competition need not bother lowering prices.. Hence, instead of losing margins on their bread and butter, competition could avoid a price war. With higher gross margins, the only player that could win a price war would be the client.
Any price movement (either priced higher or priced lower) caused due to the new fuel?
How would the competition price the old fuel if the new fuel were priced at just higher than the old fuel?
What if there were two distinct markets? – The private sector and the Government? Assume that the government buys 10% of the total market capacity and buys equally from all players. Should you sell only to the government? What effect would it have on prices?
A good answer here would be that – it would be very sensible to sell to the government alone since this would negate the possibility of any price war.

Practice Case 50: Shelling shrimp (Mckinsey - Round 3)

This short problem aims at giving you idea about the difficulty level of numerical questions you will have at McKinsey final interviews. It is a part of a 45-minute case. I got it somewhere in the middle of the case.

Get a timer. After your read the question you have one minute to solve the problem. In the interview you will have maybe 2 minutes but you should be able to solve it in 1 minute to be able to solve it in interview setting in 2 minutes.

Currently, our client – shrimps restaurant – has a person who shells shrimp manually. The worker needs 15 minutes to set up his work space for shelling shrimps each day. Shelling shrimps is not his main task in the restaurant. It takes him 10 min to shell one pound of shrimps. His wage is $6 per hour.

It is possible to buy a machine for $3285 that automatically shells shrimps. Its useful life is 3 years. Setup time for the machine is 30 min each day. The same worker will serve this machine. The machine can process 60 pounds per hour.

What is break-even volume of shrimps needed to be processed each day to justify the investment into the machine?

<u>Solution:</u>
Assume 365 working days. 3 years = 1095 days. Cost of machine per day = 3285/1095 = $3. So, we need to recover $3 per day. Now, (variable) cost of shelling per pound is $1. With the machine, this will be $0.1. So, we will save $0.9 variable cost per pound. But we get additional setup time of 15 min per day, i.e. 1.5$. I.e. we need to recover $3+$1.5 = $4.5. To recover $4.5 with $0.9 cost saving we need to process $4.5/0.9=5 pounds.

Practice Case 51: Office furniture (Mckinsey - Round 2)

I. Case scope provided by interviewer:

Our client is an office furniture manufacturer. They are concerned that their stock price is not growing as fast as their competitors'. Furthermore, the client's annual growth is 1% per year, while that of main competitors' is 10% per year. Also, our client's EBIT margin is 10% while competitors' EBIT is 20%. What would be your recommendations for our client?

II. Additional information provided after relevant questions:

Market information

- Market grows 1% per year (no size info)
- We are the market leader with 20% market share. The other three competitors have 10% each. The rest is fragmented.
- 3 main competitors have prices that are 10% lower than ours.
- Market is composed of two segments
    - Segment 1 – Fortune 500 companies - 80% of our sales.
    - Segment 2 – channel sales to small companies – 20% of our sales. We don't own these channels.
- Customers are looking for furniture that is hassle free (i.e., universal, will fit in all offices, goes with each other etc.)

Product information

- Our product is viewed as being superior and we have a strong brand

Cost information:

- Ignore fixed costs. We assume that competitors material, other costs and SGA for one product are the same as ours. Our COGS break down into materials (40%), direct labor (40%), overhead (20%). We know that they have probably the same material cost, overhead and SGA per product (in dollars not as a percentage of price). However we don't know anything about their labor cost. Can you calculate it? Assume that we sell our typical product for $100. Calculate the labor cost of the competitors for the same product.
    - Competitor has an $18 labor cost advantage per typical product. Answer calculated using table below, do not give table to interviewee make them construct it.

If our price is $100, their price will be $90. Our EBIT margin is 10% or $10, their EBIT-margin is 20% or $18. *I built the following table.*

	We	They
Price	100	90
COGS		
- materials	40% ($36)	40% of our COGS ($36)
- labor	40% ($36)	?
- overhead	20% ($18)	20% ($18)
= EBIT	10% ($10)	20% ($18)

Labor costs are higher because this is the policy of our company. We hire the best people and pay them more. They produce higher quality products and we charge premium for them. We don't want to pay less or lay people off. We pay on per-unit base. But some people are more productive than others, you know.

See sample solution for a brief discussion manufacturing process. I interviewee gets to this problem quickly feel free to make up some numbers or an operations portion of the case. See the sample solutions for some ideas.

III. Sample Solution:

First, I decided to stick to the growth framework (market, customer, company, competitors, ability to build competitive advantage).

I have a hypothesis that you have ineffective process because of different throughput rates in you production processes. I have following suggestions:

- Train less efficient workers
- Resource pulling (see OMS552)
- Resource reallocation.
- If resource pulling impossible, build production lines based on performance of workers: e.g. get more efficient works into one line and less efficient works into other.
- Provide less efficient workers with more efficient tools.

However, if we aren't able to sell more, we will not be able to realize saving from higher capacity utilization. In this case, we could change incentive system to have more efficient workers produce less.
He: That's correct. However, we would like to realize these potential savings. What could we do?

To realize savings, we have two broad possibilities. (1) Lay off people. (2) Increase sales. (1) is not acceptable, so let's concentrate on (2).

- Go into service business providing integrated solutions to the Fortune 500 customers.
- Acquire one or two competitors to benefit from their higher growth rate and realizing increased capacity utilization.
- Increase sales efforts.

Practice Case 52: Window Manufacturer (Deloitte - Round 2)

I. Case scope provided by interviewer:

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

II. Additional information provided after relevant questions:

- 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 lines based on superior functionality
- Products are distributed by specialty retailers, hardware stores, and supercenters (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

	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

Key insights:

- Many of the windows are designed with features that are usefull in cold regions not hot ones
- This firms economy windows are still more expensive than the competitions.

III. Sample Answers:

I began by trying to better understand the industry and the company. I was provided with information at this point about the three segments, but not share numbers. I then further explored into the product lines and was given share information.

Next, I explored ways that the company could grow revenues including:
- International Expansion
- Focusing on distribution and sales in the South
- Increasing share in the economy segment

The interviewer then asked me why we might have lower share in the South and economy. It was then revealed that many of the features our client focuses on are designed for cold weather, not sun/heat. Additionally, our economy line windows are still more expensive than competitors that offer very few features.

In order for the client to grow revenues they should consider:
1. **Acquire a small player with strength in the South and economy segments:** since there are so many small players and our client has been profitable this should be possible.
2. **Reduce features and reposition economy line**: this should allow the company to reduce costs (with fewer features) and be able to compete better against economy competitors
3. **Expand internationally**: I suggested starting in Canada, since our windows are superior for cold environments.