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# Graduate Consulting Group <br> Case Interview Guide 2007-08 Recruitment Season 

## THE UNIVERSITY OF TEXAS AT AUSTIN <br> McCOMBS SCHOOL OF BUSINESS



THE UNIVERSITY OF TEXAS AT AUSTIN
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## Case 1: Shine Metals

## Company: Boston Consulting Group

Case Question: An entrepreneur has recently bought a metal processing factory and wants you to design the supply chain system for the finished goods. You are his consultant and how will you proceed?

## Specific objectives:

1) We are concerned only about the outbound finished goods.
2) Minimize Cost
3) Reliable delivery

## Suggested structure:

For a supply chain design the candidate should be willing to explore the following

1) Number of Products
2) Number of customers
3) Product demand
4) Transportation
5) Inventory
6) Any warehousing decisions
7) Location of factory
8) Customer location
9) Flow of information

The case is essentially a transportation case. After initial structuring ask the candidate to focus only on the transportation part. The focus here is to minimize transportation cost and ensure reliable product delivery.

Provide the following information when asked. But if the candidate doesn't get here in a few minutes provide this

1. The factory has only one customer. All shipments are direct from factory to the customer
2. The factory is located in Chicago and customer is in Denver. The distance between the two is 1000 miles

Question: Ask the candidate about various modes of transportation possible. Finally settle in for trucks
3. The customer demand is 40 truck loads per week
4. Currently the factory is using freight companies which charge about $\$ 3$ per mile for a truck load

Question: The client is now considering reducing this cost. How can the client do it?
Some possible answers: Negotiate with contractors to reduce cost, look at alternate freight companies, buy trucks on its own, lease trucks, shift the plant location to Denver

Instruction: Insist on the leasing option. Ask the candidate what information he wants to decide if leasing is a cheaper option. The candidate should ask for the following things

- Leasing cost per truck - $\$ 1750$ per month
- Labor cost (Salary of drivers) - $\$ 0.5$ per mile
- Fuel cost - $\$ 0.3$ per mile
- Vehicle maintenance cost - $\$ 0.4$ per mile
- Loading and unloading cost - negligible
- Assume 4 weeks per month
- The lease provider pays the insurance cost
- A truck can make only 2 round trips per week

What is the total monthly cost?

## Current system by using Freight Company:

Monthly demand = 4 * $40=160$ truck loads
Total miles traveled $=160 * 1000=160000$ (Freight companies charge only one way)
Total cost $=160000 * \$ 3$ per mile $=\$ 480,000$

## New system with leasing:

Weekly demand $=40$ truck loads. We need 20 trucks as a truck can make only 2 round trips a week Leasing charges per month $=20$ trucks * 1750 per month $=\$ 35,000$
Labor cost per month $=20$ trucks * 16000 miles per truck per month * $0.5=\$ 1,60,000$ (Here an empty truck returns from Denver to Chicago after making a delivery to the customer and for each delivery a truck travels 2000 miles. Thus in a month a truck travels 16000 miles)
Fuel cost per month $=20$ * 16000 * $0.25=\$ 80,000$
Vehicle maintenance cost $=20$ * 16000 * $0.4=\$ 128,000$
Total cost per month $=35000+160000+80000+128000=\$ 403,000$
Expected saving $=\$ 480000-\$ 403000=\$ 77000$ per month

Question: What other ways can you suggest to make more money with this transportation system? A good candidate will identify the opportunity to make use of the empty-return truck from Denver to Chicago. They may suggest transporting any raw materials or sell the space to some other trucking company.

Question: What are the negatives of leasing trucks?

- Managing the drivers
- What if the vehicle meets with an accident?
- We have to maintain accounting systems for all the expenses.

Question: Will this system ensure reliable delivery?
Ask the candidate to provide a 30 second summary of his recommendation.

## Case 2: Apollo Medical Labs <br> Company: McKinsey \& Co

Your client is a chain of Medical laboratories. The labs cater to patients who need MRI, CT scans and other major tests to be performed. The labs own several expensive testing equipments and there are chain has currently about 200 such labs. Doctors usually refer the patients to these testing centers. The client is now worried about the profits and has hired you to evaluate the situation.

Specific objectives: No specific targets
Instructions to the interviewer: There no specific profit targets. The idea is to see if the candidate can generate as many reasons for potential sales decline, cost increase and price reduction. This way we can you can test the candidate's 'Clock-Speed. 'Then later make the candidate go through a bunch of Math to test his/her quantitative skills.

Suggested Structure: As mentioned above the candidate should address the following points

1) Why would sales be flat or going down? At least 7 reasons. If they don't reach this limit, keep asking 'what else'. Once they reach move to the next point
2) Why may costs be going up? At least 7 reasons. If they don't reach this limit, keep asking 'what else'. Once they reach move to the next point
3) Why may price be going down or not increasing? At least 4 reasons. If they don't reach this limit, keep asking 'what else'. Once they reach move to the next point

Quant question: In your analysis you find that some of the doctors who refer the patients to these centers have started labs in their own clinics and this will impact the client's revenues. Can you look at the following table and find out the expected \% impact on the client's revenue


## How to answer this?

Only doctors who can make profits by owning labs will be willing to invest in expensive lab equipment. Intuitively doctors who get more patients per day will be able to make profits. So the number of patients a doctor needs per day to ensure payback for the investment he/she makes has to be calculated. The candidate has to figure this out. Only after the candidates crack this idea, give the following information.

Data: Provide the following data only when asked

| Fixed Cost of Equipment to start 1 lab | $\mathbf{\$ 8 0 0 , 0 0 0}$ |
| :--- | :--- |
| Average price charged per customer | $\mathbf{\$ 5 0 0}$ |
| Variable cost per customer | $\mathbf{\$ 4 2 0}$ |
| Life of the equipment in years | $\mathbf{5}$ |
| No.of days per year | $\mathbf{2 5 0}$ |

Calculations: The calculations are shown below for the interviewer's reference

| A | Fixed Cost of Equipment to start a lab | $\mathbf{\$ 8 0 0 , 0 0 0}$ |  |
| :--- | :--- | :--- | :--- |
| B | Average price charged per customer | $\mathbf{\$ 5 0 0}$ |  |
| C | Variable cost per customer | $\mathbf{\$ 4 2 0}$ |  |
| D | Breakeven quantity (No.of customers) | $\mathbf{1 0 0 0 0}$ | A/(B-C) |
| E | Life of the equipment in years | $\mathbf{5}$ |  |
| F | Customers per year | $\mathbf{2 0 0 0}$ | D/E |
| G | No.of days per year | $\mathbf{2 5 0}$ |  |
| H | Number of customers required per day to <br> break-even | $\mathbf{8}$ | F/G |

Note: No discounting of cash flow is required when considering the revenues from customers over a 5 year period

Thus only doctors who get at least 8 patients per day will be able to get a pay back within 5 years. This means only doctors who get more than 8 patients per day will start their own labs and steal revenue away from our client. So out of the total revenue of $\$ 300$ million (Add from graph) revenues of about $\$ 12$ million may be lost ( $6+6$ ). This means about $4 \%$ loss of revenue.

Question: What can the client do to remedy this situation or how should the client respond to this situation? Creative ideas win points here.

## Case 3: Velocity - Luxury Bus Case

Company: McKinsey \& Co

A bus manufacturing company is the market leader in semi-luxury bus segment. The customers are typically passenger transport companies who carry passengers over long distances. Currently it has product called 'Speed' in the market and is their best selling product. However they have another product developed called 'Velocity' that they plan to launch soon. But they are not sure if there will be acceptance for the product from the customers. Your task is to help them understand how to convince the customer to buy 'Velocity'.

Notes for the interviewer: There are three main objectives to the case

1. The candidate has to consider those attributes that will be important to the customer - Guide the candidate to this.
2. Try to understand the benefits of 'Velocity' over 'Speed' and do a bunch of math
3. Provide creative recommendation to avoid cannibalization

Structure: Given the objective of marketing this product to the customers, the key elements here are

- Find out what aspects of a bus the customer values
- The benefits of 'Velocity' over 'Speed' and quantify the benefits
- Risks of launching Velocity
- Final recommendation

Assume there is no direct competition for the product now and for next 2 years.

## Answers:

Attributes that the customer values:

- Price
- Fuel economy
- Reliability of the vehicle
- Appearance, design and styling
- Features and comfort for passengers
- Maintenance cost
- Warranty period
- Enough service support and network
- Availability of spare parts
- Ergonomics for the drivers
- Safety features
- Financing options
- Life of vehicle
- Delivery lead time

Benefits of 'Velocity' over 'Speed’: Provide the following details to the candidate. Here we focus only on benefits from reduced maintenance cost, reduced fuel cost and increased load factor due to comfort. Don't provide the candidate with any data unless asked for. The question to be asked is Calculate the total annual benefits.

| Data to be provided to calculate cost benefits - All data on a per vehicle basis |  |  |
| :---: | :---: | :---: |
|  | Speed | Velocity |
| Average miles traveled per day | 600 | 600 |
| No. of days in a year | 250 | 250 |
| Miles per gallon | 10 | 12 |
| Cost per gallon | 2 | 2 |
| Maintenance cost per mile | 0.3 | 0.25 |
|  |  |  |
| Data to be provided to calculate revenue benefits- All data on a per vehicle basis |  |  |
| Annual revenue increase | 5\% increa to added | factor due and comfort |
| Load factor is the actual number of passengers in a bus divided by the total number of seats in a bus |  |  |
| Current load factor | 80 |  |
| New load factor | 85 |  |
| Available No. of seats | 40 |  |
| Seats occupied on average - Speed | 32 |  |
| Annual profit in dollars per occupied seat per bus | 1750 |  |
|  |  |  |
| Final Calculations - To be performed by the candidate |  |  |
|  | Speed | Velocity |
| Fuel cost per year in \$ | 30000 | 25000 |
| Annual maintenance cost in \$ | 45000 | 37500 |
|  |  |  |
| Annual Reduction in fuel cost for 'Velocity' over 'Speed' | 5000 |  |
| Annual Reduction in maintenance cost | 7500 |  |
| Seats expected to be occupied - Velocity | 34 |  |
| Increased annual profit because of improved load factor | 3500 |  |
| Total incremental annual benefits per year per vehicle | 16000 |  |

Question: If you have to price this vehicle, how would you do that? Assume that the life of the vehicle is 3 years and customers retire all vehicles after 3 years. Assume that the current price of 'Speed' is $\$ 107000$

## Expected Answer:

The maximum price = Current price of 1 'Speed’ +3 * (total annual incremental benefits)

$$
\text { = } 107000+48000=\$ 155,000
$$

Question: What are the risks? Answer: Cannibalization
Question: How would you manage this conflict? Expect some creative answers from the candidate. At the end ask for a 30 second summary of the candidate's finding

## Case 4: Canada Oil Sands

## Company: Booz Allen Hamilton

The Canada Oil Sands company recently struck Oil Sands in Canada and are planning to build a production and refining facility. The estimated cost of building a facility is $\$ 5$ billion and estimated time for completion is 5 years. The company is concerned about cost and time overrun to complete the project. For your information, 5 other competitors have already started building production and refining facility in the near by areas. You have been hired as a consultant to assess the situation and make them aware of the potential issues.

Example of an Oil Sands Refinery


Shaded regions show an area where client wants to build refinery


Instruction to the interviewer: The objective of this case is

- To see if the candidate possesses a good clock speed i.e if the candidate quickly explores several possible reasons for time and cost overruns
- To see if the candidate presents creative solutions to specific questions posed by the interviewer and to see if the candidate can quick basic math

The case should start with the candidate hypothesizing the reasons that could lead to cost and time over runs. To guide the candidate you may ask the candidate to list the possible steps in the project

## Possible reasons: Cost over-runs

- Uncertainty or Changes in the field profile resulting in increased construction costs
- Changes in price of commodities like steel and other materials used for construction
- Environmental regulations resulting in additional investment
- Suppliers operating at full capacities resulting in additional investment. Hence the supplier may ask the client to share some investment.
- Skilled labor shortage for construction resulting in very high salaries. This is the biggest problem in this industry and the case will focus on this problem.


## Possible reasons: Time over-runs

- Design and Field development planning delays
- Manufacturing lead time for machinery and equipments
- Transportation lead time for plant machinery and equipments
- Labor shortage during construction, installation and commissioning
- Poor productivity of untrained labor
- Government approvals and regulations
- Approval from environmental authorities

Interviewer Notes: The case will now focus on the labor issues. Provide the following data to the candidate

- The components are fabricated in another country, however joining the components and installation take place on-site
- The peak demand for labor will occur in 3 years from now
- The period sadly coincides with the peak labor demand for competitors in the same region. Especially we need several welders and we are quite sure that they can't get welders.
Ask the candidate for some ideas to manage the situation. Some possible suggestions could be:
- Automation of construction, material movement, fabrication and welding of components
- Explore opportunities to get pre-welded components from supplier
- Design components in such a way so that the need for welding itself is reduced
- Share some facilities like piping, storage etc with competitors thereby eliminating the need for separately building them
- Recruit labor from other countries (But cultural issues, immigration issues, opposition form labor unions in Canada, not many want to move to Alberta, Canada as it is very cold)
- Recruit labor from US as there seems to be a decline in manufacturing industry and hence the client may be able to obtain skilled welders
- Tie-up with technical training institutions and develop students from now onwards with a guaranteed employment after 3 years

Interviewer Notes: It is time to make the candidate do some math. Tasks for the candidate

1) To calculate the breakeven number of barrels of crude and years to breakeven assuming no over runs

Provide the following data when asked

| Data | Current - Without Over runs |
| :--- | :--- |
| Project Cost ( Fixed Cost in dollars) |  |
| Estimated production capacity (Barrels per day) | 5 billion |
| Average price per barrel of refined crude (Dollars) | $1,00,000$ |
| Variable cost of production per barrel of crude (Dollars) | 38 |
| Variable cost of refining per barrel of crude (Dollars) |  |
| Break- even quantity (Barrels) | To be calculated by candidate |
|  |  |
| No.of years to break even (Assuming 330 days of operation) | To be calculated by candidate |

## Answers:

Break even quantity = 333.3 million barrels approximately
Years to break even $=10$ years approximately
2) To calculate the breakeven number of barrels of crude to be produced and years to break even with Cost over-runs

| Data | New Scenario - With over runs |
| :--- | ---: |
| Project Cost ( Fixed Cost in dollars) | 6000000000 |
| Estimated production capacity (Barrels per day) | 100000 |
| Average price per barrel of refined crude (Dollars) | 38 |
| Variable cost of production per barrel of crude (Dollars) | 10 |
| Variable cost of refining per barrel of crude (Dollars) | 13 |
| Break- even quantity (Barrels) | To be calculated by candidate |
|  |  |
| No.of years to break even (Assuming 330 days of operation) | To be calculated by candidate |

## Answers:

Break even quantity $=400$ million barrels
Years to break even $=12$ years approximately
3) Assume there are cost over-runs. If the company wants to break-even within the same time frame we found with no over runs, what should be the price per barrel of crude

| Data | New Scenario - With over runs |
| :--- | ---: |
| Project Cost ( Fixed Cost in dollars) | 6000000000 |
| Estimated production capacity (Barrels per day) | 100000 |
| Average price per barrel of refined crude (Dollars) | To be calculated by candidate |
| Variable cost of production per barrel of crude (Dollars) | 10 |
| Variable cost of refining per barrel of crude (Dollars) | 13 |
| Break- even quantity (Barrels) | 333333333 |

Answer: Price per barrel to break even within 10 years = \$41

Instruction to the interviewer: Ask for a 30 second summary of the candidates findings.

## Case 5: QuickEat Fast Food <br> Company: Boston Consulting Group

QuickEat is a fast food chain in the US with National Presence. The CEO of the company is planning to introduce a customer loyalty program called 'Quick Rewards'. You have been hired as the consultant and they want to know if they should go ahead with this initiative.

## Suggested Structure:

Step 1: Understand the features of the program
Step 2: What will be the incremental benefits to the company?
Step 3: What is the cost involved in this program?
Step 4: Do benefits exceed costs?
Step 5: Any other potential risks or opportunities
Data:
Program features: A customer will get 2 points for each dollar he spends. And when he reaches 200 points he will get some standard gifts. So for each 200 points they get one gift.

Benefits of the program: Data is for on a per store basis

| Customer <br> Segment | \# Customers <br> per store | Avg \# visits <br> per year | Avg \$ <br> per visit | \% That join <br> program | Avg. \# <br> additional visits |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Heavy | 8,000 | 30 | 4.00 | 20 | 6 |
| Light | 12,000 | 9 | 4.00 | 5 | 3 |

Contribution margin is $20 \%$ of the revenues
Costs of the program: Each gift costs the company \$1. The customer gets one gift for each 200 points.
Instruction to the interviewer: Please read out the above data and don't give it in the table format. See how the candidate organizes his data.
The candidate is expected to calculate the following to justify his conclusion

- Absolute revenue increase and percentage revenue increase for the 'Heavy' segment
- Absolute revenue increase and percentage revenue increase for the 'Light' segment
- Total profits from the program

The calculations are shown in the below table

|  |  | Heavy | Light |
| :--- | :--- | ---: | ---: |
| A | Total revenue without program | 960000 | 432000 |
| B | Additional revenue with program | 38400 | 7200 |
| C | \% increase in revenue (B*100/A) | $4.00 \%$ | $1.67 \%$ |
| D | Incremental income @ 20\% of rev (B * 20\%) | 7680 | 1440 |
| E | Total points scored (A * 2) | 1920000 | 864000 |
| F | Cost of gifts (E * 1/ 200) | 9600 | 4320 |
| G | Net profit from the program (D Minus F) | $(1920)$ | $(2880)$ |

Conclusion: The results show that the program is a losing proposition. Why - The cost is spread over all the purchases and not just the incremental spending.

Instruction to the interviewer: If the candidate reaches this conclusion, ask for suggestions to make this program profitable. Most candidates may not distinguish between profits from Light and Heavy users. Hence ask if this can be implemented only for heavy segment. Candidates who get creative at this stage will get more points. Some suggestions would be

- Negotiate with the gift vendor and negotiate a better price
- Increase the number of points needed for a gift (However the incremental benefits may also change)
- Look at co-branded customer loyalty programs with other companies like airlines etc. This way the cost can be shared and opportunities for revenue increase are more.
- Explore alternate ways of discriminating between light and heavy users

Instruction to the interviewer: The CEO of the company says that the analysis is good. However he wants you give him advice to increase sales (ideas apart from the loyalty program). This question is to see if the candidate can quickly think of various ways to increase sales. Creativity will win points here

A good candidate would use the following framework

| New Customers - New Products | New Customers - Current Products |
| :--- | :--- |
| Current Customers - New Products | Current Customers - Current Products |

Instruction to the interviewer: Ask the candidate to give a 30 second summary of his findings and his recommendations.

## Case 6: Power gas retail

## Company: Booz Allen Hamilton

Power gas retail is a gasoline retailing company and is a big player in the US. They have invested significantly in brand building in the past to differentiate themselves from other competitors. A new CMO has joined the company and wants to know if this brand building exercise makes sense and if it is worth pursuing. You are his consultant and have only 4 weeks to present your findings. How would you go about this?

## Suggested Structure:

This type of case is usually not given to candidates. The idea is to see if the candidate can quickly come up with a structure. The candidate may want to first explore ways in which results of branding campaign can be measured. Some ways could be

- Conduct a branding campaign and see if there is increased sales during that period
- Mine past data when branding campaigns were undertaken, perform statistical modeling and measure the 'Advertisement elasticity of demand'
- Measure 'Brand Recall'
- Select a few retail outlets and conduct a consumer survey. Find out what percentage of Power's customers go their gas stations because of brand perception and loyalty.

In this case, we will use the last approach as we are trying to measure the overall benefits. The investment in branding is continual and not limited to occasional campaigns. Guide the candidate to this if he/she doesn't get there soon. Assume that we will do the consumer study at only one retail outlet.

## Data to be provided to the candidate:

- A consumer survey was conducted over 1 month in 1 retail gas station
- The following charts show the percentage of customers who fill gas at the station for the ascribed reason



Other data: To be provided only when the candidate asks for it.

- Assume the above percentage of customers is a fair representation of revenues.
- The total monthly sale of gasoline in the gas station is 200,000 gallons of which $60 \%$ is regular unleaded and $40 \%$ is premium unleaded.
- Average spending on branding is 2 cents per gallon
- Margin on one gallon of 'Regular' is 5 cents
- Margin on one gallon of 'Premium' is 7 cents

Calculations to be done by the candidate: All on a per retail outlet basis

| Monthly gasoline sales in the outlet (Gallons) | 200000 |  |
| :--- | :---: | :---: |
| Cost of branding - Dollars Per gallon | 0.02 |  |
| Type of gasoline | Regular | Premium |
| $\%$ of type of gasoline | $60 \%$ | $40 \%$ |
| \% of revenues because of branding | $35 \%$ | $50 \%$ |
| Gasoline sold because of branding (Gallons) | 42000 | 40000 |
| Margins per gallon excluding branding expenses (\$) | 0.1 | 0.15 |
| Total margin contribution due to branding (\$) | 4200 | 6000 |
| Total cost of branding (\$) | 2400 | 1600 |
| Net monthly profits from branding (\$) | $\mathbf{1 8 0 0}$ | $\mathbf{4 4 0 0}$ |

If the company had 5000 gas stations across the country then the total profits from the branding spend is $=5000$ * $(1800+4400) * 12$ months $=\$ 372$ million per year

Conclusion: It is clear that investment in branding is a profitable proposition. Especially the return on branding spend is higher for 'Premium' gasoline than for 'Regular' gasoline.
Risks: Ask the candidate for the potential risks with this approach of determining branding effectiveness. Some answers could be

- This is based on a study at one retail station and may not be representative of all retailoutlets
- A customer may have a combination of reasons for buying and not necessarily just one reason
- Though this seems to be a profitable proposition on an absolute scale, the ROI can be higher on some other initiative on a relative scale


## Case 7: Rainbow Chemicals

Company: Deloitte Consulting (Strategy and Operations)
Rainbow Chemicals recently emerged from Bankruptcy. They hired you as a consultant to help them chart a future course of action. And first they want you to evaluate if the current products are viable. How would you go about this?

Instruction to Interviewer: The case tests how a candidate thinks about the fundamentals of turning a company around. For this the candidate has to understand the current situation first.

Suggested structure: Overall the candidate should explore if the client can generate positive cash flow in the future. If not the candidate should look at options to generate cash flow.
Step 1: Understand what led to bankruptcy
Step 2: Understand the products and industry
Step 3: Understand the current product economics and future projections
Step 4: Propose recommendations - Both for top line and bottom line improvement

What led to bankruptcy? Simple the company was not making money and was incurring losses. This led to default of loans and resulted in Bankruptcy. They refinanced the company through some means and have very limited funding. Additional funding is not possible.

## Products and Industry:

- Their main product is Chemical $X$ and the by-product is Chemical $Y$.
- Both products X \& Y are commodities
- The chemical industry is highly cyclical and now it is at its peak
- The industry is highly competitive.
- Customers are large chemical companies

Product economics: Data to be given only when the candidate asks
Annual production capacity: Totally 500,000 tons
Price of Chemical $X=\$ 95$ per ton
Price of Chemical $Y=\$ 75$ per ton
The end product from the manufacturing process is a combination of $X \& Y$. It has to be separated into $X \& Y$. Each ton of the end product they produce has $X \& Y$ in the ratio $1: 1.5$
The candidate has to perform the following calculations

| Annual production volume in tons | 500000 |
| :--- | ---: |
| $X$ in tons | 200000 |
| $Y$ in tons | 300000 |
| Price of $X$ Per ton | 95 |
| Price of Y Per ton | 75 |
| Fixed Cost in \$ | 25000000 |
| Variable cost per ton (X\&Y) | 60 |
| Annual Revenue | 41500000 |
| Total annual cost | 55000000 |
| Net Annual Profit | $\mathbf{( 1 3 5 0 0 0 0 0 )}$ |

Instructions to the Interviewer: It is clear that the current products are making losses. Provide the following response for questions that may arise

- Can we raise prices? - No we cannot. Industry is very competitive and also is at the peak of its cyclical. This means that going forward that the price will only go down
- Can we exit the business? - It is a possibility. But push the candidate to look at ideas to turn the company around

Question: How can we increase the top line?
Assume that both chemical X \& Y have a saturated market and the market has several competitors. With the cyclical demand and a downward trend expected in the future it is difficult to sell more. So the candidate has to look for opportunities to launch new products or services

Question: What new products or services can the company launch?
Allow the candidate to explore options creatively. However funding to invest is very limited. Some suggestions

- Products that can be manufactured without major modifications to existing plant set up. And look for products that will hedge against cyclical business issues.
- Products that can be bought from manufacturers outside the US but can be sold in US
- Start a chemical distribution company
- Start a chemical research laboratory and provide R\&D advice to other companies
- Ex: if the chemical is used in the coolant systems of machines then the customers would like if the manufacturer administers the chemical into the system on a routine basis. The client can look at any such opportunities
- Move into retailing chemicals

Question: It is obvious that the cost of production is higher than the price they can command. What are the areas they should look at? Some suggestions

- Improve plant efficiency
- Reduce raw material cost by changing suppliers or negotiating costs down
- Reduce the fixed costs like corporate workforce and so on
- Outsource manufacturing to low cost countries
- Reduce energy costs by improving the energy efficiency

Question: Why can the client not exit the business? Sell this business to some one and start something that is profitable? What issues do you foresee if you have to do so?

- Who will buy this business?
- How much can we sell this for?
- Issues with laying off several people

Instructions to the Interviewer: Ask for final recommendations.

## Case 8: Home Improvement Retailer

## Company: Deloitte Consulting (Strategy \& Operations)

A home improvement retailer in the US has just entered the installation services business. Their staff would go to the customer's location for an additional fee and install the products bought at their retail shops. Currently the company has revenues of about $\$ 10$ billion and the company had previously grown through some key acquisitions. Revenues are expected to grow at $10 \%$ every year. They want their home installation services to be $20 \%$ of their revenues in 5 years from now. To expand they are considering three options - Internally build capabilities by hiring people, start Franchises, Acquire other installation companies. What should they do to expand? You don't have any other data or information.

## Suggested Structure:

The case tests a candidate for clock speed and intuition without major scope for data crunching.
Step 1: Calculate how big the installation business should be in 5 years
Step 2: Decide on criteria to compare among the three options
Step 3: Come up with qualitative pros and cons of each option with regards to each criterion decided
Step 4: Propose recommendation

## Solution:

Step 1: How big the installation business should be in 5 years?

| Year | Total Revenue in \$b |
| :--- | ---: |
| Yr 0 | 10 |
| Yr 1 | 11 |
| Yr 2 | 12.1 |
| Yr 3 | 13.31 |
| Yr 4 | 14.64 |
| Yr 5 | 16.11 |

So $20 \%$ of $\$ 16.11$ b is approximately $\$ 3.2$ billion dollars. This is a big number and is not an easy task. The insight is that if this has to happen within 5 years then the expansion has to be rapid.

Step 2: The candidate can come with any number of criteria for comparison. Some suggestions are

- Capital investment
- Market share
- Margins
- Cultural fit
- Entrepreneurial spirit
- Control of employees
- Customer relationship
- Training the employees and Learning curve
- Consistency of business processes
- Integration of IT systems
- Exit risk


## Step 3: Comparison

| Criterion | Internally build | Franchise | Acquire |
| :--- | :--- | :--- | :--- |
| Capital Investment | High | Low | Moderate to High |
| Market Share | Difficult to build quickly | Quick expansion possible | Quick expansion possible |
| Margins | Relatively high | Relatively low as Franchise <br> will get a $\%$ | As high as internally build |
| Cultural Fit | Easy to shape | Difficult | Very entrepreneurial |
| Entrepreneurial spirit | Not easy to achieve | Not possible | May or may not be |
| Control over employees | Strong | Strong <br> be consistent. Easy to put a <br> single face to the customer | Has to be built. But <br> difficult to put a single face <br> to the customer. |
| Customer Relationship | Has ach acquire customers and <br> existing relationships. <br> Difficult to put up a single <br> face |  |  |
| Learning curve | Difficult learning curve | Difficult learning curve | Already skilled and know <br> the business |
| Consistency of <br> processes | Have to be built. Little easier <br> than other options | Have to be built | Have to be built |
| Integration of IT | IT systems have to be built <br> and integrated | IT systems have to be built <br> and integrated | Systems may be available <br> with target |
| Exit risk | High | Low | High |

## Step 4: Recommendation

From above analysis, each option has both pros and cons. The interviewer actually said the company went in for the acquisition strategy given their previous experience and the need to quickly expand to prevent competitors from gaining advantage.

Any recommendation is agreeable but the candidate should be able to defend it with strong logic

## Case 9: Airlines Catering

Company: Oliver Wyman
After the September 11, 2001 incident, air travel in the US declined to unforeseen levels and most of the airlines were looking at all possible ways to cut costs. Our client is an airline which had cut the free meal provided to passengers. It is year 2003 and now the client wants to introduce retail sales of meals, beverages and snacks on the plane for which the passengers will pay. The client has not thought through any of the options, risks and opportunities and have called you at the very thought of this introduction. To introduce this, what are your considerations from an operational perspective?

Clarification: Most candidates start evaluating the benefits and costs of this initiative with the objective of giving a 'Go' or a 'No Go' to the proposal. Please emphasize that the decision to 'Go' has been made and the candidate has to look at operational considerations.

## Suggested structure:

Operationally the following things are important

- Material flow
- Cash flow
- Information flow
- People and their capabilities

Material flow: Some of the questions that need to be answered

- What items to be sold? Meals, beverages, Packaged foods, snacks
- Where to buy them? Or should the airlines start a kitchen and food be made in-house? If it goes for only snacks then they can just buy it from the major retailers.
- How much inventory to maintain in the flight for each item? What is the distribution system till it reaches the plane?
- How to maintain the freshness of food? Certain food types will have to be disposed if freshness is lost.
- What type of food to be sold in each type of flight like long-haul, short haul, point to point etc.

Cash flow: If items are to be sold then money needs to be collected

- Will the passengers pay in cash or credit or debit card etc.
- If they pay by credit card how to establish connectivity? And what equipments are required for that?
- How to make the connectivity very reliable?
- How will the collected money reach the accounting department?


## Information flow:

- The quantity of inventory has to change according to the number of passengers traveling. How will the passenger related information be integrated with the procurement function?
- How and at what frequency will the details of money collected be entered into the accounting systems of the company?
- What systems will be in place to monitor the inventory levels at their distribution centers or at warehouse?


## People and their capabilities:

- Do we have enough staff on board to serve the customers?
- How do we train the staff on board to handling inventory and cash?
- When will the staff take orders from passengers - Before take-off or 'on-need basis? How many selling trips will the staff make in the cabin?
- Who will be primarily responsible for managing inventory and cash?

Summary: Ask the candidate to summarize the key points in 30 seconds.

## Case 10: Strong Steel Company Company: Bain and Company

Strong Steel Co. is a large European steel manufacturing with annual revenues of \$6.3B and operating profits of $\$ 650 \mathrm{M}$. The company operates integrated mills. Their competitors in Europe are 10 other integrated mills (IM's), using 150 year old blast furnace technology and 30 mini-mills (MM's), all of which are smaller than the IM's; they use most modern technology, a method commercialized during 1970's. A process flow diagram for both the technologies and the end product of each stage is given below.


Product: • Melt • Slab • Hot roll • Cold roll • Hot Dip

Question: Ask the candidate what he/she can understand from the flow diagram. (Guide if they don't get there soon)

Answer: Only the melting process is different. All others are same. The basic product (hot roll) feeds the upstream stage, gaining value at each stage.

Main Case Question: A new steel commodity exchange is under development in the European Union. The company will be able to buy and sell commodity steel (hot rolls) on the exchange. With the opening of the online exchange, should Strong Steel Co. continue to make its own commodity steel or should it buy commodity steel?

Additional information: If they decide to exit the production of commodity steel (hot rolls) and decide to buy from exchange, the bought steel will be used as inputs for manufacturing value added steel.

How to solve this case? Let us use the hypothesis driven problem-solving method. Say the hypothesis here is 'Strong Steel should buy commodity steel from the exchange'. To prove this we need to answer the questions shown in the box below.


Data: Provide the following data about Strong Steel to the candidate when asked.

|  | Volume <br> (‘O00 tons) | Price <br> (\$/ton) | Unit Cost <br> (\$/ton) |
| :--- | ---: | ---: | ---: |
| Commodity steel |  |  |  |
| Hot roll | 13.0 | 275.00 | 260.00 |
| Value-added steel | 5.0 | 320.00 | 280.00 |
| Cold roll | 2.0 | 410.00 | 360.00 |
| Hot dipped | 1.0 | 560.00 | 475.00 |
| Electro-galvanized | $\mathbf{2 1 . 0}$ |  |  |
| Total |  |  |  |

The candidate is expected to perform the following calculations for Strong Steel

|  | Sales <br> In \$m | Operating <br> costs <br> In \$m | Operating <br> profit <br> In \$m | Individual <br> revenue as \% of <br> total revenue <br> Commodity steel | Individual profit as <br> a \% of total profits |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Hot roll | 3575.0 | 3380.0 | 195.0 | $54.54 \%$ |  |
| Value-added steel |  |  |  |  | $33.62 \%$ |
| Cold roll | 1600.0 | 1400.0 | 200.0 | $24.41 \%$ | $34.48 \%$ |
| Hot dipped | 820.0 | 720.0 | 100.0 | $12.51 \%$ | $17.24 \%$ |
| Electro-galvanized | 560.0 | 475.0 | 85.0 | $8.54 \%$ | $14.66 \%$ |
| Total | 6555.0 | 5975.0 | 580.0 | $100.00 \%$ | $100.00 \%$ |

[^0]Key conclusion from the calculations: The profits and revenues contributed by commodity steel is significant to Strong Steel.

Additional data: To produce commodity steel the operating costs for mini-mills is $\$ 220$ per ton
Key conclusion: It is highly likely that the price of commodity steel on the exchange will drop below $\$ 260$ which is the variable cost per ton for integrated steel manufacturers. This means that our client will make losses

How much should be the minimum saving from the 'Buy' decision so that we can maintain the same profits as now? (The steel bought will be used as inputs to the value added steel)

## Calculations to be performed by candidate:

Profits that the client will give up = $\$ 195$ million
Number of tons produced after exiting commodity steel $=8000$ tons (Only value added $=$ 5000+2000+1000)
To keep the same profits extra savings needed $=195,000,000 / 8000=\$ 24.375$ per ton
Buying commodity steel in the exchange should result in at least \$ 24 to $\$ 25$ per ton saving keep the same profits.

Recommendations: The numbers and environment suggest that Strong Steel should exit commodity steel production and start buying from the exchange. Ask the candidates for the risks of such a decision to exit

- Union and labor issues from laying off labor
- Pressure from the government
- Loss of control on quality of steel
- Competitive weakness
- Subject to fluctuations in the market price


## Case 11: DVD rental store

Company: Bain \& Co
A regional video rental chain is facing declining profits for the past 2 years. You are hired to identify the root cause and make suggestions to reverse the trend

## Suggested Structure:

This is a straight Revenue and Costs case. Test the candidate for various hypotheses and math skills.

Step 1: The candidate has to identify sources of revenue. Then he has to propose various hypotheses possible for a decline in sales volume. (At least 5 to 7 hypotheses)
Step 2: Candidate may want to look at pricing and pricing arrangements. Then he has to propose various hypotheses possible for a decline in prices.
Step 3: The candidate has to identify sources of cost. Then he has to propose various hypotheses possible for a decline in revenue. (At least 5 to 7 hypotheses)

Sources of revenue: The main source of revenue is the rental fee collected. The other source of revenue could be late fees. Though the company doesn't sell DVDs some candidates may mention this. Some hypotheses for sales decline

- Increase in rental fee
- Long waiting list and stock outs due to improper inventory management
- Deterioration of customer service levels
- Increase in late fees
- Entry of competition like Netflix or new competitor stores
- Overall industry decline (Less new movies being made)
- Substitute products like Video-On-Demand and direct streaming of video to PC
- Increase in pirated DVD market
- Cut in advertisement spend and budget resulting in poor publicity
- Store locations in key markets changed to reduce cost

Ask: The candidate may also want to monitor changes in metrics like Same-store sales, Sales per square feet, Number of customer visits per store, Revenue per customer, New store sales, Sales by geographic region etc. Ask the candidate for the metrics he would like to explore. We don't provide any data here but the idea is to see how the candidate thinks.

Pricing arrangements: The revenue is captured through pricing. Ask the candidate for different methods of pricing for a DVD rental business

- Fixed monthly fee
- Fee for DVD based on number days of use (Example: $\$ 2$ per movie per day or $\$ 5$ per movie per week)
- Price discrimination (lower price for members and higher price for non-members)
- Pricing based on 'On-time DVD return record'
- Pricing of late fee (Penalty increases with each day the DVD is not returned back)
- Different price for new and old movies
- Student discounts
- Additional fee for value added services like home delivery, home pickup etc

Price can go down for several reasons. But mainly the candidate should touch upon pricing pressure from competition and substitute products.

Sources of cost: For a DVD rental chain some of the costs could be

- Store rental charges (Real estate)
- Cost of DVDs
- Some times the movie distributors have a revenue sharing agreement with the chains
- Labor cost
- Store maintenance costs like energy, utilities, insurance and so on
- Advertisement and promotion costs
- Damaged and lost DVD costs (Includes shrinkage and non-returned items)
- Corporate over heads
- Taxes to government

Increase in the above costs could have resulted in a profit decline. It is a good idea to group the costs as internal and external costs. The other way to group it would be fixed and variable costs.

## Testing the Quant Skills:

Provide this information to the candidate - 'Based on our analysis we find that there has been an increase in the labor costs in the last 2 years. We also find that a high percentage of customers don't return the DVDs on time. As the company currently doesn't have any late fee this is resulting in stock outs and customer defection. So the company wants to introduce a 'Late fee' program. You have to do 2 things now

- Quantify the impact of the increase in labor costs
- Recommend if the company should go ahead with the 'Late fee' program

Impact of increase in labor costs: Provide the following data to the candidate.

| Number of stores | 300 |
| :--- | ---: |
| $\%$ of stores affected by labor cost increase | $16.667 \%$ |
| Store working hours per day | 12 |
| Annual working days | 250 |
| Number of workers per store at any given time of day | 4 |
| Labor cost per hr per worker (Before cost increase) | $\$ 9$ |
| Labor cost per hr per worker (After cost increase) | $\$ 12$ |

## Calculations to be performed by the candidate:

| Total number of man hours per year per store | 12000 |
| :--- | ---: |
| Total number of stores affected by labor increase | 50 |
| Total man hours per year in affected stores | 600000 |
| Total annual labor cost in the affected stores before the cost increase | $\$ 5,400,000$ |
| Total annual labor cost in the affected stores before the cost increase | $\$ 7,200,000$ |
| Total increase in costs | $\$ 1,800,000$ |

The increase in labor cost is approximately $\mathbf{\$ 1 . 8}$ million Should they implement the 'Late fee' program?

[^1]The candidate will have to explore the benefits and costs of the late fee program. Provide the following data only when requested by the candidate

| Number of stores | 300 |
| :--- | ---: |
| Annual working days | 250 |
| Number of customers per checking out per day per store | 100 |
| Average number of DVDs a customer checks out per visit | 2 |
| Maximum number of days a customer can keep DVD (as per policy) | 3 |
| Fee per DVD (All customers pay this amount irrespective of number of <br> days they keep this) | $\$ 6$ |
| \% of customers who return DVDs later than due date | $10 \%$ |
| Average number of late days | 2 |
| Late fee proposed per DVD per day | $\$ 1$ |
| \% of current revenue lost because of late fee introduction (Assume this <br> make some customers choose another competitor who offers no late <br> fee) | $8 \%$ |

## Calculations to be performed by the candidate:

| Current revenue | $\$ 90,000,000$ |
| :--- | ---: |
| Expected late fee collection (Treat this as revenue) | $\$ 3,000,000$ |
| Revenue lost because of late fee collection | $\$ 7,200,000$ |
| Net revenue from this initiative | $(\$ 4,200,000)$ |

Numbers show that the 'Late fee' program will result in a net loss of revenues. Probably they should not go ahead with this program.

## Question:

1) Ask the candidate for ways to reduce labor cost
2) Ask for alternative ways to ensure timely collection of DVDs back without late fee

Look for creative answers

## Case 12: Flying-bird Airlines <br> Company: McKinsey \& Co

Flying-bird Airlines is an airline in the middle-east that serves Africa and Australia. They are a small company with a fleet of just 25 aircrafts. Company performance is mediocre and the CEO of the company is looking for opportunities to improve the profits. The company doesn't have funds or avenues for obtaining funds to buy planes or make major investments in the immediate future. How would you approach this situation?

## Instructions to interviewer:

This is a Straight Profits = (Price * Volume - Costs) case. Guide the candidate to start with ways to improve revenues.

Question: How can they increase revenues? At least 5 hypotheses - Some suggestions are

- Advertising
- Better customer segmentation and promotions tuned to the needs of different segments
- Analyze the routes and schedules. Then look at possibilities to change routes and schedules to attract more passengers
- Develop a demand curve for each flight and work around pricing to attract more passengers (Yield management)
- Study all the points of customer interaction and explore opportunities to improve customer service (If candidate talks about this you may ask for examples)
- Join an existing alliance or partner with other airlines.
- Restructure the sales force to improve ticket sales effectiveness (Align their incentives, increase their selling time, establish key account managers and so on)
- Work on the frequent flyer program (if any) and improve the program to retain customers. Look at aspects like co-branding etc. Also may also want to look at miles and revenues as against only miles while rewarding passengers.
- Start in-flight sales of various items (food, gifts etc)
- Introduce vacation packages
- Enter into cargo transportation (if possible)

Question: The CEO of Flying Bird Airlines is interested in entering into a partnership with a major airline that flies to the same destinations. The CEO wants recommendations on what they should consider when determining if they should enter into the alliance.

- What will be the benefits from this alliance?
- On what basis will the revenues be shared?
- How to share costs? - Costs like advertising and so on
- Will there be any issues to the brand image and positioning? (ex: a low cost airline wouldn't want to have an alliance with a premium airline)
- Are there cultural differences between the employees of the airline companies (The staff of both airlines need to co-operate on a daily basis to make this work and cultural differences would lead to issues)
- How to integrate the IT systems? Are they compatible?

Question: The alliance is expected to improve the load factor of the planes. (If the candidate asks for the definition of load factor, please say 'Load factor is defined as the ratio of actual number of passengers in a plane to the total number of seats in a plane') Calculate the current profits per plane per flight. Give the following information to the candidate:

Average flight of a plane $=1000$ miles
Seats per plane $=250$
Fixed cost per plane per flight = \$20,000
Revenues $=\$ 0.25$ per passenger per flight mile
Other costs = \$0.10 per seat per mile (not per passenger)
Provide information about current load factor only if the candidate asks for it.
Current load factor $=80 \%$
The candidate is expected to perform the following calculations first.
Revenue per plane per flight $=80 \%$ * $250 * 1000 * 0.25=\$ 50,000$
Profits per plane per flight $=50,000$ - Fixed cost per flight - Variable cost per flight

$$
=50000-20000-0.10 * 250 * 1000=\$ 5000
$$

Question: Now if the alliance would lead to a $50 \%$ increase in profits per flight, how much will the load factor increase? Assume the other data given previously remain the same.

The candidate is expected to perform the following calculations first.
Post-alliance Profits per plane per flight $=1.50 * 5000=\$ 7500$

Also profits per plane per flight

$$
=(\text { Load factor } * 250 * 1000 * 0.25)-(20000+0.10 * 250 * 1000)=\$ 7500
$$

Therefore the new load factor per flight $=84 \%$. The other way to interpret this is, 'If the load factor increases from $80 \%$ to $84 \%$ the profit per flight will increase by $50 \%$ '

Question: The CEO also wants to know what areas to attack to reduce costs and needs some quick suggestions?

- Hedge fuel
- Eliminate routes or schedules with very low load factor
- Outsource aircraft maintenance
- Introduce technology and automation to reduce labor costs
- Outsource or offshore ticketing, customer support, billing, rewards and related functions
- Explore options to flying into airports where the gate costs may be cheaper


## Case 13: Rental car company acquisition

Company: Accenture - Strategy practice

Your client is a BIG-3 car manufacturer from the US. The client is interested in acquiring a leading rental car agency in the US. What key questions you will answer to help the client make a decision. And is this acquisition a good idea?

Structure: The candidate should disaggregate the problem into the following steps

- What is the objective behind the acquisition?
- How is the target performing as a stand alone company? Its company growth rate, profits, industry growth...
- What are the synergies between our client and the target?
- Operational synergies
- Financial synergies
- Can the target be disciplined and improved?
- What are the risks in this acquisition?
- Is there a cultural fit between the client company and the target?
- Is there a competitive bid? Will the client have more synergies than if the competitor acquires the target?
- The financial details of the acquisition - How much is the client going to pay and do they have the source for funding the acquisition?
- Do the managers executing this deal from the client side have experience in deal making and post-merger integration? Else do they need training or special inputs?

Instructions to the interviewer: Guide the discussion on the operating synergies. What are the possible operating synergies and negatives of the acquisition? A good candidate will at least mention 2 synergies and 2 negatives.

## Revenue synergies:

- The rental car company will be an assured customer and this will help the client boost their sales and improve market share
- If the rental care company has strong presence in international markets, this will help the client to expand and establish a strong foothold in the international market.
- More frequently the customers rent client's car more likely they will buy cars sold by the client in the future (for personal use). This can induce customer demand for our client's cars
- Gives the client an opportunity to rent new model cars and induce demand
- Gives the opportunity to stay closely in touch with the customer and understand their requirements and make quick changes if needed. Also this helps in generating ideas for new product development


## Cost synergies:

- Reduction of corporate, administrative costs and overhead
- Both companies have a claims processing division and can be merged to reduce cost


## Potential risks:

- How will the other rental car companies react to this? What if other rental car companies refuse to buy our cars?
- What if competitors stop supplying their cars to our target?


## Case 14: Automotive Parts - Make vs Buy Company: A.T.Kearney

Our client, a global automobile manufacturer has been losing money for several years in its North American division. The new CEO suspects a big reason may be his company's high degree of vertical integration. This client makes about $70 \%$ of its own parts, compared to $30-50 \%$ at its chief competitors. The CEO has asked us to develop a cost saving strategy around this issue

Instructions to the interviewer: This case tests the candidate's ability to develop a framework to solve the problem rather than the candidate's ability to crunch numbers. Most A.T.Kearney cases we have seen are like this. And this case is a great example for how to arrive at hypothesis.

## Background information (available if asked for)

- The client spends $35 \%$ of its North American revenues on its parts-making operations
- It buys (sources) another 10\% from independent suppliers, most but not all of which are located in North America
- Its parts-making operations are spread over six divisions and cover about 100 plants in the U.S. and Canada. The same parts are often made in several plants
- All the plants are union, with high labor costs and generally average (often poor) quality
- Top UAW executives are split over issue of "give backs" - reducing labor rates, benefits, retirement perks, etc., in return for fewer layoffs. Some union execs want to work with the new CEO, others want to show him how strong the union is
- There is excess capacity in our client's parts manufacturing plants, as well as throughout the auto parts supplier industry
- Auto parts suppliers would be eager to win business from our client because it would reduce their dependency on the other two U.S. auto manufacturers


## How to approach the problem? - Great example of hypothesis driven problem solving

- First question
- "Given the situation, what is the key hypothesis? How would you state it?"
- Note to interviewers: a strong hypothesis is a testable statement that, if true, has significant implications for the client
- Expected answers should be something like:
- "The client could save \$X millions by making only those parts where it has a competitive advantage or a strategic requirement (i.e., to be in the business of making a certain part)"


## - Second question

- "Let's assume for the moment that your hypothesis proves to be true. What are the significant implications to our client?"
- Listen for the soundness of the candidate's logic, or for the creativity/intuition she uses to answer this question


## Third question

- "Let's assume the hypothesis is as follows: The client could save \$X millions by making only those parts where it has a competitive advantage or a strategic requirement"
- "How would you go about testing this hypothesis?"
- Note to interviewers: this is the same as asking for a basic framework or work plan what are the key issues that need to be resolved? How are you going to resolve them?
- Stay at the "big picture" level - no need for details here


## At a minimum, frameworks should cover these key points:

- Comparative costs
- What it costs our client to make the parts, versus what it would cost to buy them from independent suppliers
- Strategic value
- What strategic value is there to making certain parts, even though they could be purchased for less than it costs to make them, e.g., batteries for electric vehicles


## So a good framework might be:



## Better frameworks would incorporate some of these features:

- Would this be practical?
- Include union and client managers on the study team to promote buy-in of the results
- Benchmark the client's North American parts manufacturing plants
- Against themselves to show "best current capabilities"
- Against other firms' auto parts manufacturing plants
- Get quotes from potential suppliers around the world for a broad cross-section of parts to establish market prices
- Interview the client's R\&D, design and engineering managers to determine which parts are strategically important and why
- Given the excess capacity in the industry, assess the opportunity for further cost savings by consolidating parts currently made in several plants into a single plant
- Analyze the cost chain and cost drivers of parts manufacturing. This would lead to the importance of standardization of parts across platforms, and economies of scale


## Case 15: Dry cleaning business entry Company: Booz Allen Hamilton

A large consumer package goods company (say Proctor and Gamble) wants to enter the Clothes washing and dry cleaning business in US. They want to set up a chain of retail shops that will offer washing and dry cleaning services to consumers. They would want about $\$ 1$ billion annual revenues and $10 \%$ operating profits from this business in 3 years. They have hired your team to help them make a decision. How would you go about it?

Instructions to interviewer: This case is more about understanding how the candidate thinks about the problem. While many details were not provided in the interview, we have researched and made the details available and made the problem tougher.

## Sample structure:

One way to look at it is to use Porter's 5 forces but it is too common a framework that interviewers don't like it very much.

A simple but powerful way to look at is as follows

- The first step will be to see if there is sufficient demand for the service and if the client can obtain a significant market share to generate required revenues
- Then even if there is sufficient demand, can they make the required profits
- Next, what capabilities does the client have to enter this business? Why can the client do this business better than the other competitors?
- Is the new business aligned with the image and vision of the company?
- If the company decides to enter the business, what will be the mode of entry?


## Details to be provided when asked:

- The laundry and dry cleaning industry will grow $10 \%$ in 3 years from now (About $3.25 \%$ per year)
- The industry size in the US is about $\$ 9$ billion. Of this $60 \%$ is retail full service shops, $20 \%$ is industrial washing like uniform washing services and $20 \%$ is coin operated self-service.
- There are about 30000 retail stores in the US. About $80 \%$ of them are mom and pop stores and the remaining are small chains
- The most common and most profitable form of dry-cleaning business is the "full plant". Companies that perform all of the processing on the premises. These firms often include additional pick-up and drop-off points that provide the main plant with goods to dry-clean.
- P\&G has some of the leading detergent brands in the US like Tide


## A good candidate will explore the following:

- How many stores should P\&G open (or acquire) to achieve their revenue targets? However acquisition is very difficult as the industry is very fragmented. Provide the following details for calculation
- On average a store operates 300 days a year
- Each day they process about 0.1 tons of clothes
- And they charge about $\$ 6000$ per ton of clothes

Upon calculating, P\&G should open about 5500 stores in next 3 years to generate a $\$ 1$ billion in revenue. In 3 years the market size would be 1.1 times $\$ 5.4$ billion and will be about $\$ 6$ billion. To generate $\$ 1$ billion from this means capturing $16.67 \%$ of market share.

Is it possible to achieve that kind of a market share in 3 years given the fragmented and highly competitive nature of the industry? Candidate should make a compelling argument indicating the strengths and synergies that P\&G can bring to make it happen (like branding, advertising, marketing, promotions, technology, economies of scale, logistics and distribution)

- How will P\&G be able to make $10 \%$ operating profits? For this provide the following details and ask the candidate to calculate operating profits on a per store basis. This margin is the current industry performance level
- Cost of labor = $\$ 7$ per hour.
- 5 laborers per store and they work 8 hrs on average per day
- Cost of detergents, washing solvents = \$2000 per ton of clothes
- Water, electricity and effluent treatment charges $=6.667 \%$ of revenues
- Annual rental for real estate = \$15000

On calculations the profit equals $\$ 9000$ which is $5 \%$ of revenues.

Thus leads to the question, 'Will P\&G generate 2 times the industry profit margins to get 10\% profits?' In addition is this business in line with the vision of P\&G to be the leading branded Consumer Packaged Goods Company?

Answer: Typically 50\% candidates say they P\&G should enter this business and $50 \%$ say they should not. More than the answer, the candidates thought process and ability to substantiate their answer with confident arguments is important

## Case No.16: Norway cement company expansion (Mini case)

 Company: Accenture (Strategy Practice)This is the map of Norway. A major cement company would like to expand their geographic coverage in Norway. What information would you need to know? Should they expand? And finally, where should they expand?


## Sample structure:

- Understand their current geographical coverage
- Understand the competitive situation and demand situation in other regions
- What resources they need for expansion?
- What are the potential issues in expansion?


## Information to be provided when asked:

- We currently dominate the South part of the country. We have $60 \%$ market share in the south. We have only one manufacturing facility which is in Oslo
- South constitutes $70 \%$ of the cement market and Central Norway constitutes $25 \%$
- There is one other major competitor in the central region of the country. The competitor has $80 \%$ market share in that region.
- The population density of the country is high in the South, and sparse in the north.
- There is a new port planned to be constructed in the center of the country. It will require more cement supply than the current competitor can handle.
- We have no special technology that is superior to any other competitor.
- Southern competitors are small and highly fragmented.

Answer: The answer is not very important but the candidate's ability to substantiate his/her answer with confident arguments is important. Ask for a 30 second recommendation at the end.

## Case No.17: Electricity market

Company: The Boston Consulting Group
You are on a project to study the economics of the electricity market in a hypothetical country called Riveria. The market has three types of electricity plants coal fired, oil fired and gas fired. The table below summarizes the economics of each type

| Type of power plant <br> based on fuel source | Cost per unit of <br> electricity | Price per unit of <br> electricity | Annual market supply <br> available (units of <br> electricity) |
| :--- | :--- | :--- | :--- |
| Coal | 35 | 50 | 10 |
| Oil | 75 | 100 | 15 |
| Gas | 125 | 175 | 25 |

The market operates on a 'Marginal Price' basis - That is the price of all units sold will be equal to the price of the last unit sold. For example if the market demand equals 50 units then the price of all 50 units sold will be $\$ 175$ per unit irrespective of it is coal fired, oil fired or gas fired.

Instructions to the interviewer: This case tests the economics fundamentals of the candidate and the quantitative skills. The candidate just needs to answer the following questions

## 1) Draw a demand curve for a demand range 0 to 50 units

## Answer:


2) Who makes the most profits (\$) when the market demand is $\mathbf{3 5}$ units?

Answer: The oil fired power plants will make more \$ profits. At demand = 35 units the market price per unit will be $\$ 175$ per unit

| Type of power | Cost per unit | Price per unit | Capacity sold at demand $=35$ units | Profits |
| :--- | ---: | ---: | ---: | ---: |
| Coal | 35 | 175 | 10 | 1400 |
| Oil | 75 | 175 | 15 | 1500 |
| Gas | 125 | 175 | 10 | 500 |

[^2]
## 3) Assuming no further capacity addition, within what demand ranges

1) Coal fired plants make more $\$$ profits than others
2) Oil fired plants make more $\$$ profits than others
3) Gas fired plants make more \$ profits than others

## Answer:

a. Coal fired plants are the most profitable for all values of demand between 1 and 25 units.
b. Oil fired plants are the most profitable when demand is between 26 and 50 units
c. Gas fired plants are never the most profitable. They make the least dollar profits among the 3 in the given demand range

Calculations: Profits in dollars

|  |  |  |  |
| :---: | :---: | :---: | :---: |
| Plant type | Demand $=10$ | Demand $=25$ | Demand $=50$ |
| Coal | 150 | 650 | 1400 |
| Oil | 0 | 375 | 1500 |
| Gas | 0 | 0 | 1250 |

4) What are the implications of this kind of market conditions for your client who is in this market?

- A new competitor who may enter the market can change the market economics depending on what type of plant he sets up and how much capacity he installs
- It is important to forecast demand accurately and if required diversify the portfolio with a combination of different types of plants


## Case 18: Green Machine hybrid car pricing in Australia Written by GCG

Green Machine wants to launch an electric-hybrid (compact-sedan) in Australia. They want to know how to price it? Your team has been hired to help them formulate at a pricing strategy.

Sample structure: A product can be priced in 4 different ways

- Value based pricing
- Cost plus pricing
- Competitive pricing
- Pricing based on supply and demand

Instructions to the interviewer: Each method has its own merits and de-merits. One has to use all the methods to triangulate and arrive at a price range. Later bundling with features, skimming and discrimination techniques can be used to realize healthy prices and profits.

## Details to be provided when asked:

- Green machine is a domestic car manufacturer in Australia.
- The size of the Australian car market is about 700000 cars per year of which $80 \%$ is sedans
- The consumers are shifting more and more towards fuel efficient cars as the fuel price in Australia is very high compared to many other countries
- There are currently no hybrid vehicles in the mainstream in Australia. However Toyota and Honda are planning to launch hybrids in Australia in about 3 years
- Hybrid cars were introduced about 7 years back in the US. Toyota sells Prius at about $\$ 35000$ and Honda sells Civic-hybrid at about $\$ 31000$
- Green Machine hybrids drive 40 miles per gallon in the city and 33 miles per gallon on the highway (Hybrids are actually more efficient in city driving than highway driving)
- Non-hybrid sedans average 20 mpg in city and 25 mpg on highways and they sell for about \$20000 to \$23000
- An average Australian car owner drives 20000 miles with about 50\% in-city driving and 50\% highway driving
- Hybrid cars have a higher maintenance cost - about \$125 per year more than other cars
- Cost to manufacture a hybrid is about $\$ 20000$. The additional distribution expenses are about $10 \%$ and Sales and Marketing expenses are an additional $15 \%$ of manufacturing cost.
- Average car owner keeps the car for 5 years. Cost per gallon on gasoline in Australia is $\$ 3.50$
- Apart from waiving taxes, government is willing to give a $\$ 1000$ subsidy per hybrid car sold

Value based pricing: The candidate has to identify the incremental value that the hybrid will provide over the conventional sedans on a per car basis.

Calculations show that theoretically a customer will be willing to pay up to $\$ 5500$ more per hybrid car when compared to a non-hybrid car.

Calculations:

| Incremental savings per car from using a hybrid |  |  |
| :--- | ---: | ---: |
|  | Hybrid | Non-hybrid |
| Total miles driven by a owner/yr | 20000 | 20000 |
| Total city miles (50\%) | 10000 | 10000 |
| Total highway miles (50\%) | 10000 | 10000 |
| Mpg in city | 40 | 20 |
| Mpg on highways | 33 | 25 |
| Total gallons of gasoline on city/car/yr | 250 | 500 |
| Total gallons of gasoline on highway/car/yr | 300 | 400 |
| Cost per gallon of gasoline | $\$ 3.50$ | $\$ 3.50$ |
| Total cost of gasoline/car/yr | 1925 | 3150 |
| Incremental maintenance costs for a hybrid/yr | $\$ 125$ |  |
| Annual incremental saving from a hybrid car (\$)/yr | 1100 |  |
| Total life of a car (yrs) | 5 |  |
| Total incremental savings per car over 5 years (\$) | 5500 |  |

The comparable non-hybrid cars are sold for anything between $\$ 20000$ and $\$ 23000$. The customer will be willing to pay anywhere between $\$ 25500$ and $\$ 28500$. But the candidate needs to do a quick check if this range is higher than the cost of making and selling the car.

| Cost of a Hybrid | Hybrid |
| :--- | ---: |
| Manufacturing cost | 20000 |
| Distribution cost (@ 10\% of mfg cost) | 2000 |
| Sales and marketing cost (@15\% of mfg cost) | 3000 |
| Government subsidy or credit (to be subtracted) | 1000 |
| Taxes | 0 |
| Total cost (\$ per car) | 24000 |

It appears that $\$ 25500$ to $\$ 28500$ is a reasonable price range.
Instructions to the interviewer: Once a candidate reaches this answer, you may push the candidate to the next level. There is an opportunity to deploy 'Skimming' strategy and price the hybrid higher than $\$ 28500$. They may be some customers who are willing to pay more than $\$ 28500$. People like car collectors, environmentally conscious corporate companies, people who consider a hybrid as a status symbol and so on. And given that no other competitor is planning to launch hybrids in the next 3 years suits this strategy well. The candidate gets extra points for thinking in these lines without prompting from interviewer. Provide the following information to the candidate and ask to perform the required calculations

In a consumer survey about 15000 consumers said they will pay $\$ 35000$ for a hybrid within the next 3 years. 10000 consumers said they will pay $\$ 30000$. And 25000 consumers said they will pay $\$ 27500$ for a hybrid in the next 3 years. Now how should the client go about pricing it?

Candidate is expected to calculate the profit from hybrids in the next 3 years and then decide the price.

| Price (\$ per car) |  |  |  |
| :--- | ---: | ---: | ---: |
| Number of customers (Equal to number of cars sold) | 35000 | 30000 |  |
| Total revenue | 20000 | 30000 |  |
| Cost | $700,000,000$ | $900,000,000$ | $1,512,500,000$ |
| Total profits | $480,000,000$ | $720,000,000$ | $1,320,000,000$ |

From this it is very clear that the client should employ skimming strategy. Price it at $\$ 35000$ and sell 20000 cars in the first 3 years. Then when competition is about to enter the client can slash prices and attract the consumers who are willing to pay less for a hybrid.

## Case 19: Hammer Jack - Home improvement retailer profitability

Company: Oliver Wyman (This was one of the Mercer practice cases on their website and is not available anymore but very interesting. The case has been modified)

Your client 'Hammer Jack' is a home improvement retailer. They have a national presence and the third largest in the US after Home Depot and Lowe's. Their annual revenue is about $\$ 15$ billion. Their current operating margins are about $4 \%$. They have been facing declining sales for the past 2 years. How can you help them to increase sales? Your recommendation should help them increase sales by at least $\$ 2$ billion in the next 1 year and should help them improve margins to 5\%

## Sample structure:

This case has to be dealt in a very simple manner. If the sales is declining only in the last 2 years then some 'External' or 'Internal' changes should have taken place. The challenge is to identify them.

Before that a few questions about declining sales will help focus on the right areas. For example

- Did the sales decline for all players in the industry or only for our client?

Only for our client

- Is sales declining across all stores or is it specific to any geography?

All stores and not geography specific

- Is the same store sale declining or is it declining in the newly opened stores?

Same store sales declining

- Did the sales decline in any particular quarter or month?

Decline has been more or less uniform across quarters. However it is showing an increasing trend

- Is the decline specific to any particular set of products?

Across products

- Is the decline uniform across all customer segments or is it specific to any particular segment? Provide the following data to the candidate. Guide candidate to this question if he/she doesn't get here within first 10 minutes

| Customer Segment | Bulk buying <br> contractors | Small <br> professionals | Do It Yourself <br> Customers | Total Sales |
| :---: | :---: | :---: | :---: | :---: |
| 2004 revenues (in $\$$ b) | 7.5 | 4 | 5 | 16.5 |
| 2005 revenues (in $\$$ b) | 7.75 | 4.25 | 4 | 16 |
| 2006 revenues (in $\$$ b) | 8 | 4.5 | 2.5 | 15 |

It is clear that the Do It Yourself segment revenues have been declining in the past 2 years. Ask the candidate for his/her hypothesis on why this could be happening. Ask for at least 5-7 different hypotheses. More the number of important hypothesis, more points candidate gets

Details to be provided: After exploring the possible causes tell the candidate that in a survey with the customers it is found that the customer service levels at competitors stores has improved significantly for small customers and the apparently this could be a major reason for customers moving to competitors. Probably the company is focusing more on contractors who place bulk orders
and on professionals who have been shopping at Hammer Jack for several years and tend to be loyal and are mainly price conscious. DIY customers don't mind migrating to competitors and have a very diverse set of service expectations.

How will the candidate confirm this? And what are the different areas of customer service that the client can possibly look at?

The candidate should be able to give a list of things that the client should explore about customer service levels for the DIY customers. For example

- Return policies
- Improve product availability
- Online ordering or over the phone ordering
- Customer loyalty programs
- Training for DIY customers
- Extend the store hours
- Home delivery
- Installation support
- Order online and do quick pick up at shop
- Train the staff to be polite to all customers irrespective of the value of purchase they make
- Introduce technology ex: self-service counters
- Open food counters at the shop

Question: Before presenting your recommendations to Hammer Jack, you should prioritize the options and ensure that they can help the client achieve its sales and margins goal. Present the following chart to the candidate and ask him to pick the top 4 actions

# Incremental revenue in \$m from possible new initiatives 



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It is natural for candidate to jump the gun and add up numbers and select the initiatives based on revenue alone. But the goal is also to increase overall margins to $5 \%$ after implementing these recommendations. The following calculations explain it
Revenue now = \$15 billion
Revenue next year after implementing recommendations should be = \$17 billion
$5 \%$ of 17 billion $=850$ million
Current margins $=4 \%$ of 15 billion $=600$ million
So the candidate has to choose those initiatives that will sum up to $\$ 2$ billion incremental revenue and at least $(850-600)=250$ million dollar additional margins. So the candidate has to ask for margins for each of these initiatives because the cost structure for each of these initiatives is different. Provide margins \% data only when asked

| Initiative | Incremental <br> revenue <br> (\$ million) | Margins <br> $\%$ | Profits |
| :--- | ---: | ---: | ---: |
| Extend Store Hours | 350 | $12 \%$ | 42 |
| Introduce financing schemes for buyers | 700 | $6 \%$ | 42 |
| Free Home Delivery | 650 | $10 \%$ | 65 |
| Customer Loyalty Program | 450 | $12 \%$ | 54 |
| Training Classes for customers on self <br> installation | 800 | $10 \%$ | 80 |
| On call installation support | 400 | $9 \%$ | 36 |
| Provide warranty support and insurance <br> for purchases | 750 | $8 \%$ | 60 |

It is clear that the 4 top initiatives should be

1. Training classes for customers
2. Free home delivery
3. Provide warranty support and insurance services for purchases
4. Introduce customer loyalty program

Ask the candidate to give a 30 second summary of findings and recommendations

## Case 20: Clicks Photography <br> Company: Bain and Co

Our client, a photography company, currently makes money by selling film and photo paper. They have experienced declining profits over the past five years. We have determined that our client's declining profitability due to volume declines resulting from digital substitution. As a result, the client is now considering a few new business ideas to enter digital photography. Our client has been approached by Kmart in order to place "kiosks" within each of their stores. Kiosks are self-serve stations that allow users to print their digital photos on the client's paper. How do we evaluate the attractiveness of this opportunity?

Suggested structure: Any new opportunity has to be profitable at least in the medium and long run. The following questions should be answered to get there

Demand - What is the market demand for the digital photography printing services at K-Mart?
Profits - Even if there is good demand can the client turn profits?
Capabilities - What capabilities and resources does the client have to be successful in this business?
Risks - What are the potential risks of this agreement with K-Mart?
Step 1: Size the market opportunity - Estimate the potential demand for digital prints per year within a single Kmart store as an example
Top down calculation:

- 1 M people in Boston
- $\quad * 10 \%$ are Kmart customers $=100 \mathrm{~K}$
- $\quad * 10 \%$ of customers go to Kmart to do photo finishing $=10 \mathrm{~K}$
- $\quad * 5 \%$ of these customers use a digital camera $=500$ people
- *average person prints 100 digital photos per year $=50 \mathrm{~K}$ prints

Bottom Up calculation:

- How many people go to a single Kmart per year?
- 2500 customers per day
- *350 days/yr $=875000$ visits per year $=0.9$ million approximately
- How many digital prints will this translate into?
- Average customer goes to Kmart ten times a year $(0.9 \mathrm{M} / 10)=90 \mathrm{~K}$ unique customers
- $\quad * 10 \%$ of customers go to Kmart to do photo finishing $=9 \mathrm{~K}$
- $\quad * 5 \%$ of these customers use a digital camera $=450$ people
- *average person prints 100 digital photos per year $=45 \mathrm{~K}$ prints

The market opportunity per K-Mart store per year is about 45-50K prints.
Step 2: Is the business profitable - Will it generate a good return on investment?

One of the simple ways to determine this is to calculate the break-even demand and compare it with the potential market opportunity

Provide data to candidate:

- Initial investment per kiosk is $\$ 6000$
- Average price per digital print is $\$ 0.50$
- Fixed cost per kiosk per year is $\$ 5,000$
- Average cost of photo paper per digital print is $\$ 0.10$
- Cost of printing ink per 500 prints $=\$ 75$


## Breakeven calculations:

Revenue $=$ Cost
$0.5^{*} \mathrm{Q}=5,000+\left(0.25^{*} \mathrm{Q}\right)$
$0.25^{*} \mathrm{Q}=5,000$
$Q=20,000$ prints

## Payback calculations:

Assume the demand is 50000 prints per kiosk. Of that only 30,000 prints contribute to the profits (20,000 breaks even). The margin per print is $\$ 0.25$. The total profits per year per store are $\$ 7500$. The payback is less than 1 year

The client would have to believe that it could sell at least 20,000 prints in order to take this action. Here the potential opportunity per year is greater than the breakeven quantity.

## Step 3: Capabilities and resources

The candidate should think of what kind of resources and capabilities they need to be successful in this business. Some questions to ask could be

- Client has to invest in photo printing machines at Kiosks. Do they have funds?
- Do they have enough production capacity to manufacture photo paper?
- Client will have to manage inventory of printing paper and ink at these Kiosks
- Client has to manage if any machine breaks down (or at least they are responsible for revenue loss)
- They need to work out the cash flow mechanism. Will the customers directly use their credit cards when using the self-service kiosk or will use the kiosk and later pay to K-mart


## Step 4: Potential risks and issues - Some examples

- What if the demand is not as high as expected? Should they do a pilot launch?
- What if the present printing technology becomes obsolete in the next few years?
- Will our alliance will KMART prevent us from partnering with other major retailers?
- What if the price per print crashes because of competition from other retailers?
- We are assuming average numbers to decide on this initiative. Should we be focusing only on stores that have more than average customers?
- What if the customers use the Kiosk machine in an incorrect way resulting in machine damage?


## Case 21: Athletic Shoe Manufacturer

Company: Deloitte Consulting (Strategy \& Operations)
The $3^{\text {rd }}$ largest athletic shoe company in the US has hired your consulting firm to determine why its profits are declining while the profits of its two competitors are growing.

Instructions to interviewer: This case was presented by Deloitte's recruitment team in a case practice workshop at one of the top business schools. This case is narrated in a highly interactive style just to demonstrate how a relaxed approach can help a candidate.

- Candidate: Can I have a moment to think through this?
- Interviewer: Absolutely.
- Candidate: If profits are down, that's got to be a function of either revenues decreasing or costs increasing. Let's focus on the cost side: are the client's costs in line with those of its competitors? For example, are their manufacturing costs similar? Do they manufacture and assemble in low-cost offshore locations? What about selling and distribution costs? Is the client spending too much on a dedicated sales force when its competitors use independent reps? What about general and administrative expenses? Does the client have flashy office space or overpaid executives?
- Narrator: This is much better! The candidate gets off to a good start by setting up the answer effectively. The "revenues - costs = profits" equation is simple, but it provides a clear way to proceed through the problem. It lets your interviewer know that you understand a basic business relationship and that you have a plan for rooting out the answer. In addition, the candidate is asking good questions - at least half the battle in consulting is knowing what questions to ask.
- Interviewer: Those are all good questions. But the client's costs all seem to be in line with those of its competitors. Costs don't seem to be the problem. What would you look at next?
- Candidate: If the cost side isn't the problem, then I would look at revenues next. Are sales declining?
- Narrator: The candidate takes the hint and moves on to revenues.
- Interviewer: Actually, yes, revenue is down 6\% from last year, and projections show another $5 \%$ dip for the coming year. How would you go about figuring out why?
- Narrator: A pointed question from the candidate has brought forth more specific information that will help in the consideration of the case. The interviewer's answer means that the candidate will have to dig deeper.
- Candidate: I would try to break sales apart into its relevant components: are sales of certain shoe models declining disproportionately to others, for example?
- Narrator: The candidate might have talked about the two pieces that make up sales: price and units. However, she chooses to break down the sales picture into different product categories, which is also fine.
- Interviewer: Not really, most SKUs - shelf-keeping units equivalent to individual product styles - are actually declining at a similar rate. What would you look at next?
- Narrator: Looks like another dead-end. But don't get depressed - it just means that the recruiter has ruled out another possible explanation and narrowed the candidate's focus a little further. We're getting warmer.
- Candidate: If it's not a few laggard shoes designs driving the downturn for this company, and sales are just down overall, it looks more like people have just stopped buying their shoes, period. We need to figure out why. Who are their biggest customers? What's their target demographic? Are they just not buying athletic shoes anymore?
- Narrator: Having checked a variety of possibilities, the candidate makes a preliminary hypothesis and proposes some ways to check this insight. Even better, she proposes some next steps for the inquiry.
- Interviewer: You've hit on the crux of the problem: the company isn't sure who its customers are anymore. Formerly, its biggest customers were serious athletes interested in high performance shoes. But the company isn't sure if that's true anymore. That's one of the biggest pieces of value we provided for the company - we told them who is buying athletic shoes. How would you go about getting that information?
- Narrator: The interviewer reveals that the candidate has hit on a key piece of the puzzle. Without pausing for breath, the interviewer then checks the candidate's ability to turn her insight into action and her common sense.
- Candidate: Well frankly, l'd go to the mall! I'd stand outside Foot Locker and see who's buying athletic shoes, check what brand they're buying, and maybe even ask them why. By doing this, I'd be able to see that demographic group was buying the most athletic shoes and whether they were buying our client's shoes or not. If not, l'd try to draw conclusions as to why not. In short, I'd try to segment the athletic shoes market, and figure out how to target the most attractive segments.
- Narrator: The candidate uses a common sense approach here, which is really good. Not only is her idea practical, it would be easy to implement and it would be relatively cheap to do. She also shows that she fully understands what information she needs to collect. Not only would she observe customer behavior, and ask them why, she'd also analyze the findings and try to draw general implications from them.
- Interviewer: Well, that's exactly what we did - we went to the mall. And our field research showed that young adults in the 13- to 24 -year old age group were buying $65 \%$ of all the athletic shoes in the market we looked at. That makes them the first priority market segment for our client. The next phase of this case is just beginning: we need to put together a plan to target this demographic group specifically. Do you have any ideas?
- Narrator: Now the consultant is pushing into new territory, trying to see just how far this candidate can take the analysis.
- Candidate: Well, it strikes me that the demographic you've described is less concerned with high performance (the company's current focus, you said) and more concerned with the image of their shoes. Do they look cool? Would Michael Jordan wear them? That kind of thing. I would recommend putting together a marketing and advertising campaign to really pump up their image in the eyes of the young public.
- Narrator: This comment is based more on the candidate's intuition and creative thinking, but it shows that she fully grasps the nature of the problem.
- Interviewer: That sounds on track with what we're thinking about...


## Case 22: Durawear Boots

Company: Monitor (India office)
Your consulting firm has been hired by Durawear, a boots company in Spain. Your case leader wants you to crunch some numbers and present some findings to him. Use the following data to complete the assignment from your case leader



| Segment | Laborers | Executives | Students |
| :--- | :---: | :---: | :---: |
| Population <br> (MM) | 11 | 12 | 7 |

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## Additional information to be provided along with the exhibits

- Durawear manufactures both work boots and casual boots and supplies to the customer segments namely Laborers (Blue collar workers), Executives (White collar workers) and Students
- Laborers buy 2 pairs of work boots per year whereas all others purchase only one pair per year
- Durawear charges 150 Euros per pair of work boots and 100 Euros per pair of casual boots
- The work boot market is expected to grow at $5 \%$ per annum through 2012 and the casual boot market is expected to grow at $12.5 \%$ per annum through 2012


## Questions for the candidate:

1. Calculate the market size for each of the work boot and casual boot segments
2. Calculate the total revenue and profit earned by Durawear in work boot and casual boot products
3. Which segment is most important to Durawear and why?

## Answers:

1. Calculate the market size for each of the work boot and casual boot segments

| Work Boot |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Segment | Population | \% buying work boots | \# of pairs of boots bought/yr | Price per pair in Euros | Segment Size in Euros |
| Laborers | 11 | 60\% | 2 | 150 | 2 billion |
| Executives | 12 | 25\% | 1 | 150 | 450 million |
| Students | 7 | 15\% | 1 | 150 | 155 million |


| Casual Boot |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Segment | Population | \% buying casual <br> boots | \# of pairs of boots <br> bought/yr | Price per pair in <br> Euros | Segment Size in <br> Euros |  |
| Laborers | 11 | $20 \%$ | 1 | 100 | 220 million |  |
| Executives | 12 | $35 \%$ | 1 | 100 | 420 million |  |
| Students | 7 | $55 \%$ | 1 | 100 | 385 million |  |

## 2. Calculate the total revenue and profit earned by Durawear in work boot and casual boot products

|  | Work boot | Casual boot |
| :--- | :---: | :---: |
| Total market size (Euros million) | 2605 | 1025 |
| Durawear Market Share | $16 \%$ | $40 \%$ |
| Durawear revenues | 416.8 | 410 |
| Durawear Profit Margin \% | $15 \%$ | $22 \%$ |
| Durawear profits (Euros million) | 60 | 90 |

3. Which product segment is the most important to Durawear and why? What strategy should they follow for each of these segments?

## Casual Segment

- Profits are higher
- Casual boots will grow at a higher rate in the future
- Should deploy a defensive strategy for work boots segment and aggressive strategy for casual segment

Candidate should also consider other things like what are competitors doing in each of these segments and what capabilities does Durawear possess.

## Case 23: Supply Chain for defense contractor Company: A.T.Kearney

A defense contractor procures materials from multiple vendors and supplies materials to a defense organization. The defense contractor is experiencing problems meeting its cost and delivery commitments. The firm's Vice President has sought the help of AT Kearney to help diagnose problems in the company's supply chain.

## Questions:

1. At a very high level, how would you breakdown the supply chain for such a company? For a supply chain design the candidate should be willing to explore the following
a. Number of Products
b. Number of customers
c. Product demand
d. Transportation
e. Inventory
f. Any warehousing decisions
g. Location of factory
h. Customer location
i. Flow of information
2. We find that Material Costs are $75 \%$ of total costs, and fixed $\mathrm{o} / \mathrm{h}$ and labor are $25 \%$. What are some ways of reducing Material costs? Some answers

- Consolidate suppliers or Change suppliers
- Bring in a procurement team that can negotiate better prices with suppliers
- Launch a continual improvement program with vendors (like what Toyota does)

3. This is how the buying process of our procurement organization works:

Engineers submit a set of designs to a procurement representative. Our representative makes an RFP
(Request for Proposal) to several suppliers; suppliers return with bids and the procurement representative chooses a supplier. Let us take the example of buying printed circuit boards
a. What are the criteria that you would consider to select suppliers? Assume that we're buying about 10,000 circuit boards per month
b. What is the advantage of a large supplier vs. small? Which would you go with?
c. Would you choose suppliers with their own fabrication units or those that outsource manufacturing? Should the fabs be within the US or outside? What are the security implications?
4. What are some ways of making our procurement process more efficient? How can we cut inventory and inbound delivery costs?
5. You bump into the VP in an elevator. Give him a 20 second elevator pitch of all your findings and hypotheses.

## Case 24: Real Estate Legal Services

Company: A.T.Kearney
Our client is a Real Estate Construction Services company with $\$ 6$ billion in revenues. Its legal expenses are $\$ 30$ million. In spite of these high legal expenses, a large percentage of judgments have NOT gone in its favor in the past two years. Our client would like us to diagnose and offer a solution to their problems.

Questions:
How would you go about diagnosing the problems?
What info do you need? How would you collect it?
What are the problems? What recommendations do you have?
Additional information to be given when asked:

- There are 25 lawyers in the company who work on 2 types of operations:
- Contract Review
- Dispute Resolution
- Our costs: $\$ 27$ million external legal counsel (we have 300 legal suppliers) and $\$ 3$ million internal legal counsel
- We have seen an increase in the number of fixed government contracts and consequently the litigations associated with such contracts
- $90 \%$ of external spend is for litigation and dispute resolution
- Companies with similar revenue spend $0.1 \%$ of Revenue on litigation. Construction companies spend $0.25 \%$ of revenue on litigation
- Top $50 \%$ of construction companies have a mix of 6:1 External: Internal legal spending.
- $80 \%$ of our external spending goes to 30 suppliers, for the rest of the industry the equivalent is 10 suppliers.

This case with the interviewer was more interactive than the other interviews we may see. The interviewer was white boarding during the interviewer and he expected the candidate to go to the board and discuss the issues. It was more like a collaborative problem solving session

## Case 25: Blockbuster Store

## Company: Oliver Wyman

After you graduate from McCombs you want to start a Blockbuster video rental franchise. The store should be opened within the US. How will you go about deciding the location for the store?

## Sample Discussion:

Candidate: A step by step method can be deployed to arrive at some options.

Step 1: The store should be located in a city or town or suburb that has a large pool of the type of customers we intend to target.
Step 2: Once we have a few options, we need to evaluate the competitive situation in those selected areas.
Step 3: In areas we are sure we can compete, the cost of operation has to be considered. For example: In some areas the real estate value can be high and some it can be low.
Step 4: Of the locations chosen, ones that can be accessed easily by the customers will be preferred.

The above steps will help one narrow down on very few choices from which the best location suited to conducting business can be selected.

Interviewer: Great. So how would you decide what types of customers to target? What are the different ways to segment customers?

Candidate: Customers can be segmented by age, gender, income levels, movie habits, occupation, marital status, family size etc

Interviewer: What type of customers you would target?

Candidate: Well - people who have a lot of free time are the ones who will watch movies at home. Typically these are housewives, students and people retired from work. Also kids watch animation and cartoon movies a lot. Of these segments the ones that have more money at their disposal are the ones who are likely to rent videos.

Interviewer: Let us say you have identified 10 such markets where there are a large number of customers that you are looking for. What do you do next?

Candidate: I will try to find the number and type of competitors in those markets and also understand their business model and service levels. That will help me understand who I can compete with and who I cannot. Also it will help me understand the gaps in service levels which can be crucial in the decision to open a store in a particular location.

Interviewer: What kind of gaps do you think may exist?

Candidate: Say the store is not easily accessible to many customers who may have to drive a long distance to reach a rental store. Or a store could be small and stock only a few copies of new movies resulting in waiting lists - This means the demand is more than supply and there is an opportunity for a new store.
Interviewer: You also mentioned about cost of operations. Can you explain a bit more about that?

Candidate: The major costs in a retail set up are real estate costs, store maintenance costs, labor costs, and promotion. These costs will have to lower. It is not necessary that I will choose the locations with the lowest cost. The costs have to be optimum for the demand levels anticipated.

The case can build beyond this with more questions. But the interviewer was more interested in understanding the candidate's ability to break a simple problem down into simple steps without putting pen to paper
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