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TOP CONSULTING INTERVIEW PREP

Wharton Casebook
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Case 1: Maldovian Coffins

McKinsey, 1st Round

About This Case

This case was given by McKinsey in first-round interviews and is a "command and control" case. In this style of case, the interviewer allows the candidate to drive the case initially to explore possible routes to a solution. However, once the candidate has laid out a plan, the interviewer takes control and asks the candidate to solve a few specific problems before coming to the final conclusion.

When giving this case, allow for some initial planning and brainstorming by the candidate, but then firmly take control of each of the "modules" described below. Try to move the candidate along through each of them, since in the actual interview only those candidates that complete all of the sections will be considered to have done well. This case tests mental horsepower and the ability to move to conclusions quickly.

The Problem

Our client is a coffin maker in the Eastern European country of Maldovia. He has seen substantial change in his market in recent years and is contemplating the future of his business. Up until now, he has been in the business of building high-quality, hand-crafted coffins largely by hand with a skilled labor force. Recently, however, he has become aware of technology that would allow him to build machine-made coffins with much less labor. Should he invest in this new technology, and should he even remain in the coffin business in the first place?

Information Gathering

Read this information well before you give the case. Note that this case requires you (the interviewer) to drive key points in the discussion. Allow the candidate to formulate a plan and then prompt him/her to consider each of the topics listed below.

***Prompt*: What strategic alternatives should the owner consider?**

> *Good Answer: If the candidate doesn't get all of this, help them along since we need to lay this foundation for the rest of the case* - We need to decide firstly whether to stay in business at all and if so, whether he uses the new technology:

- Option 1: Sell the business to a third party
- Option 2: Sell the assets of the company and shut it down
- Option 3: Keep operating as is
- Option 4: Keep operating and invest in the new technology

***Prompt*: How would you figure out the current value of the business?**

Provide the following information if the candidate asks for it clearly and directly.

Market Size – If the candidate asks for the size of the market, first make him/her brainstorm about different ways to determine market size. A good candidate should come up with at least 4 different ways, such as:

- Calculate from population growth, total population, and birth rate
- Review of death records for a period of time
- Take sample of number of obituaries in paper serving given population base
- Calculate from population, average life expectancy

Now make them calculate the market size, giving them the following data:

Population of Maldovia:	4M
Population Growth:	0%
Avg Life Expectancy:	75 years
Age Distribution:	assume a flat age distribution (i.e. same number of people at every age)
Burial Customs:	75% of deaths are buried in coffins.

Right Answer: 40,000 coffins purchased / year. *Note that the candidate needs to quickly realize that every year, 1/75th of the population will turn 76 and therefore (on average) will die.*

Price – Coffins are priced at $5,000 for a hand-made coffin.

Costs – Material accounts for 10% of the direct cost, while labor accounts for the other 90%. COGS is $4,800 per coffin. Fixed costs for the business are $700,000 per year. Assume all assets are fully depreciated and ignore taxes.

Competition – Maldovian Coffins has a 10% market share and a relative market share of about 1 *(if asked, you may explain that relative market share is the ratio of the company's market share to that of its nearest competitor.)*

Market Trends, Regulation, etc. – If asked about any exogenous factors, simply tell the candidate to assume that the market is expected to continue as it currently is.

The candidate needs to calculate the value of the business now. This is a mathematical exercise.

Correct Answer:

Contribution Margin = $200 / coffin
x 40,000 coffins
x 10% market share

= $800,000

Profit	= CM – Fixed Costs
	= $800,000 - $700,000
	= $100,000

Assuming a discount rate of 10% *(candidate can assume anything reasonable here as long as they are consistent later)* a perpetuity with cash flows of $100k / year has a PV of $100,000 / .1 = $1M. So the current business is worth $1M whether they keep it or sell it.

Prompt: So now what is the value of the company if it were shut down and the assets were sold?

Information to give if asked:

Assets – Since the firm has been building coffins by hand, the fixed assets are essentially only the land and improvements. These are owned outright by the company.

When the candidate asks for the value of the land, have them brainstorm ways that they might determine this. They should come up with at least 3 good ways, such as:

- Look for comparable real estate and determine recent selling price
- Find comparable commercial real estate and determine the rent per square foot, then discount the cash flows generated by renting the property
- Determine rate of appreciation for property in the area and then apply to book value of current land and improvements

Give the candidate the following information and have them calculate the value of the property:

Book Value of Land:	$20,000
Book Value of Improvements:	$80,000
Years Owned:	48
Avg. Real Estate Appreciation:	6% / year

Right Answer: Using the "rule of 72," a 6% growth rate will double the investment every 72/6 = 12 years. Since the property was held for 48 years, the current value will be $100k * (2 ^ 4) = $1.6M.

Since the assets ($1.6M) are higher than the value of the discounted cash flows ($1M), then it would make more sense to liquidate the business and sell the assets.

Prompt: What would the value of the company be if he invests in the new technology?

Provide the following information if asked:

Investment – Investing in the new technology will cost the firm $1M.

Cost Savings – Material costs remain the same, but labor costs are reduced by 50%.

Proprietary Nature of Technology – The new coffin-making technology is being offered for sale by a machine tool company, who holds the patent. They are not offering exclusivity to any customers (i.e. they will sell to Maldovian Coffin's competitors if possible).

Competitive Threat – It is not known whether the competitors have acquired or are planning to acquire this technology.

Customer Preferences – While the machine-made coffins are not "hand made", the quality perceived by the customer is the same or better. It is believed that the customer will be indifferent between the quality and appearance of a hand-made and a machine-made coffin.

Brand Impact – The candidate may argue that a machine-made coffin might negatively impact Maldovian Coffin's brand. If so, ask them how they would test this (e.g. consumer research), but tell them to assume that it would have negligible impact.

Good Answer: Since Maldovian Coffins has no proprietary control over the technology, it is likely that competitors will also acquire it, resulting in an overall lowering of the industry cost structure. If this is the case, price will also fall as competition cuts price in an attempt to gain share. If we assume that gross margins remain the same, since the industry competitive structure has not changed we can calculate the new margin contribution as follows:

Gross Margin = $200 / $5,000 = 4%
Labor Cost = (4800 x 90%) x 50% = $2,160
Material Cost = $480
COGS = $2,160 + $480 = $2,640

Price = $2,640 / (1 - 4%) = $2,718
Contribution Margin = $2,718 - $2,640 = $78
Loss = $78 * 4,000 - $700,000 = -$388,000

So the introduction of the technology to the market might be expected to reduce industry profits, making this business completely unprofitable.

Candidates could argue other scenarios, by assuming that the industry would be able to maintain higher margins than we have assumed here, so the answer may be different. They should recognize, however, that the introduction of this non-proprietary technology *will significantly reduce industry pricing in the absence of some other form of price support (such as branding, collusion between players, etc.)*

Conclusion

A star candidate will see that his/her time is nearly up and will present a recommendation for the client without prompting. If the interview is within 3 minutes of the end, ask:

> "The owner just called and said he has an offer to buy his business. He needs to know whether he should take it right now."
>
> *Good Answer:* Given the credible threat of the industry becoming unprofitable due to the introduction of this new technology, the owner should look to sell the company as soon as possible. Taking into account the assets of the firm and the present value of the expected cash flows of the business itself, he should attempt to liquidate the business and to sell the assets for around $1.6M.
>
> If unable to sell the business now, he can continue to operate the business as a cash cow, but should not invest in the business above what is necessary to keep it operating at its present level. He should expect the business to become less profitable as the industry moves to mechanization, and should eventually look to sell the assets of the company and close the firm.

Case 2: HardHead Helmets

Bain, 2^{nd} Round

The Problem

Our client is private equity firm considering taking private a leading manufacturer of bicycle helmets. Should they?

Information Gathering

Read this information well before you give the case. Share this information in each bullet only if the candidate asks for it in a clear and deliberate way. For bullets with "Explore with candidate" sub-points, make the candidate answer the associated question completely.

Market Share – The company is the clear market leader with 60% share.

Competition – Existing competitors have small share. However, there are some new entrants that are still small but growing quickly, including Nike and Reebok.

Channels – Historically, HardHead has sold primarily through the Mom-and-Pop specialty bike retailer channel. Channel mix has recently moved to 50% discounters (e.g. Wal*Mart) and it looks like discounters will dominate in future.

> *Explore with candidate:* How are these changes in distribution channel going to effect the company's future prospects?
>
> *Good Answer:* Margins will come under pressure from discounters. But more importantly, competitors such as Nike will have a tremendous advantage in the discounter channel due to greater scale and leverage in distributor relationship. Also, a recognizable consumer brand (especially with the sports image of Nike) creates competitive advantage in discounter channel where an expert bike-shop salesperson is not there to push the HardHead product.

Cost Position – HardHead and all competitors are manufacturing in Asia, so costs are very low. No competitor is likely to be able to realize any greater cost advantage.

> *Don't let the candidate get distracted in finding cost savings – this is not that kind of case.*

Regulatory Issues – In the last 5 years, most states passed helmet laws.

> *Explore with candidate:* What impact does this fact have? Draw a graph of revenue over the past five years and projecting into the next five years.

Good Answer: This drove a significant increase in sales as helmets were purchased for the first time. This event will not be repeated, so sales will level off.

Customer Segments – The customer segments that HardHead sells to primarily are the Adult Cycling Enthusiast segment, the Casual Biker segment, and the Under 18 segment.

Explore with candidate: How would you expect the purchase behavior to differ between these segments? What does each segment want in a helmet?

Good Answer: Adults purchase a new helmet infrequently (only after a crash or significant wear) while children must have new helmets every few years as their head size grows. Adult Cycling Enthusiasts are more concerned about having the coolest gear and tend toward more fashion-forward designs. The Casual Biker is more conservative in their fashion but still wants something that looks cool. Childrens' helmets are purchased by their parents who care about safety but influenced by the kids who care about cool.

For strong candidate, explore: What would you expect the size of each of these segments to be? What are the implications for HardHead's future earnings?

Good Answer: Let the candidate come up with all of the assumptions and then work the math. Actual numbers don't matter much as long as the assumptions are reasonable and the math is done correctly. Note that 100M households is the standard assumption in consulting. Assume 100M households, 50% have children with 2 children per household, 75% of children ride bicycles, therefore: 75M Under 18 customers. Assume 2% of adults are Cycling Enthusiasts, or 2M. Assume 20% of adults are Casual Bikers, or 20M. Since the helmet laws created a large number of one-time purchases, we need to rely on the Under 18 market and new entrants to the adult segments for ongoing sales.

Product – From a safety standpoint, there is no new innovation in design. From a fashion standpoint, there is much innovation, especially by the new entrants.

If the candidate is having trouble exploring all of the above topics, provide some direction to help them along (e.g. ask "Do you think that there might be any government regulation that would impact past or future sales?")

Conclusion

A star candidate will see that his/her time is nearly up and will present a recommendation for the PE firm without prompting. If the interview is within 3 minutes of the end, ask:

"The partner from the PE firm just walked into the room and wants to know if he should do the deal."

Good Answer: The short answer is 'No.'

- HardHead has been experiencing exceptional growth due to the one-time market expansion caused by new helmet laws and its historically strong market share. This unsustainable growth would result in an overvalued acquisition price.

- New market entrants by Nike, Reebok and others will quickly steal share as consumers gravitate toward the general sports-affiliation of these well-known brands.

- Bike helmets have been largely utilitarian, but the sports brands are likely to quickly move helmets into the fashion arena, putting HardHead at a significant disadvantage.

- Furthermore, with the channel shifting strongly away from the specialty bike retailers and toward the mass discounters, the national sports fashion brands will have more leverage with the retailers, possibly commanding better margins, placement, assortment, and advertising support.

- The only scenario in which the firm might consider the acquisition is if they have interest in another fashion brand that might be combined with HardHead to allow it to compete against the new fashion helmet brands such as Nike.

Case 3: Verizon Security Services

Mercer, 2nd Round

About This Case

This case was given by Mercer in second-round interviews. This is a broad, qualitative strategy case and was given in a very open and conversational manner. No hard data was provided – instead, the interviewer asked the candidate to come up with assumptions and estimates to drive the case forward. Therefore, there is no "right" answer, but the candidate must be able to come up with reasonable assumptions and then follow them logically to a conclusion.

The Problem

Verizon is the nation's largest provider of local telephone services. They are considering entering the home security market. Should they?

Information Gathering

Read this information well before you give the case. Give this case in an open-ended manner. Make the candidate come up with his/her own assumptions and estimates for everything. One set of reasonable assumptions is listed below – use these to steer the candidate back on track if they seem to be off the reservation.

Market Size – *If the candidate asks for the size of the market, make him/her come up with assumptions and calculate the total market size. A sample calculation based on sample assumptions follows:*

Total Households in US: 100M
% Households Serviced by Verizon: 50%
% Households That Can Afford Service: 50%
Annual Subscription Price: $250
Total Addressable Market: 100M x 50% x 50% x $250 = $6.25B

Cost Structure – *Ask the candidate to discuss what the cost structure might be for Verizon to enter this market. What are the fixed costs? Variable costs? Does Verizon have a cost advantage over other players?*

Good Answer: The business has very little fixed cost beyond the infrastructure already installed in potential customers' homes (i.e. the existing phone wiring). Customer would need door / window / motion sensors installed, which could be done by a third-party installer and billed to the customer at cost + markup and owned by the customer.

Variable costs are also very small – essentially just the cost to maintain enough call center operators to dispatch police when alarms are tripped.

Verizon does not seem to have much or a cost advantage over other players, since they are all using the common carrier phone network. Verizon might have some economies of scale in operating the call center, but this effect would be slight.

Competition – The market is composed of a large number of mom-and-pop alarm company operators. No firm has over 5% market share overall, although there are some strong regional players.

Customer Segments – *Ask the candidate to speculate on the various customer segments and their relative importance, size, and value.*

Good Answer: We can reasonably divide the customer base into urban and suburban customers, having different needs and different price sensitivities. Urban customers are likely to have lower incomes but a high willingness to pay due to the increased crime rate of the city. Suburban customers are likely to have a higher income but a lower perceived threat due to a lower suburban crime rate. By first-degree price discrimination, it may be reasonable to charge the suburban customers a higher price because they are presumably less price sensitive. We can assume that 50% of customers are urban and 50% suburban.

Pricing – *Have the candidate come up with a pricing scheme and prices for each of their identified customer segments. There is no right answer, but they must justify why they are setting the price they are. Some areas they might consider:*

- Insurance companies generally give breaks on homeowner's insurance for having an alarm. This will increase the EVA to the customer and can inform pricing.
- What other services to homeowners pay for monthly? Cable, phone, DSL. How are the values of these services perceived compared to the value of the alarm?
- Pricing will need to be competitive with other market players.
- The candidate might assume a net margin based on the competitive landscape and use this with assumed market size to determine attractiveness rather than determining an end-consumer price.

Regulation – The market is not regulated and government regulation is not expected to play a role.

Marketing – *Ask the candidate what advantages Verizon might have in marketing vis a vis its competitors. Keep points the candidate should identify include:*

- Verizon has monthly customer contact with a large pool of potential alarm services customers through its phone bills.
- Verizon already has brand loyalty for phone service, why not alarm service?

- Shear size of the company (and deep pockets) make it more able to achieve scale economies in marketing and reach a broad audience.

Conclusion

A star candidate will see that his/her time is nearly up and will present a recommendation for the client without prompting. If the interview is within 3 minutes of the end, ask:

"So, should Verizon enter into the home security market?"

Good Answer: Yes. Verizon possesses several small but important competitive advantages for entering into this new market. It has economies of scale in call center operations that will enable it to be highly cost-competitive in operating a security network. It has an established brand that the consumer associates with reliability as well as with networking and communications – the primary function of a home security system. More importantly, Verizon already reaches 50M households every month through its phone services bill that it could leverage to launch and market this new service. Also, the company has deep pockets and the ability to advertise such a service far more effectively than the small, regional competitors.

The size of the opportunity is large enough for Verizon to consider. Assuming a potential market size of $6B in Verizon's territory, even at only a 10% share, Verizon can add $600M in revenue. Given the low cost structure of this business and the high perceived value to the customer, this is likely to be highly profitable revenue as well. With Verizon's marketing clout and customer reach, the company should be able to gain significant market share and become the national leader in this space.

Case 4: ABC Conglomerate

Bain, 1st Round

About This Case

This was a first-round Bain case. It is fairly straightforward in the analysis, but the difficulty lies in keeping the information straight between the three divisions. Give out the information freely, but make the candidate ask for each piece of information for each company. In order to crack this case, they will need to have neat and orderly notes and be able to quickly form a mental picture of each of these different divisions.

Note that this case is also difficult because there is no information about the products or industries. This is not important to the case, so don't make anything up – just tell the candidate that they should focus on the information they have.

The Problem

The CEO of a major conglomerate is dealing with poor profitability in each of his three divisions: A, B, and C. What should he do to maximize value for his shareholders?

Information Gathering

Read this information well before you give the case. The same information is available for each of the divisions, but make the candidate ask for each division's information separately rather than summarizing the data for them. Do not offer any information without being asked specifically and concisely for it.

Division A

Competition – The firm is the clear market leader with 60% share.

Cost Structure – Manufacturing is done in Asia by all firms and is largely considered to be as low-cost as possible.

Revenues – This division generates over 60% of the firm's revenues but gross margins have been declining in recent years. The high fixed costs maintained by this division have moved net income into the red as gross margins have declined.

Pricing – Prices have been becoming increasingly competitive. Division A has had to price aggressively to maintain sales volume, even with its strong market leadership position.

Market Trends – The overall market for division A's product has been shrinking in the last few years and looks like it may continue to do so.

Customer Preferences – Customers are moving to an entirely new product category as a substitute, and prefer the product category of Division A less and less.

Threat of Substitutes – A new product category is filling the customer need previously served by Division A's product. Division A is not well positioned to enter this new category.

Division B

Competition – The firm has only 5% and is one of many players in the market.

Cost Structure – This market is relatively new and it is believed that costs can be reduced significantly from their current position.

Revenues – Revenues have been low but growing. The division is running a negative net cash flow as it is currently investing in marketing, R&D, and plant capacity.

Pricing – A wide range of prices exist in the market currently with margins generally high.

Market Trends – The overall market is growing at 10% a year and is expected to experience significant growth in the near future.

Customer Preferences – This is a relatively new product category and consumers are not yet sure what they want or like.

Division C

Competition – The firm has 50% share with only one other major competitor and a few minor ones.

Cost Structure – The firm has significant economies of scale and has the lowest variable cost in the market. Significant expenditures are being made in marketing, R&D, and plant capacity in an attempt to grow revenues.

Revenues – Revenues have been strong with good operating margins, but have been flat for the past few years.

Pricing – Division C has a price leadership position in the market.

Market Trends – The overall market is not growing and expected to remain flat for the foreseeable future.

Conclusion

A star candidate will see that his/her time is nearly up and will present a recommendation for the client without prompting. If the interview is within 3 minutes of the end, ask:

"The CEO just called and wants to know what he should do."

Good Answer: Clearly the conglomerate needs to rationalize its company portfolio to maximize shareholder return. Each of the three divisions is in a different stage of the market lifecycle and needs to be treated accordingly.

Division A finds itself in a declining industry with no apparent way to move into a new product category. As the incumbent firms struggle to maintain volume in a shrinking market, prices have fallen along with volume. Operating income is no longer enough to cover a high fixed cost base and the company is bleeding with little chance to recover. Division A should be divested immediately.

Division B is in an emerging growth market. While it is not making money today, it is in a favorable industry and represents a strong investment opportunity. The division should invest aggressively in R&D, marketing, and production capacity in an attempt to become the market leader by developing differentiated, branded products.

Division C is the leader in a mature industry and has the ability to generate a steady stream of cash for use in other investments – namely Division B. Division C should streamline operations by eliminating all expenditures not directly needed to maintain profitability and should be managed as a cash cow.

Case 5: Artificial Turf

1st Round

The Problem

Our client would like us to estimate the market for artificial turf. How would you approach this question?

Information Gathering

Read this information well before you give the case. Share this information in each bullet only if the candidate asks for it in a clear and deliberate way.

This is a market sizing problem, so rarely is any more information provided. It tests the candidates comfort with ambiguity. The candidate should lead the discussion and start brainstorming on the uses of artificial turf:

- Sports fields
    - Football
    - Soccer
    - Rugby
    - Golf
- Commercial businesses
- Residential
- Airports
- Schools
    - High schools
    - colleges

After the candidate has identified some uses for artificial turf, prompt him to estimate the number of schools in the US. (or any of the places where artificial turf is used)

Analysis

To estimate the market size of turf in high schools in the US we have to estimate the following:

- Number of schools
- Number of sq feet of turf that is bought each year / high school
- Price of turf / sq foot

We start by estimating the number of schools:
Number of schools in the US = Number of high schools + number of colleges + number of community colleges

Number of High schools:

Population of US = 300 M (M=million)
Percent of population age 18 = 1% (assuming population is equally distributed)
Number of people age 18 = 300M x 1% = 3M

Assume 80% go to high school, then the number of people age 18 who go to high school = 3M x 80% = 2.4M
Assume that on average there are 250 18-year-olds in a high school. Then the number of high schools = 2.4M / 250 = 9,600 high schools

Number of Colleges – bachelors colleges:

Population of US = 300M
Percent of population age 19 = 1%
Number of people age 19 = 300M x 1% = 3M

Assume 25% of people go to college, then the number of 19-year-olds who go to college = 3M x 25% = 750,000
Assume that the average size of graduating class is 400 students, then the number of colleges is = 750,000 / 400 = 1875 colleges

Number of Colleges – community colleges:

Assume 10% of people go to community college, then the number of 19-year-olds who go to community college = 3M x 10% = 300,000

Assume average graduating class is 200 students, then the number of community colleges is = 300,000 / 200 = 1500 community colleges

Total amount of artificial turf:

Make the following assumptions:
- price of turf = $10 / sq feet
- lifetime of turf = 10 years
- athletic field = 60 yards x 120 yards = 60 x 3 feet x 120 x 3 feet = 64,800 sq ft
- adoption of turf = 50%

Now we can calculate the market size for turf:
- Number of schools = 9,600 + 1,875 + 1,500 = 13,000
- Number of sq feet of turf that is bought each year / high school = 1/10 x 50% x 64,800 = 3,240 sq feet
- Price of turf / sq foot = $10

Market size = 13,000 x 3,240 x $10 = $420 Million

<u>Conclusion</u>

The market size for artificial turf in schools in the US is about $420 Million.

Case 6: Retail Bank

Accenture, 2nd Round

The Problem

Our client is the private division of a retail bank that has 100,000 clients, $500,000,000 in revenues, and $150,000,000 in net income. Our client's goal is to double the revenues and profits of the business in 5 years. Assess the feasibility of the goal. Prioritize the two or three most important steps they should take in their action plan.

Information Gathering

Read this information well before you give the case. Share this information in each bullet only if the candidate asks for it in a clear and deliberate way.

Pricing: they make their revenues from interest and fees

Costs: transaction costs, salaries. The nature of the sale is one-on-one pitch between the bank sales person and the customer. So the salary cost and the transaction costs tend to be high.

Geography: They have a large presence in the North East and a moderate presence in the South East

Products: They have 4 product lines, with the following ranks in revenue and profit generation:

	Revenues	Profits
• Private banking:	1	1
o deposits		
o loans		
• Investment management:	2	3
o brokerage		
o advice		
o access		
• Trust:	3	2
o State planning and trust		
o Transferred death		
• Insurance:	4	2

Customers: 20-25% of customers purchase more than one product. 75-80%% of customers purchase only one product. They are segmented into 5 groups:

Volume	Number of Customers

Ultra High:	$10M+	5%
High Net:	$1M-$10M	10%
Affluent:	$0.5M-$1M	20%
Mass Affluent:	$100,000-$500,000	25%
Mass:	$0-$100,000	40%

The Ultra High, High Net, and Affluent segments generate 60-70% of the revenues, while the Mass Affluent and Mass segments generate 30-40% of the revenues.

<u>Analysis</u>

At this point the candidate should start analyzing the numbers to make fact based recommendations.

Buyer selection: Since transaction costs tend to be the same for the different customer segments, it makes sense to grow the number of the higher revenue generating customers and decrease the number of the lower revenue generating customers. We can attract the top 3 segments by marketing more selectively and doing promotions for higher income customer groups. We can discourage less affluent customers by raising the prices on them, giving them the option to add more profits, or switch to a competitor.

Cross sell: Since 75% of customers purchase only one product. There’s an opportunity for cross-sell between the different product lines. Assuming that we will only serve the top 3 customer segments:

Revenue generated by customers in top 3 customer segments = $500M x 70% = $350M

Revenue generated by customers who only have one product = $350M x 75% = $262.5M

If we assume that the 4 types of products generate comparable revenues, then if we cross-sell each customer 3 other products then the new revenue will be = $262.5 x 4 = $1,050M

<u>Conclusion</u>

It is feasible to double revenues and profits if we can only cross-sell our current customers the other products in our business. The next steps Private Retail Bank should take are:

- Give incentives to the bank’s sales force to cross sell different products to its existing customers.
- Do promotions for the top 3 affluent market segments.
- Increase its prices in its bottom 2 mass market segments to “fire” its unprofitable market segments.

Case 7: Coffee Shop

Bain, 1st Round

The Problem

A friend asked me if I wanted to buy his coffee shop for $100,000. Do you think I should do it?

Information Gathering

Read this information well before you give the case. Share this information in each bullet only if the candidate asks for it in a clear and deliberate way.

Location: The coffee shop is in Vail, Colorado

Products/Prices:
Cup of coffee, $4.00
Bottled Water, $2.00
Pastries, $3.00

Variable Cost:
All products have a 50% margin

Customers:
The shop serves mostly locals, not tourists, so demand is consistent throughout the year

Other Costs:
Rent was $500 per month
Wages (for 2 employees) were $8.00 per hour.
The shop is open 12 hours a day, six days a week

Tell the candidate that he can assume that the coffee shop will bring in consistent profits.

Analysis

This is a valuation question. So to get the value of the coffee shop we need first to get the profitability.

Revenues

Estimate market size.

Assume that the coffee shop gets 10 customers per hour in slow hour and 20 customers per hour in a busy hour. The first and last 2 hours of the day are busy hours. So the coffee shop gets 20x4 + 10x8 = 160 customers/day.

If we assume all the hours as busy hours on Saturday, then we have 20x12=240 hours on Saturday.

Number of customers / week = 160 x 5 + 240 x 1 = 1040
Number of customers / year = 1040 x 50 = 50,200

Assume 60% of customers order coffee, 30% order pastry, and 10% order a bottle of water, then the spend is:

50,000 x 60% x 4 + 50,000 x 30% x 3 + 50,000 x 10% x 2 = $175,000

Fixed Costs

Rent = 500 x 12 = $6,000
Wages = $8 x 12 x 6 x 50 = $30,000

We can also make assumptions about utilities and insurance.

Profits

Profits = 175,000 x 50% - 36,000 = $52,500

Assume a 40% tax rate:

Profits after tax = 52,500 x (1-40%) = $31,500

Valuation

If we assume that the coffee shop is in operation for 5 years and we use a 10% WACC, then its value would be:

Value = 31,500 + 31,500/ 1.1 + 31,500/1.1^2 + 31,500/1.1^3 + 31,500/1.1^4 = $131,000

<u>Conclusion</u>

As long as the sales would be consistent for the rest of the 5 years, it would be profitable to buy the coffee shop. Further analysis could be done on the management experience and the competition to ensure that sales would be consistent.

Case 8: S SOFTWARE

BCG, 2nd Round

The Problem

An US software company wants to offshore its engineering/designing unit to India, as well as to penetrate into the India software engineering market. Should they do it?

Information Gathering

Read this information well before you give the case. The candidate is supposed to figure our following information by asking appropriate questions. The interview style is pleasant but reserved.

Since it's a two-fold question, a strong candidate will begin with laying out a clear scope and then gather relevant information to analyze the situation.

		Off-shoring is critical to access local market: Yes	Off-shoring is critical to access local market: No
Other benefits of off-shoring	Significant	Definitely offshore	Offshore but also find out other critical factors to enter the India market
	Minor	Evaluate the India market independently with market, customer, competition, etc.	Stay in current market and strengthen competitiveness

Market Share – the company is the industry leader in US with close followers chasing behind.

Profitability – declining (unknown reason, but increasing labor costs can be a reasonable assumption).

Capability – strong engineering department in the US.

Cost – R&D is the major cost and Indian engineers are estimated to be 1/4 of the cost of the US engineers with the same technical capability.

Customer –

- Has a strong existing customer base in the US.
- Customers care about the quality of service, but are also considering lowering cost in the long run.

A strong candidate should follow up with questions about customer segmentation.

- Most of S Software's clients are medium to large companies in US.
- The most profitable clients are large companies in developed countries where S Software already has a strong base.
- S Software doesn't have any international presence yet.

Competition – US

- Key US competitors are all off-shoring in order to lower the cost.

Competition – International

- The growth of the international market is impressive compared to the more mature and stable US market.
- Key competitors are expanding their international business aggressively.
- India is one of the fastest growing international markets as well as the one with the largest market size.

A strong candidate will get the hint that entering the international market, especially the India market, is critical for the company to both fulfill current customer's emerging needs of cost saving and grow its future business. He/she should then start to compare the competitive advantages between large US companies off-shoring and local Indian players.

	US companies	Indian players
Ability to fulfill customized needs	O	
High quality services	O	
Access to most profitable clients	O	
Cost advantage		O
Local market knowledge		O
Local client / government / supply chain relationships		O
Low legal risks	O	O

<u>Conclusion</u>

The short answer is "Yes". The situation falls into the upper left corner of the matrix because –

- In the long-run, even current customers with established relationship will need to look for cheaper alternatives. S Software can offshore its R&D to lower the cost but still keeps its customer service team in the US to maintain the high service quality.

- Although clients in the developed country are more profitable, the actual growth of the market is limited. Developing markets like India might not be as profitable as the US, but with the huge and growing market size, even capturing a small percentage of the market can provide substantial profits.

- S Software might lack knowledge of the Indian market, but its strong customer relationship management skills, large existing customer bass, and the understating of unique customer needs can be further leveraged in India. In addition, hiring local talent or partnering with local companies can help solve the concern of the lack of local knowledge.

- The legal risk as well as the political risk in India can be considered low.

Case 9: H HEALTH

McKinsey, 1st Round

The Problem

A US health care provider suffered a profit decline last year. You are hired to solve this problem.

Information Gathering

Read this information well before you give the case. Basic information should be given as the candidate asks for it, but the rest of the interview is very directive. The candidate is supposed to follow the direction and do the math confidently. The interview style is pleasant and helpful.

Background Information

- The key revenues come from commissions.
- H Health signs contracts with patients and provides medical services.
- H Health has 300 contracted physicians.
- A "referral" is necessary if certain medical treatment/service can't be provided by H Health's contracted physicians.

Question 1: How would you approach this problem?

Answer:

Profit = Revenue – Cost
= No. of patients * (unit price – variable cost) – fixed cost

The candidate can be creative to come up with possible reasons for revenue decrease and cost increase. Some examples –

Revenue declined:
- number of patients dropped
- unit price dropped
- competition grew their market share

Cost increased:
- VC: number of visits increased (e.g. major flu), per person cost increased (e.g. cost of the medicine), referral cost increased
- FC: physician's salary increased

Question 2: Competitor analysis – why is our referral cost higher than the competitor?

	H Health	Sunshine
Number of patients	**300,000**	**500,000**
Referral cost	**$20 (per member, per month)**	**$15 (same)**

Answer: (again, the candidate is encouraged to be creative)
- Economies of scale
- Lower administration costs
- More contracted physicians

Question 3: Assuming none of the contracted physicians have the specialty of cardiology, estimate the number of referrals per year for cardiology based on the following information:

Number of patients: 300,000
20% of the total population is > 65 years old, and 30% of them need treatment
For the rest of the population, there's a 10% chance for them to require the treatment
The treatment usually requires 5 visits to the doctor per year.

Answer:
>65 years = 300,000*0.2*0.3 = 18,000
<65 years = 300,000*0.8*0.1 = 24,000
42,000*5 times/year = 210,000 (times/year)

Question 4: The actual number of referrals is 300,000. Why is it higher than the estimate?
Answer:
- H Health's clients do not have the same weight between different ages as the total population
- They underestimated the number of visits per year
- More demanding patients ask to be referred even if they don't have such issues
- Physicians refer non-cardiology patients because they don't want to take the risk and are not motivated to provide services even if they are capable

Question 5: How much does the number of referrals have to decrease in order to justify following incentive plan to encourage contracted physicians to be more responsible?

Incentive plan:
Bonus: $100,000 / year to top 10 physicians with the lowest referral rate
Training: $1,000,000

Referral cost: $200 per referral
Current no. of referral: 300,000

Answer:
Total cost = 2,000,000
2,000,000/200 = 10,000

Question 6: If the incentive plan can reduce the number of referrals by 5% for year one and 2% for year two, what is the total saving?

Answer:

Y1 = 300,000*5% = 15,000

Y2 = (300,000 – 15,000)*2% = 5,700

Total saving = (15,000 + 5,700)*$200 - $2,000,000*2 = $140,000

Question 7: Apart from Cardiology, how can H Health improve the number of referrals in general?

Answer:

- Increase training to improve physician's capability
- Extend the incentive program to other departments
- Improve the quality of relationship with the patients and build up the trust
- Improve/remove physicians who are outliers with extremely high referral rate
- Increase the no. of contracted physicians
- Partner with other health care provider to lower referral cost

Conclusion

According to the example of cardiology, H Health should improve its profitability by lowering the referral cost. H Health can

- reduce the number of referrals, and/or
- reduce the cost per referral

Case 10: H HOTEL

Booz Allen Hamilton, 1st Round

The Problem

You are hired by H Hotel to advise whether they should raise their daily room rate from $160 to $180.

Information Gathering

Read this information well before you give the case. There's very limited information to begin with, therefore the candidate is expected to ask questions, but in a structured way. Allow 10-15 seconds for the candidate to layout his/her assumptions for each step of the analysis before giving any clues. Certain level of stress should be created but the overall interview style is pleasant.

Industry Overview

- Overall market: stable.
- Segmentation: the hotel industry can broadly be divided into two segments that serve different customer needs – one for business purposes and the other for vacation.

  Exploration: Let the candidate characterize each segment. For example: business hotels usually locate in the **center of metropolitan areas**, are **smaller** in size compare to the average vacation resorts, are better equipped with in-room business services like internet/fax/printer, and are more flexible in booking. Vacation hotels have to be in a touristy or scenery area but not necessary in the center of it, have a wider range of price and facilities, and with more **fluctuations in demand**.

- Competition: The client is the leader in the Business Hotel segment and an average player in the Vacation Hotel segment.

Internal Company Analysis

- The client decided to focus on the Business Hotel unit. Why do you think they made such decision?

  Answer:

  1) **Location advantage**: since the client is already the leader in this segment, they must have already blocked the best locations in most of the big cities. Competitors are hard to compete with this given the fact that the supply of space in hot spots is very limited.
  2) **Steady revenue stream**: once contracts with big corporations are signed, the demand of business traveling is much easier to predict than vacation hotels which contributes to a higher occupancy rate. In addition, a fixed price can be set more easily.

3) **Lower maintenance cost**: business hotels tend to be smaller in size and need less recreational facilities.

- From an internal view of the company, why do you think they wanted to increase the price?

  Answer: To increase profitability.

- Does it make sense from H Hotel's internal view?

  Answer: The usual **Profit = Revenue – Cost = Price*Quantity – (Fixed Cost + Variable Cost)** function should appear here. Hint the candidate that there's not much room for cost saving by saying "they already outsourced the cleaning service", "they just went through a major layoff and cut the staff by half", "their restaurant and bar are operating efficiently", etc. On the revenue side, both increasing quantity (occupancy rate) and price (room rate) can increase H Hotel's revenue.

External Consumer Analysis

- How is the price increase going to impact consumers' behavior?

  Answer: The candidate should look into both the "**end user**" (the actual business travelers) and the "**customer**" (the corporations that H Hotel has contracts with).
  The impact on end users is limited since they don't pay for it. They won't stop staying at H Hotel as long as the service level, flexibility, location, and other conditions remain the same.
  For the customer, most of them have long and stable relationship with H Hotel (that's what makes H Hotel the leader of Business Hotel) will only leave if
  1) the price is not competitive compare to H Hotel's competitors (in this case it's still competitive)
  2) the price exceeds the cap of its traveling expense (in this case the cap is $240)
  3) no extra benefits come with the price increase (in this case H Hotel provides better services, more business friendly facilities, etc.)

- Assuming H Hotel successfully increased the price, what can they do to the "end user" to increase demand?

  Answer: Let the candidate e creative here, but make sure they hit following points.
  Differentiation: On the **product** side, H Hotel can improve its convenience (e.g. provide transportation/get the hottest spot in the emerging area of a city), increase its business friendliness (e.g. in-room fax/printer), and upgrade its rooms, etc. For the **service**, H Hotel can create a more personalized experience for consumers by keeping track of each traveler's special demand, set the room differently, etc. One step further, H Hotel can also lock consumers in by offering **traveler specific promotion** (different from the ones for the corporate), such as offering free gifts to the consumers (e.g. shopping coupons) or cross promotion between H Hotel's

business hotels and vacation hotels (e.g. free stay at one of the vacation hotels when the traveler takes his/her family on vacation next time).

Conclusion

A star candidate will see that his/her time is nearly up and will present a conclusion without prompting. If the interview is within 3 minutes of the end, ask for the conclusion.

Answer: The short answer is “Yes”.

- H Hotel has competitive advantage given its superior location, good service, and trust worthy relationship with long term customers. Given such strong base, there’s room for H Hotel to increase its price with further differentiated product and service. Even after the $20 increase, the price is still far below its customer’s ceiling and remains competitive among its competitors. Furthermore, H Hotel can still grow its sales quantity by locking travelers who have several business hotel choices in by adopting traveler specific promotions.

- From an internal point of view, cost saving has reached a limit. H Hotel has to improve its profits by top line growth. As long as price doesn’t effect quantity (occupancy rate), total revenue will grow.

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