McCombs Case Book

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THE UNIVERSITY OF TEXAS AT AUSTIN
McCOMBS SCHOOL OF BUSINESS

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List of Cases

Case 1: Engineering and Construction Company
Company: Booz & Co.

A large engineering, procurement, and construction company has seen their valuation drop recently. They build large refineries and large industrial plants. They are global in nature and operate in four main regions. This company is a recent roll-up of three smaller companies that operate independently. They have $1bn in revenue.

Instruction to the interviewer: The objective of this case is

- To see if the candidate can comprehensively explore the possible reasons and causes of declining market valuation
- To see if the candidate can structure and articulate an intelligent structure with which to approach the problem
- To see if the candidate can complete simple mathematical analysis

The case should start with the candidate hypothesizing the reasons that could lead to declining valuation. This is a simple test of idea generation. Ask the candidate to list a structure with which they will approach the problem. Does it seem reasonable and comprehensive?

Case Facts:

- Revenue growth has been strong organically and from acquisitions
- There is a backlog of work – lots of business
- Margins have been shrinking

Question: What would you think the main reasons for shrinking margins would be?
Possible Answers:

- Lack of integration of the three units
- Poor reporting
- Competing business units
- Multiple procurement units
- Lack of cross-selling over the units
- Lack of knowledge sharing across units
- High-revenue but unprofitable clients
- No prioritization of backlog
- Sales force compensation structure
- Declining business need for their services – long-term

Math Problem: The Company thinks they have an idea as to where they could improve their costs after integrating. Their goal is to increase their margins by 10%. (Note: the candidate has already been told the company has $1bn in revenues)

Business Unit	# of Engineers	Utilization
1	1,800	50%
2	3,000	90%
3	1,200	50%

Question: The industry benchmark for optimal utilization is 80% and engineers make $100k each. Will they make their margin goal? Is this a significant savings?

Math Solution:

Business Unit	# of Engineers	Utilization	Effective Man-Hours
1	1,800	50%	900
2	3,000	90%	2,700
3	1,200	50%	600
Total	6,000		4,200

4,200 = # of Engineers * 80%

# of Engineers needed = 5,250

6,000 - 5,250 = 750 positions could be eliminated

750 * $100k = $75m

$75m / $1bn = 7.5% margin increase

Question: What would you think are some possible concerns with integrating the three units?
Possible Answers:

- Different corporate cultures
- Different global areas of operations
- Do they operate in fundamentally different businesses?
- Lack of a sufficient reporting system
- Will the dynamics of the integration be communicated clearly
- Time frame of integration – 3 months versus 3 years

Final: Ask for a 30-second wrap-up

Case 2: New Video Game – World of WarCraft
Company: Booz & Co.

A well-known game designer has developed a new version of a game called World of WarCraft that consumers can play either alone or with friends over the internet. It will cost them $25m to advertise it. They require a 200% margin on their investment, should they invest the money?

Instruction to the interviewer: The objective of this case is

- To see if the candidate can identify multiple sales channels
- To see if the candidate can make a logical market sizing estimate
- To see if the candidate can conduct basic profitability analysis

Question: What are the multiple sales channels and possible prices charged? What would the adoption rate be?
Possible Answers:

- Retail Sales for (Video Games - $50/each)
- Online monthly fees - $10/month (every other customer will purchase this for 6 months)
- Subsequent version upgrades - $30/each (every third customer will purchase)

Question: What is the expected revenue of the average customer?
Potential Solution:

Value of the Average Customer

Video Game Cost	$50
Online Service - 50% will purchase 6 months of service at $10/month	$30
Upgrades - 33% of customers will purchase for $30	$10
Total	$90

Question: Estimate the potential number of customers and the implied revenue? Assume the market is for US males ages 10-25 years old.

Potential Solution:

Market Estimation

300 million people - equal distribution from age 0-75
All people ages 10-25 would be 20% of the population
Only males would be 10% of the population

- Market Size is 30m potential customers
- 10% play this type of video game and 50% of them will buy this
- 1.5 million potential customers

$90 * 1.5 million = $135 million in potential revenue

Final: Ask the candidate for a 30 second wrap-up

Case 3: Two Power Companies
Company: Booz & Co.

Case Question: We are advising a large US power/utility company and they are looking to merge with a rival. The merger would cost $300m in transaction fees and integration costs to execute. Should they merge? Our client would like to know where the possibly synergies would be.

Instruction to the interviewer: The objective of this case is

- To see if the candidate can structure the problem
- To see if the candidate can identify possible synergies
- To see if the candidate can complete math calculations

Sample Structure:

Current Product Mix
Cost Structure
Possible Synergies

Question: What are some possible synergies?

- Decrease in management costs
- Eliminate duplicate distribution lines
- Increased plant utilization
- Increased purchasing power of inputs
- Ability to long in longer term contracts due to larger size
- Decreased competition
- Consolidated pricing
- Increased lobbying power

Math Problem: What would the possible savings be? Should they go ahead?

Firm	Tons of Coal Purchased	$/ton
Texas	100	$25
Louisiana	50	$30

Under the merger, they would be able to purchase coal for $24/ton

Math Solution:

Firm	Tons of Coal Purchased	$/ton	Cost
Texas	100	$25	$2,500
Louisiana	50	$30	$1,500
		Total	$4,000
Combined	150	$24	$3,600
		Savings	$400

Final: Should they go ahead with the merger? What would happen to your recommendation if the cost of coal was variable and went up $2/ton? List concerns and summarize.

Case 4: Drugstore Chain
Company: Bain & Co.

Case Question: There is a small drugstore chain just outside of New York. CVS is entering the local market and the CEO is concerned about the implications of this. In addition, the drugstore chain is trying to expand but is being outbid for real estate by CVS in markets they are much more familiar with (CVS is paying 2x as much per square foot). The CEO would like to know what CVS is doing that allows them to pay twice as much and what the drugstore chain needs to do to compete.

Instruction to the interviewer: The objective of this case is

- To see if the candidate can hypothesize about possible impacts
- To see if the candidate can structure the problem
- To see if the candidate can conduct profitability analysis and synthesize a solution

Sample Structure:

- Income and cost figures for both businesses
- Product mix of both businesses
- Future of the market
- Synthesize suggestions

Question: What metrics would a drugstore use to measure itself?
Possible answers: (all are for any set time period)

- # of stores
- # of transactions / store
- revenue / store
- profit / store
- revenue / square foot
- profit / square foot
- labor costs / revenue
- inventory turnover
- profit / section (make-up, food, cards, etc.)

Information to Offer:

- CVS products:
    - Pharmacy
    - General merchandise (OTC)
- Drugstore products:
    - Pharmacy
    - General merchandise (OTC)
    - Home wares (plates, trashcans, gardening)

Question: Much of the general merchandise has low to no margin, is this surprising? Hypothesize as to why CVS is paying twice as much for square foot.

Quantitative Analysis:

Information to Offer:

	CVS	Drugstore
# of Stores	1,000	25
Revenue	$2,000m	$50m
COGS	$1,400m	$35m

Question: What are the sales and gross margins of each on a per store basis?

Answer: The sales and gross margins for both should be $2m and $600k each, respectively.

Additional Cost Figures

	CVS	Drugstore
Avg Store Size in sqft	1,000	1,500
Rent per sqft / year	$200	$100
SG&A as a % of Revenue	5%	5%
Labor as a % of Revenue	10%	15%

Question: What is the pre-tax income on a per store basis for each?

Answer:

	CVS	Drugstore
Revenue	$2,000k	$2,000k
COGS	$1,400k	$1,400k
Rent Cost	$200k	$150k
SG&A Cost	$100k	$100k
Labor Cost	$200k	$300k
Pre-Tax Income	$100k	$50k

Question: Given the following information, tell me what you would advise the CEO

	CVS	Drugstore
Pharmacy	50%	30%
General Merchandise	50%	30%
Housewares	0%	40%

Answer: Some analysis regarding the probable lack of profitability of the house wares sales given the huge square footage focus and the significantly smaller pre-tax income. A strong answer should point out that CVS can pay twice as much for the square footage because they are selling more profitable products, in smaller stores, with less labor.

Final: Ask the candidate to give a 30-second summary

Case 5: Beverage Company – Refresh Now Soda
Company: McKinsey & Co.

Case Question: A beverage company is a top three producer of soda beverages. They are thinking of launching a new product called O-Natural-Flavored Bottled Water. They are looking to distribute directly to retailers. What are the key risk factors they should be looking at and should they launch?

Instruction to the interviewer: The objective of this case is

- To see if the candidate can determine the major concerns of a new product launch
- To see if the candidate understands the relationship between manufacturer and retailer

Sample Structure:

- Current product mix
- Larger market trends and growth trends
- Complications and risk factors

Case Facts to Give:

- They currently have five plants and sell a broad array of carbonated and non-carb beverages

Question: What are some other channels they could sell this product through, besides supermarket retailers?
Possible answers:

- Fairs and outdoor public events
- Sports team marketing
- Health clubs
- Vending machines at schools and large companies
- Spas and Resorts

Question: What do you think would be most profitable to market: small quantities at higher prices or larger quantities at big-box retailers?
Possible answers: There is no right answer, just look for a well thought out argument (if they ask for case facts, ask them to make assumptions)

Question: What concerns would you have with Refresh Now launching a new product?
Possible answers:

- What are the economics of the new product?
- What volume of sales can they realistically expect?
- Is there a competing brand that is already established in the market?
- How will their peers respond?
- Will retailers be willing to carry their brand?
- Is this product a commodity and do retailers already carry their own brand at a lower price?
- Does the company have the expertise to make this product? (Gen. new product concern)
- (Important) Will they get increased shelf space or will this just cut into their other sales?

Final: Ask the candidate to give a 30-second summary

Case 6: Town Mayor
Company: McKinsey & Co.

Case Question: The client has just been elected to be the Mayor of a town of 500k people in the United States. The town has experienced some hard economic times and there has been a slight decline in the population. The Mayor's election platform was centered on a message of economic revival with a plan to be launched in the first 100-days. The Mayor has hired you to help develop the plan. What information would you like to know about the city and what is your plan?

Instruction to the interviewer: The objective of this case is
- To see if the candidate can come up with a comprehensive framework to get to a solution
- To see if the candidate can complete some quantitative analysis
- To see if the candidate can demonstrate creativity

Sample Structure:
- Location and the surrounding cities
- Current businesses and environment
- Government support – tax incentives, infrastructure support, etc.

Question: What could've caused the population/economic decrease?
Possible answers:
- Poor macro conditions
- Tax increases
- Aging population
- Deteriorating infrastructure
- Surrounding cities are having poor times
- Increasing crime rates
- Major airlines cut numerous flights too and from the city

Quantitative Analysis: Unemployment is currently 8% and the Mayor would like to increase the population by 5% and decrease unemployment to 5%. How many new companies will they need?
Solution: 60% of the population can work and the average company size is 500 employees. <u>This is needed to solve this problem, only give it to them if they know they need to ask for it.</u>

Population	500,000
% Eligible to Work	60%
Possible Workers	300,000
Current Unemployment	8%

	Current	**Goal**	
Employed	276,000	299,250	=300,000*1.05*.95
Unemployed	24,000	15,750	=300,000*1.05*.05

This requires creating 23,250 new jobs
At 500 jobs per company, this is ~50 new companies/plants

Question: What could be done to get the ~50 companies/plants?
Possible answers:
- Get current companies to expand locally
- Offer to build roads to and from the plants
- Tax Incentives
- Lobby other governors of “at-capacity” cities to suggest your city (think L.A.)
- Lobby federal government for more federal jobs
- Active marketing of the city as a destination spot

Question: The state is looking to build a new university and is considering this city. Is that a good thing? Should the Mayor support this?

Possible Concerns:
- The town is older (retirement community) and not ready for this
- No central location geographically to put a large university
- How will the university be funded? What will the cities role be?
- What is the time frame?
- Will progress be able to be made before the next elections come up?

Final: Ask the candidate to give a 30-second summary

Case 7: APC Nutrition
Company: McKinsey & Co.

Case Question: Our client is the CEO of American Products Company, is one of the conglomerates worldwide. They have $50bn in revenue primarily in the US and they have had strong growth. They have a subsidiary called APC Nutrition. It isn't sold as pharmaceutical drugs so FDA approval is not needed. APC Nutrition has $500m in revenues and they have had moderate growth. You have been hired to develop a five year growth plan, determine the prospects for growth, and identify any other issues.

Instruction to the interviewer: The objective of this case is
- To see if the candidate can come up with a comprehensive framework to get to a solution
- To see if the candidate can complete some quantitative analysis
- To see if the candidate can demonstrate creativity

Sample Structure:
- Current product mix
- Current market situation (demand, growth, size, perception of APC)
- Core capabilities and opportunity identification
- Identify risks and competitor response

Question: Most of their emphasis has been on one product, Ready-Thin, a meal replacement drink. It has had slow revenue growth but is a strong brand. Why has revenue slowed?
Sample Answers:
- Competitors have launched competing product
- Evidence has proven ineffective
- Market has shifted away from meal replacements
- Decrease in marketing spend
- Celebrity endorsements have had scandals
- Price has recently raised
- Initial discounts used to establish the brand have been lifted
- Packaging sizes have changed
- Changes in distribution methods
- Changes in retailer compensation (poor placement)

Quantitative Analysis: If they raise their prices to $9 next year, what will their revenue be?

Sales Figures

	Last Year	This Year	Next Year?
Price per 6-pack	$10	$8	$9??
Sales Volume	$350m	$400m	

Big-Box Stores	30%	- will lose 4% in volume for a 1% increase in price
Other Retailers	70%	- for price increases less than 30%, no change in volume

Solution:
Current Volume
If they had $400m in sales at $8/each, they sold 50m units

Big Box Stores	15m
Other Retailers	35m

New Volume
An increase from $8 to $9 is a 12.5% increase.

Big Box Stores	7.5m	- 4% * 12.5% = 50% decrease in volume
Other Retailers	35m	- no change in volume 12.5%<20%

New Revenue
(7.5m + 35m)* $9 = $382.5m

Follow-up Question: Should they raise the price? (Note: revenue decreased from $400m to $382m)
Answer: It is unclear. We don't know what the margins are.

Follow-up Question: Would a company ever choose to see their sales volume decrease?
Answer: Yes, if they could increase their margins significantly with only a small decrease in sales.

Follow-up Question: If the decision to raise the price was already made, what would be more profitable in this situation, if the per unit margin was lower or higher?
Answer: The per unit margins would preferably be higher to make up for the slight decrease in sales.

Case facts and Question: APC Nutrition is thinking of launching a new product for diabetics, Alpha.

Alpha - Case Facts
$1.50/day
There are 20m diabetics in the US
70% are diagnosed
20% of those diagnosed actively treat their condition
There are three other competitors so it would only have 20% market share

What is the revenue potential?

Solution:
$306,600,000 =(20m * 70% * 20% *20%) * $1.50 * 365 days

Follow up question: Is this a strong area for growth for American Products Company?
Answer: This is significant for APC Nutrition as it is a 40% increase in sales but it is not large enough to make a major difference for APC. Remember, the client is APC, NOT APC Nutrition. Relying on $300m of new revenue for a $50bn company is not a long-term plan.

Final: Ask the candidate to give a 30-second summary

Case 8: Mini-Bar
Company: McKinsey & Co.

Case Question: You have just been put in charge of the W Hotel and the previous manager did not have mini-bars installed in the guest rooms. He would like to know if you think the revenue opportunity is large enough to make it worth it. Estimate the revenue opportunity and make a recommendation as to whether or not they should be installed.

Instruction to the interviewer: The objective of this case is

- To see if the candidate can make reasonable estimates as to the revenue opportunity
- To see if the candidate can identify intangible reasons for or against this
- To see if the candidate can determine whether or not this is significant for the business

Question: How would you structure your analysis to help you make a recommendation?
Sample Structure:

- Understand the city the hotel is in, the local area, and the restaurants in the hotel
- Estimate the revenue opportunity
- Risk factors

Case Facts: Let the candidate pick the city (do not let them pick a hotel in countries that do not serve alcohol) and make assumptions about the local bar/restaurant scene and the

Question: What are some issues for/against adding mini-bars?

- For:
  - Standard amenity for upscale hotels
  - Business travelers may not stay without it
  - Good way to sell "W-branded" items
- Against:
  - Hotel bar will lose business
  - Bartenders will lose tips
  - Need to hire staff
  - Need to adjust food service catering
  - High initial startup costs
  - Electricity costs

Question: Please estimate the revenue opportunity

Instruction to Interviewer: There is no right answer here as long as all of the candidate's assumptions are reasonable and are well thought out. Challenge them to defend some of their assumptions.

Sample Answer:

Estimation of the Hotel Size

20 floors
15 rooms/floor
~300 rooms

~20 Penthouse Suites
~80 King Suites
~200 Regular Suites

Will assume 75% utilization and 350 usable days a year per room

		Room Days/Year
Penthouse Suite	5,250	~5,000
King Suite	21,000	~20,000
Regular Suite	52,500	~50,000

Usage assumptions (cocktails $10, beer $5)

	Avg Spend/Day
Penthouse (2 cocktails & 2 beers)	$30
King Suite (1 cocktail & 1 beer)	$15
Regular Suite (1 cocktail)	$10

Yearly Revenue Opportunity

			Total
Penthouse Suite	~5,000	$30	$150,000
King Suite	~20,000	$15	$300,000
Regular Suite	~50,000	$10	$500,000
			$950,000

Follow-up Question: Is this amount significant?
Answer: A strong answer would be to recognize that the revenue from the mini-bar may is relatively low in comparison to the hotel's total revenue but may be very necessary for intangible reasons. In addition, they would mention that this is all top line and may not represent a significant profit increase.

Final: Ask the candidate to give a 30-second summary and recommendation

Case 9: Vitamin Universe
Company: McKinsey & Co.

Case Question: You have been tasked by a private equity investor to determine whether or not you should buy Vitamin Universe. They have 1,000 stores nationally in malls. Analyze the industry, determine whether or not we should purchase Vitamin Universe and identify issues of concern.

Instruction to the interviewer: The objective of this case is

- To see if the candidate can identify a relevant structure
- To see if the candidate can identify the salient points of a market analysis
- To see if the candidate can drive to a profitability analysis of the value proposition
- Note: This case does not call for a valuation analysis (e.g. DCF); steer the candidate away from this approach and get them to focus on the market analysis and objectives of the client (PE firm)

Question: How would you structure your analysis to help you make a recommendation?

Sample Structure:
Internal analysis of current customers
Market Overview and Competitive Positioning
Customer trends survey – future opportunity identification
Value Proposition development

Facts:
Target audience is one-third of the young men between the ages of 18-34 who are the heaviest user and spend an average of $50 a month. 30% of these fitness buffs shop at Vitamin Universe and there are 50% margins. What would happen if we could increase our brand to 35% adoption?

Sample Answer
300 million people
divide into 5 parts of 60 million
0-20, 20-35, 35-50, 50-65, 65-80

Current State
60 million people
50% are men
33% are fitness buffs
30% shop at Vitamin Universe

=60m * 50%, * 33% * 30%
2,970,000 Target Market

50 / month
600 / year per person

1,782,000,000	Annual Revenue
891,000,000	50% Annual Profit

If 35% shopped at VU, that would be an increase from 30% to 35%

1,039,500,000	New Profit
17%	Profit increase

Facts:
The private equity firm requires a 50% increase in profits. How does this satisfy their requirement? How could you go about increasing their profits?

Sample Answers:

Revenue:

- Increase the breadth of the product line
- Expand outside of malls and into fitness clubs
- Expand into schools and pro-sports teams
- Begin selling to women - develop a female brand
- Add a “diet” segment
- Setup vending machines at spas

Margins:

- Begin selling in bulk
- Expand outside of malls into clubs
- Operational efficiencies
- Buy capacity
- Outsource Production

Financing:

- Increase the leverage of the firm
- Increase the depreciation expense (increases Cash Flows)
- Renegotiate leases with the malls

Final: Ask the candidate to give a 30-second summary and recommendation

Case 10: Bagging Co. (Popcorn)
Company: BCG 2nd round

Bagging Co. makes rolls of grease-proof paper. The production of this paper is unique in that there are many mechanical differences in the production process compared to other paper production lines. In particular, these machines require a larger upfront capital expenditure. Bagging Co. sells this grease-proof paper to bag converters. The bag converters add glue and produce the actual bag of popcorn, then turn around and sell it to major packaged food companies for resale.

Recently, the R&D dept. at Bagging Co. discovered a means to reduce grease soakage by 10x. This is achievable by a relatively simple modification to the current equipment at a negligible cost.

Should Bagging Co. make the new paper?

Instructions to the Interviewer: The objective of this case is
- To understand the market impact of a new technology / product
- To conduct quantitative analysis in order to understand industry economies
- To form a pricing strategy

Sample structure:
- Identify profitability drivers for client and client's customer
- Opportunity identification

Question: *Where might the value be in this product?*
Possible Answers:
- End users (popcorn consumers)
    - "cleaner" experience
- Bag converters
    - Reduced costs
    - Stronger pricing power vs. non-adopting competitors
- Novel applications (other markets – to be explored later)

Question: *Where would there be more value – End users or bag converters?*
Answer:
- End users probably don't care –usually dump bag into a bowl, not really concerned about grease drip on outside
- Bag converters may care more – if they can reduce costs or raise prices somehow with superior packaging

Additional info to be given:
Bag converters like the product. They currently create double-ply popcorn bags and now would be able to create single-ply.
Bag converters current cost breakdown –
- *$.30 / 2 sheets*

- *$.10 / receptor (film applied to bag)*
- *$.05 / popcorn*
- *$.05 / other manufacturing costs*
- *$.50 TOTAL COST*

Client cost breakdown-

- *$.10 / sheet (1/2 FC, 1/2 VC)*

Question: *How much does grease soakage decrease using single-ply of new paper?*
Answer: *5x*

Question: *What is driving bag converters desire for this product?*
Answer:

- Need to explore current economics and what changes (2-ply to 1-ply). Costs will decrease.
- $.15 → $.35 NEW TOTAL COST
- Adopting bag converters can potentially squeeze out competition by lowering prices and maintaining strong profit margin

Question: *What is client's profit margin without technology?*
Answer: Profit is $.05 / sheet, or $.10 / bag, or 33% margin

Question: *How should the client price a sheet of the new grease-resistant paper?*
Answer:

- VC = $0.05 / sheet still
- Assuming same level of production, FC becomes $.10 / sheet.
- Total cost is $.15/sheet
- Sale price to bag converter can logically fall in a range from $.15 to $.30
    - $.15 produces no client profit
    - $.15 - $.25 produces less profit / bag than current product, no advantage to client
    - >$.30 costs more to bag converter than current product, no advantage to bag converter
    - $.25 - $.30 produces advantage for both client and bag converter

Question: *What are other applications / markets for this new technology?*
Possible Answers:

- Grease-resistant food storage (anything from Tupperware to restaurant to-go boxes)
- Other packaging materials
- Auto mechanics industry (bolts, rings…etc.)
- Restaurant industry (floor mats for instance)