

Frame the
problem

Creative Problem Solving for Case Interviews

Case Book

A Practical Guide on How to Crack Case Interviews

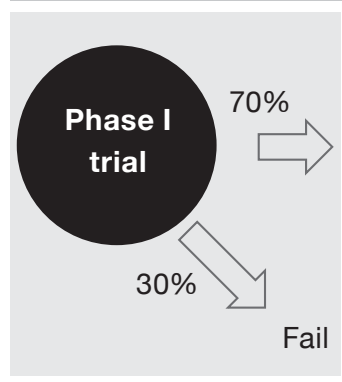


Te

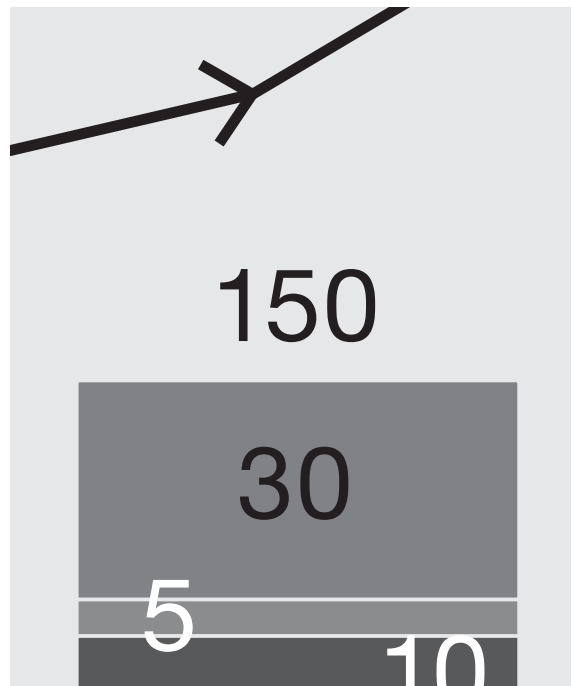
3 Refurbish Fleet

35

40



440 deliveries
Competitor 4: 70
Competitor 3: 70
Competitor 2: 92
Competitor 1: 97
AirJet Inc.: 110



Acknowledgements

Career Services would like to thank the following companies for their generous contribution to the London Business School Case Book.

BAIN & COMPANY 

BCG
THE BOSTON CONSULTING GROUP

booz&co.

e-on

Johnson & Johnson
FAMILY OF COMPANIES

L.E.K.

Marakon

McKinsey & Company

Monitor Deloitte.

Roland Berger
Strategy Consultants

solon

Bain & Company

Entertainment Co

BAIN & COMPANY 

PROFIT

Case Summary for Interviewee

Situation

- Premier touring live entertainment company
- Company has enjoyed five years of tremendous growth in ticket sales and revenue

Complication

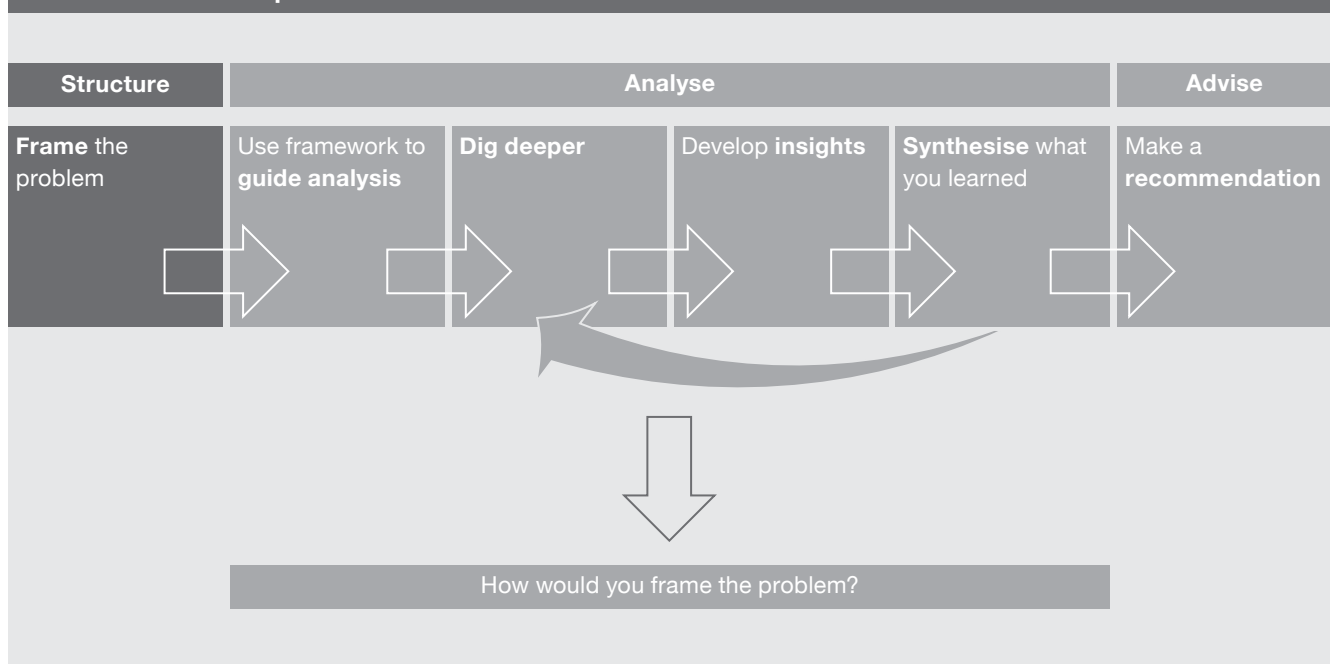
- While ticket sales and revenues have continued to grow steadily, profitability growth has lagged

Key question

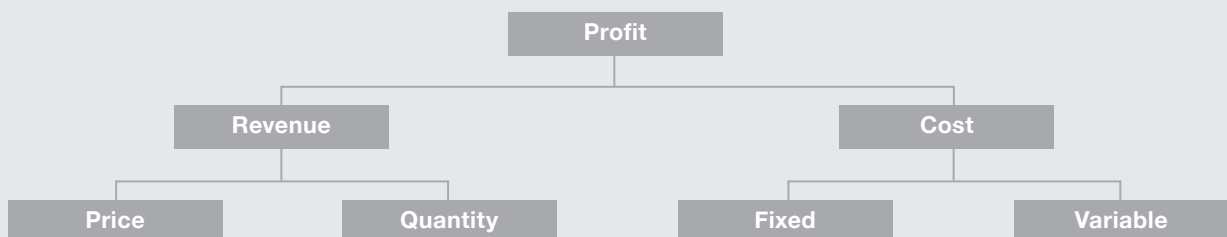
- What is the root cause of the client's lagging profitability?

Please follow the steps below to guide you through the case.

Case structure – Step 1



Suggested framework: Revenue and Costs

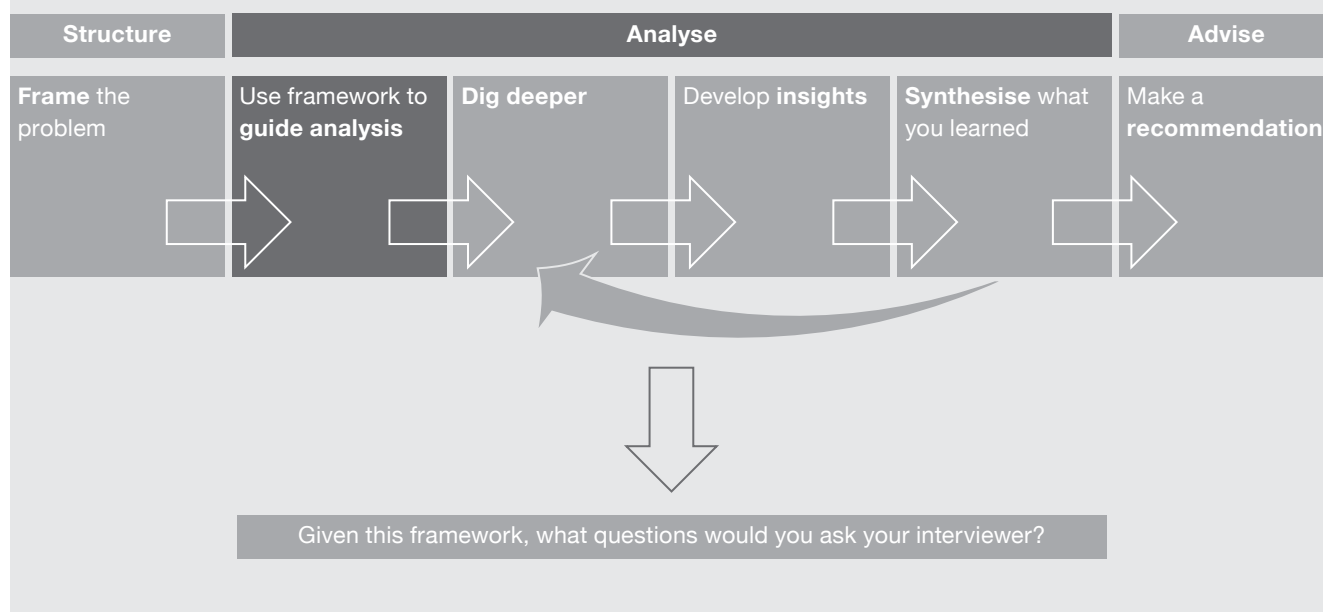


Note for Interviewer: The quantitative component of this case is very straight forward. Intent is for the bulk of the interview to be spent on the qualitative elements.

Bain & Company

Entertainment Co

Case structure – Step 2



Identify the drivers that matter

	<div>Revenues</div> <div>Price Quantity</div>		<div>Costs</div> <div>Fixed Variable</div>	
Interviewee:	Need to understand revenue drivers		Need to understand cost drivers	
	Has there been a significant change in ticket prices?	What has happened to # of tickets sold in past five years?	How have Fixed Costs (FC) changed in past five years?	How have Variable Costs (VC) changed in past five years?
Interviewer:	Average ticket price changes from stop to stop. Cities with largely wealthy populations typically have higher avg ticket prices	Ticket sales volume varies greatly from stop to stop. Entertainment Co. is more popular in some places than others	FC have grown as the client has added more tour stops. FC are generally allocated by length of stop	VC from stop to stop are generally very consistent. Primary drivers of differences are venue rental

Bain & Company

Entertainment Co

Exhibit 1 – Entertainment Co. financial results

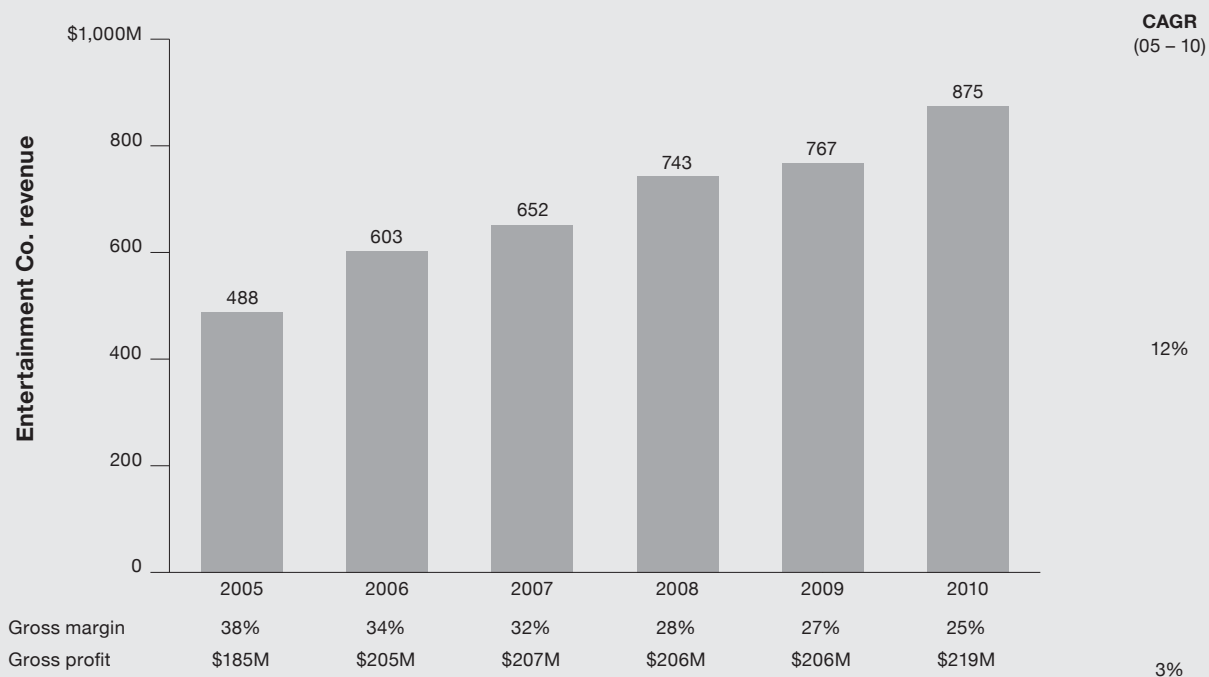
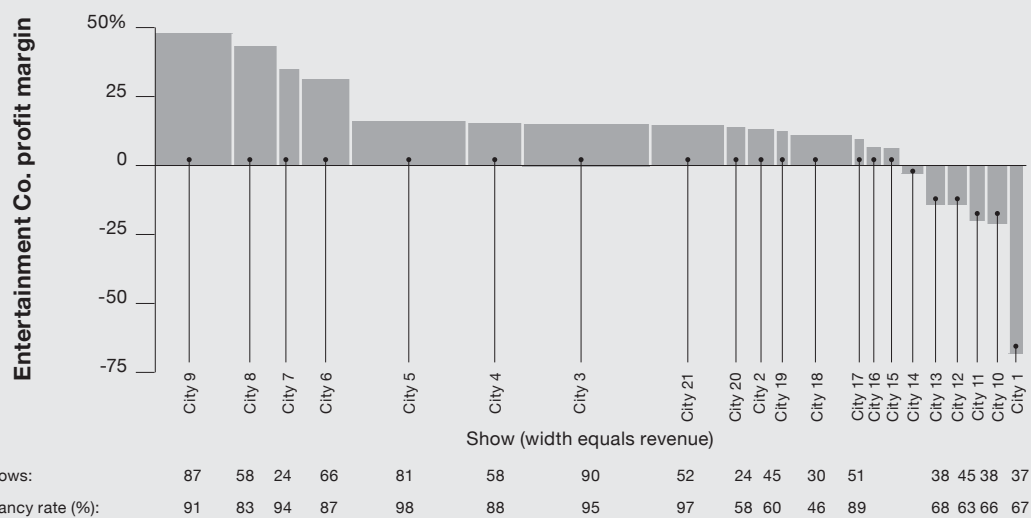


Exhibit 2 – Entertainment Co. profit margin by tour stop

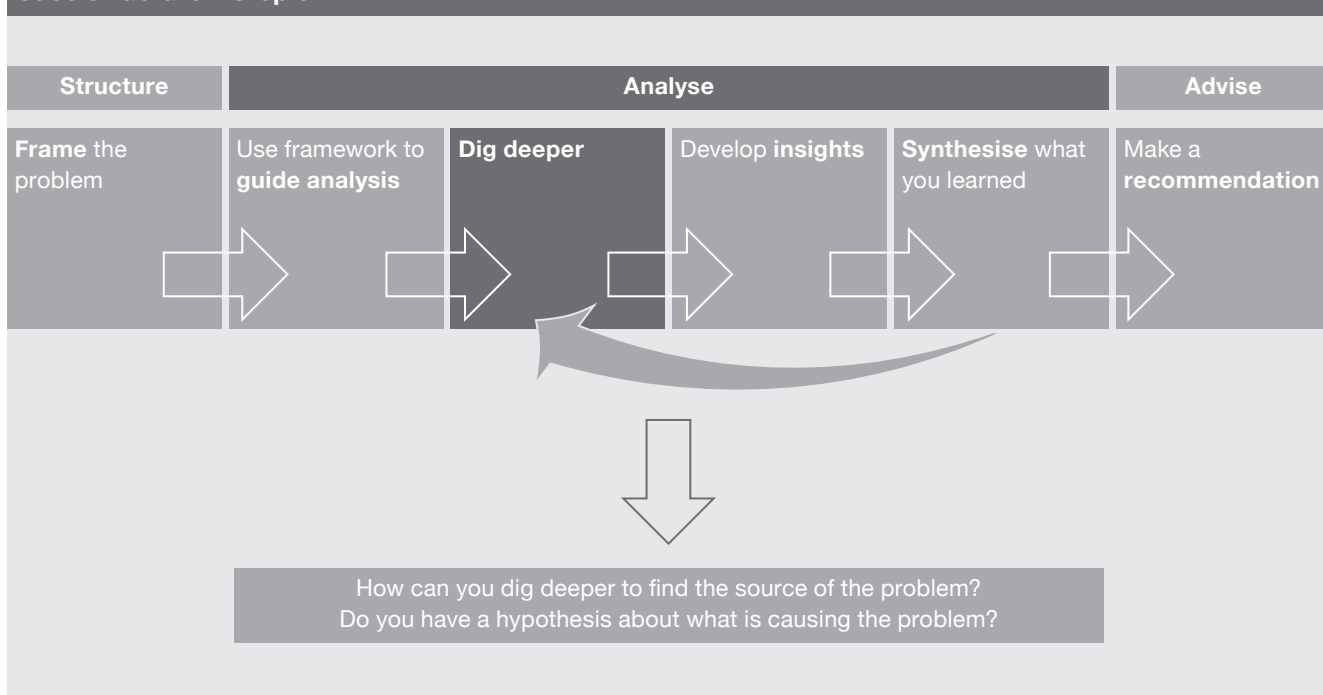


Bain & Company

Entertainment Co

Exhibit 3 – Most recent performance results from 3 selected tour stops

	City A	City B	City C
Average ticket price:	\$100	\$80	\$90
Total shows:	85	45	75
Total attendance:	210,000	75,000	180,000
Occupancy rate:	95%	64%	92%
Variable costs per show:	\$60K	\$50K	\$60K
Fixed costs	\$8M	\$4M	\$6.5M
# of stops in previous 5 years:	5	2	3
Year of first visit:	2001	2008	2006

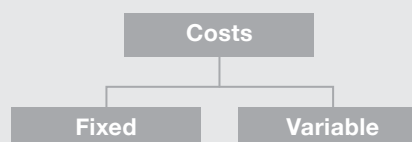
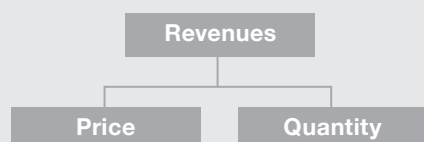
Case structure – Step 3**Hints****Exhibit 1:** Interviewee should immediately recognise disparity in growth of revenues and profit.**Exhibit 2:** Interviewee should point out that the unprofitable shows have shorter LOR and occupancy rates.

Bain & Company

Entertainment Co

Develop a hypothesis that you can test; dig deeper into the drivers that matter

Hypothesis: Entertainment Co's slow growth in profitability is a result of expansion to markets that are unprofitable or marginally profitable



Interviewee:	Avg ticket price varies from \$100 to \$80	Attendance ranges from 75K to 210K as result of different run lengths and occupancy rates	Fixed costs (which are allocated by run length) vary from \$4M to \$8M	Variable costs range from \$50-60K
---------------------	--	---	--	------------------------------------

Interviewer: How does profitability vary from city to city?

Most recent performance results from 3 selected tour stops

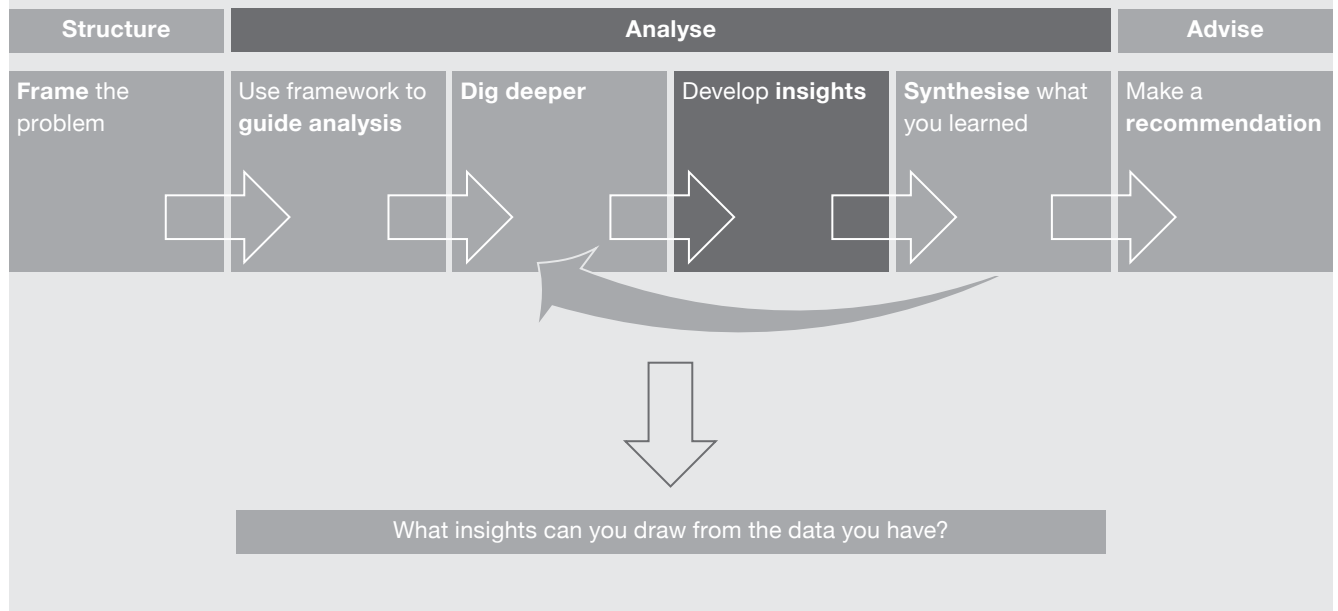
Dark grey rows to be calculated by interviewee

	CITY A	CITY B	CITY C
Average ticket price	\$100	\$80	\$90
x			
Total attendance	210,000	75,000	180,000
Gross revenue	\$21.0M	\$6.0M	\$16.2M
-			
Variable costs per show	\$60K	\$50K	\$60K
Total shows	85	45	75
Total variable costs	\$5.1M	\$2.3M	\$4.5M
Fixed costs	\$8M	\$4M	\$6.5M
Total costs	\$13.1M	\$6.3M	\$11.0M
Gross profit	\$7.9M	-\$0.3M	\$5.2M

Bain & Company

Entertainment Co

Case structure – Step 4



Dig deeper to understand the implications of the profitability analysis

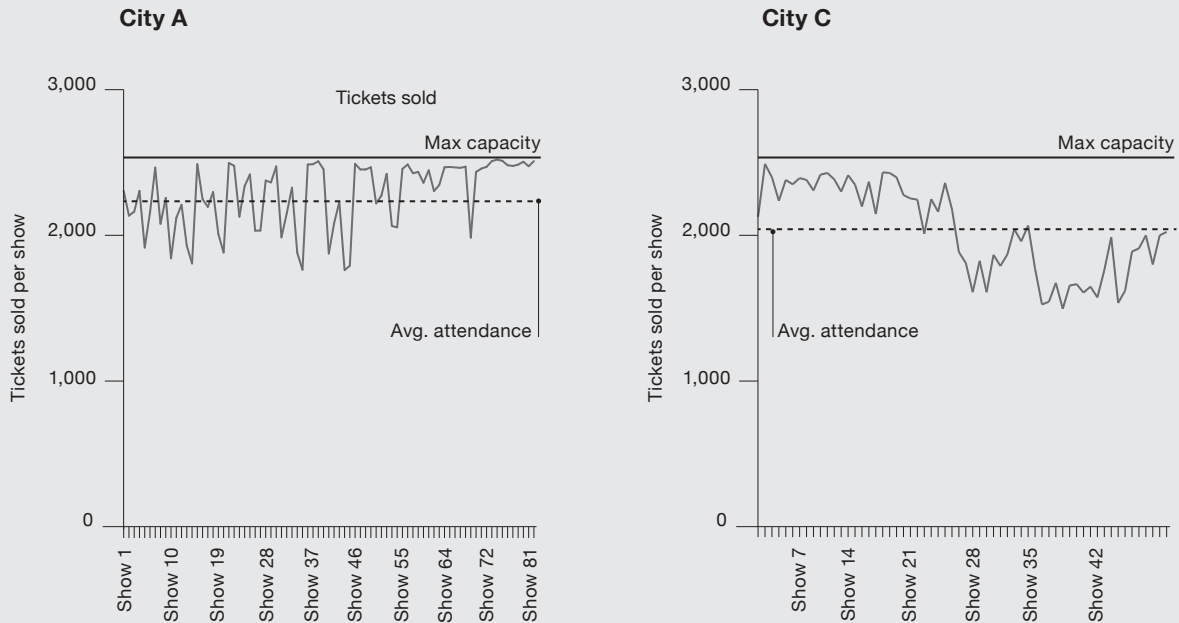
Key insights

- Interviewee:**
- It appears that Entertainment Co. is growing ticket sales and revenue at the expense of profitability
 - They should be more selective about the markets that they enter. Several possibilities exist for continued growth.
 - Stay longer in the good markets and don't go to the bad markets
 - Reduce cost of the show
 - Develop a lower cost show format for the marginal cities
 - Combination of the above
- Interviewer:**
- Reducing the cost of the show is not an option for artistic reasons
 - We have some data on ticket sales by week in two markets that I would like you to analyze
 - Entertainment Co. has launched a new lower cost format show in a few markets. The new show will be performed in Ice-rinks (rather than in Theatres like the current show)
 - I have the initial profit analysis of the most recent Theatre and Ice-rink show in three markets for you to analyze

Bain & Company

Entertainment Co

Exhibit 4 – Theatre show ticket sales by week

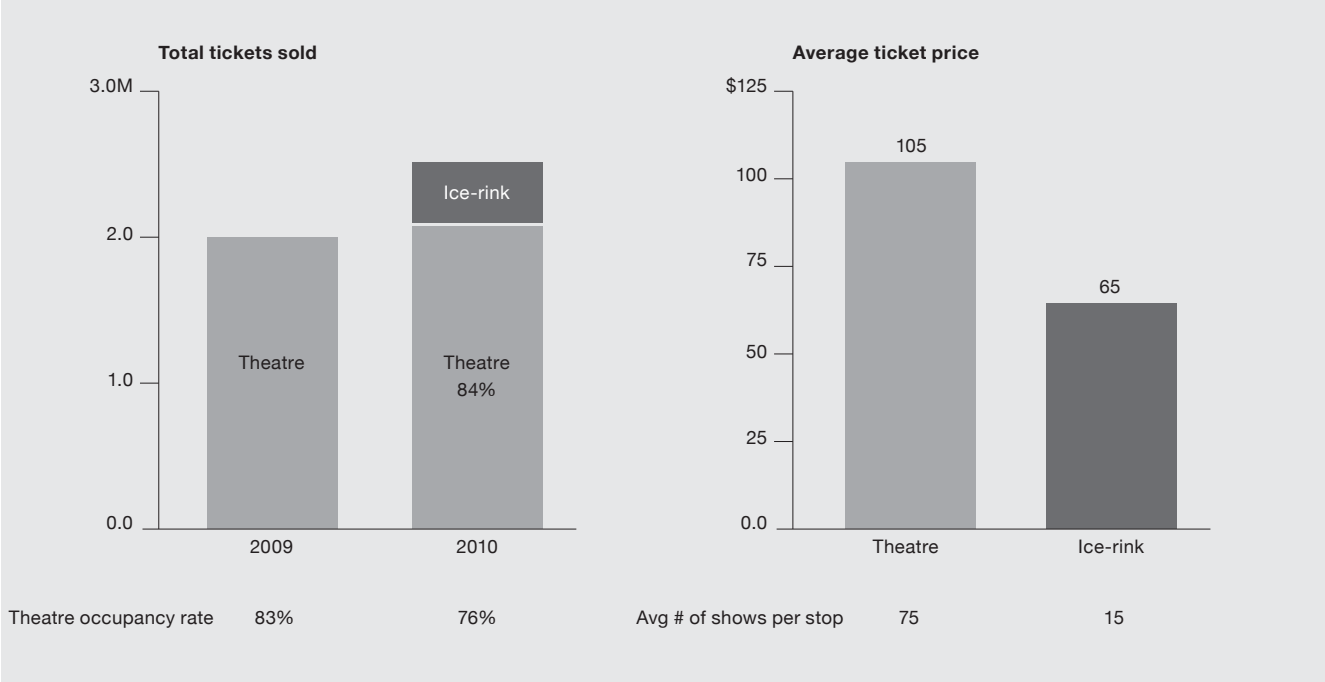
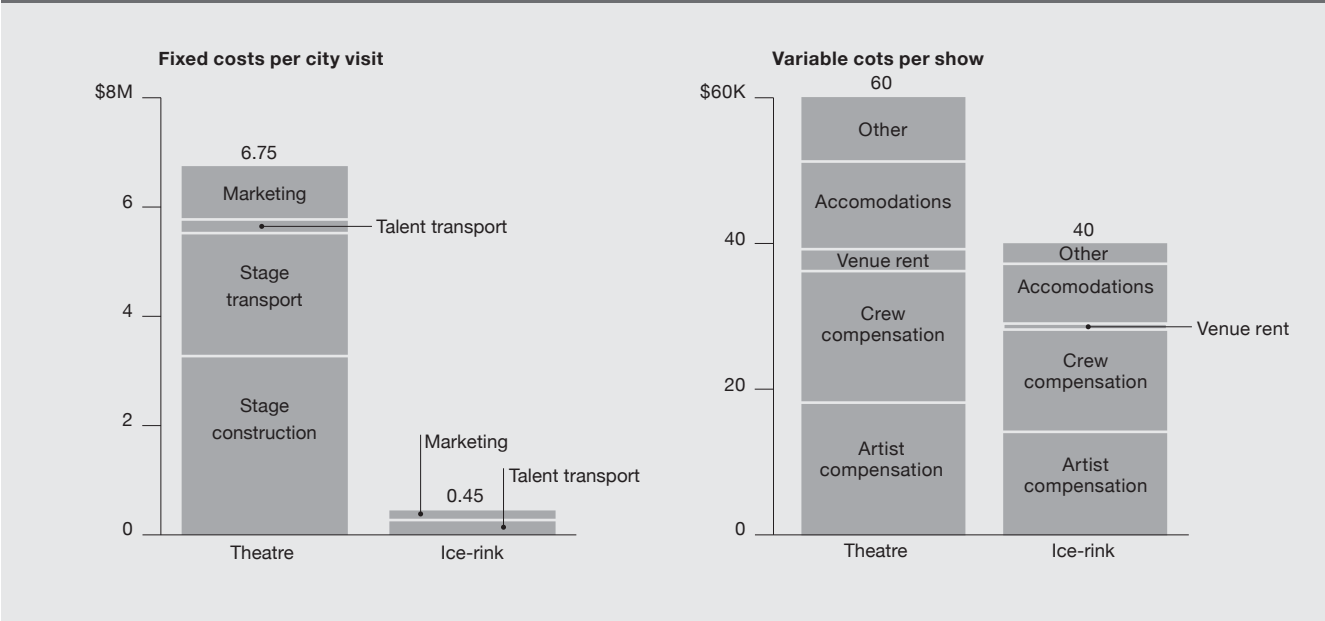
**Key Insights**

City A: Some markets continue to have strong attendance throughout (suggesting that they could add additional shows without dramatically decreasing occupancy)

City C: Other markets already see a significant drop-off in sales by the end, suggesting that there is no additional capacity for adding shows and that the city may not be able to adequately utilize the Theatre format with it's very high FC

Bain & Company

Entertainment Co

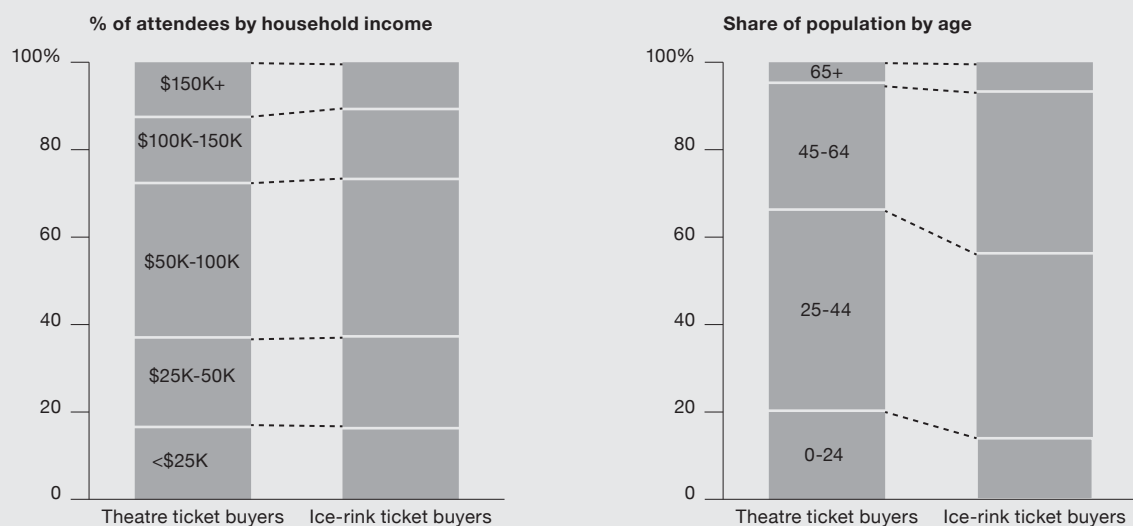
Exhibit 5 – Ice-rink format introduced in 2010 to offer lower cost option for younger people/families**Exhibit 6 – Average cost structure of two show formats****Key Insight**

Fixed costs per visit: Theatre format has very high fixed cost base relative to Ice-rink. This suggests a need to maximize utilization (i.e., sell as many tickets as possible)

Bain & Company

Entertainment Co

Exhibit 7 – Theatre and Ice-rink customer demographics

**Key Insights**

1. % of attendees by household income: Customers appear to have the same profile, which is not what the client expected to happen when they introduced the new show format.

2. Share of population by age: In fact it seems a greater proportion of Ice-rink customers are older and slightly wealthier.

Bain & Company

Entertainment Co

Exhibit 8 – Most recent Theatre and Ice-rink results

	CITY X	CITY Y	CITY Z
Theatre total tickets sold	210,000	180,000	75,000
Theatre gross profits	\$8M	\$6M	-\$250K
Theatre incremental profit per customer	\$105	\$95	\$80
# of Ice-rink tickets sold	54K	20K	30K
Ice-rink gross profits	\$1.9M	\$380K	\$600K
Ice-rink net profit per customer	\$35	\$19	\$20
Replacement Rate*	3:1	5:1	\$4.1M
Breakeven Cannibalization**	19K	4K	5K

*Ratio of **incremental** Theatre profit per customer to Ice-rink net profit per customer. We compare incremental to net because we want to understand the profit impact of losing one additional Theatre ticket **assuming that person bought a Ice-rink ticket instead**

**# of additional Theatre tickets that would have needed to be sold to match the profit of the Ice-rink format

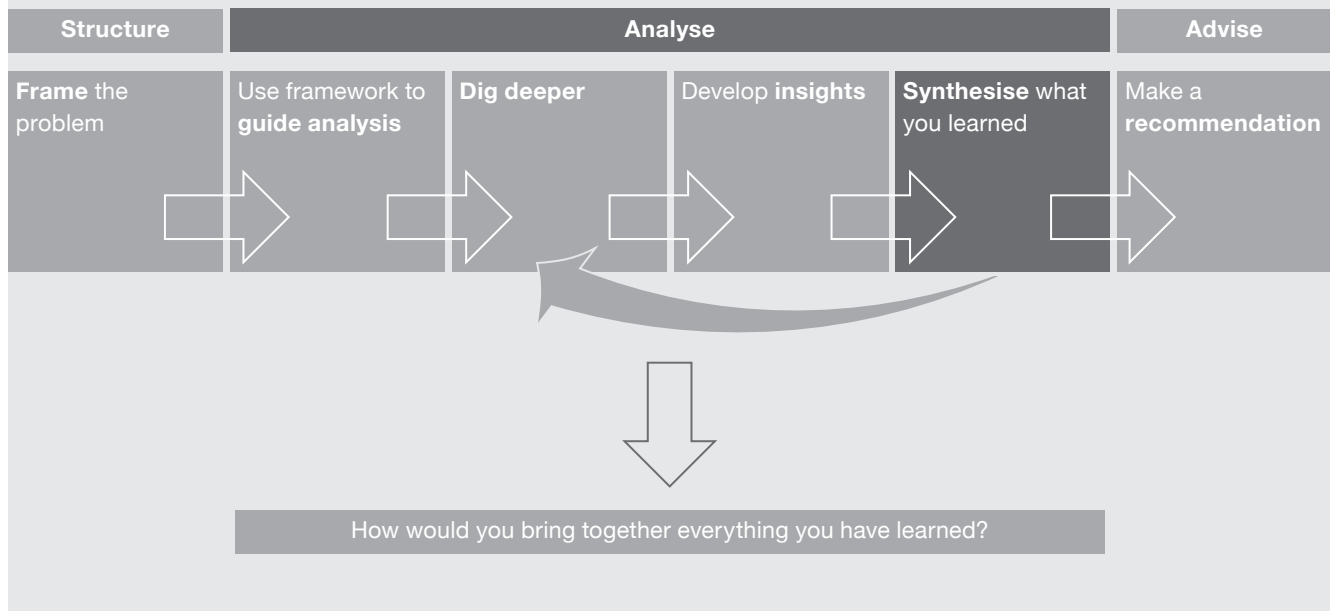
Key Insights

- 1. City X:** Some markets may be able to sustain both formats without significant cannibalization. Therefore using both formats in the market may make sense.
- 2. City Y:** Some markets appear to be more susceptible to cannibalization (i.e. only ~4K incremental Theatre tickets would have exceeded the profit of the 20K Ice-rink tickets. Entertainment Co. should probably stick to only the Theatre format.
- 3. City Z:** Theatre format is not always profitable. Remember that there are very high FC so if you cannot sell a large # of tickets it might make sense to use the lower cost format.

Bain & Company

Entertainment Co

Case structure – Step 5



Go back to your initial hypothesis

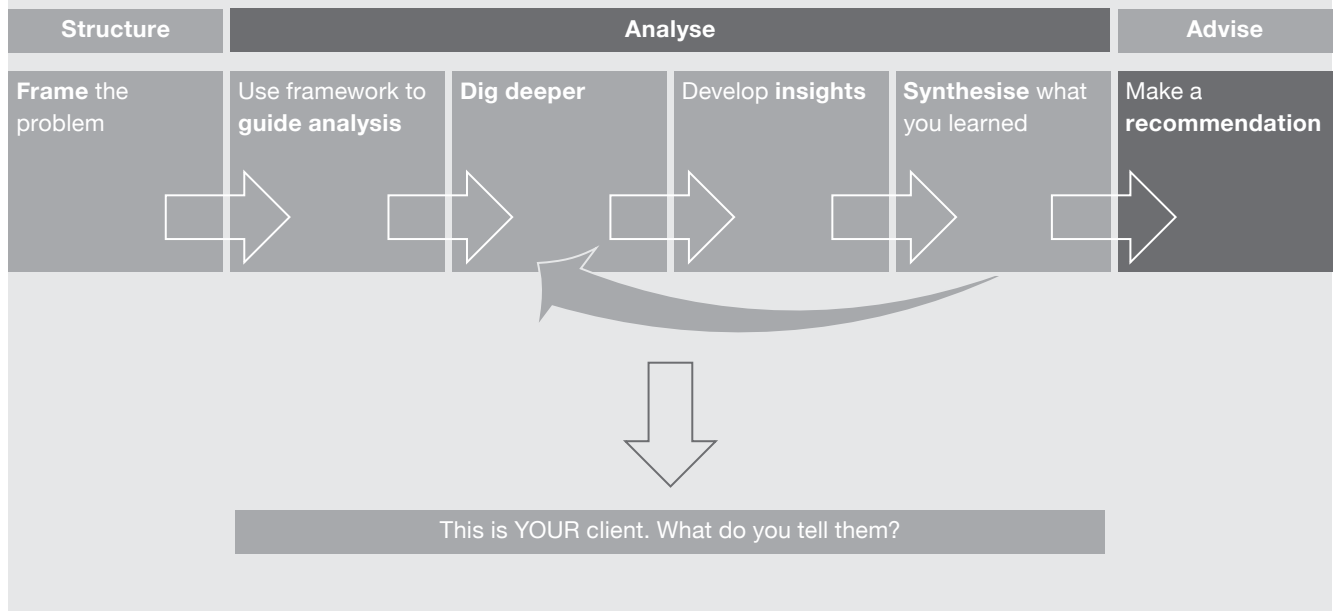
Key Insights

- The root cause of the slower growth in profitability is that as Entertainment Co. has grown they have not segmented their markets and used the appropriate show format or length of stay
 - Theatre show has very high FC and therefore should only be taken to cities that can support a lot of shows and sell a lot of tickets, otherwise Ice-rink format may be a better choice
 - Some markets can probably sustain both the Ice-rink and Theatre formats
 - Cannibalization is a risk that must be mitigated. Ice-rink format should only perform in cities where it is very likely to not impact Theatre sales

Bain & Company

Entertainment Co

Case structure – Step 6



Recommend a practical course of action to achieve results

Key Insights

- Improve profitability by **segmenting markets**
 - Large markets (e.g., City A) where cannibalization is relatively low risk should be targeted for *both the Theatre and the Ice-rink format*
 - Medium markets (e.g., City B) should be *limited to only the Theatre format* to avoid cannibalizing the more profitable Theatre ticket sales
 - Small markets (e.g., City C) should be *limited to the Ice-rink format* which can deliver greater profits than Theatre
- Result will be **higher penetration in large markets, improved profitability** per ticket sold in the **medium markets**, and **greater profits** (at a lower risk due to lower cost base) in the **small markets**

Bain & Company

Entertainment Co

Case Summary for Interviewer only

Detailed case answer: Entertainment Co.

- Client is a **live entertainment company that tours around the world**
- In recent years, the client has witnessed **slower than expected growth in profits** despite double-digit growth in ticket sales and revenue
- Cause of the slower profit growth is that due to expansion, Entertainment Co. has **started to visit several cities that do not sell enough tickets to cover costs**
- Possible solutions include: **Avoiding unprofitable markets, staying for longer in profitable markets, and introducing a new lower cost show format**
- The **Theatre format** has **very high fixed costs**, as **ticket prices are high** and **show run lengths are long** so once costs have been covered, every incremental ticket is profitable
- **Ice-rink costs** are **substantially lower** and **run lengths are shorter** so it may be more appropriate in certain underperforming Theatre markets
- However introduction of the new **format creates a risk of cannibalizing the very profitable Theatre show in certain markets, so cannibalization must be mitigated by appropriate tour planning**
- Client should plan tours so that **they only go to markets with Ice-rink that are not suitable for Theatre (i.e. not enough Theatre sales to cover high FC)** or can sustain both formats without causing significant cannibalization and stay for **more shows in good markets where they can likely sell more tickets**

Bain & Company

Entertainment Co

Detailed Case Structure: Entertainment Co.

Structure	Analyse				Advise
Frame the problem	Use framework to guide analysis	Dig deeper	Develop insights	Synthesise what you learned	Make a recommendation
<p>Fist pass</p> <p>Q: How would you frame the problem?</p> <p>A: Disaggregate drivers and components of revenue and cost</p> <p>Q: Given this framework, what questions would you ask your interviewer?</p> <p>A: Drill into price and cost drivers over time or by different market</p> <p>Q: How can you dig deeper to find the source of the problem?</p> <p>A: Dig in to price and cost drivers by market</p> <p>Q: Do you have a hypothesis?</p> <p>A: As Entertainment Co. has grown they have started to visit cities that are unprofitable</p> <p>Q: What insights can you draw from the data you have?</p> <p>A: Some markets have much lower ticket prices and attendance, suggesting that they may be inappropriate for such a high cost product</p> <p>Q: How would you bring together everything you have learned?</p> <p>A: Ice-rink show has shorter run lengths, may be appropriate where Theatre cannot sustain long runs and cover FC. But in cities with long Theatre runs, Ice-rink format should be avoided</p>					
<p>In-depth analysis</p>					
		<p>Q: Quantitative?</p> <p>A: Compare the profitability across multiple cities and look for root causes of variances</p>	<p>Q: Draw insights</p> <p>A: Potentially introduce a lower cost show</p>	<p>Q: Synthesize the new data</p> <p>A: Cannibalization may be a problem in select markets. Market segmentation will be required to avoid it</p>	<p>Q: This is your client. What do you tell them?</p> <p>A: Plan your tours so that you choose the right format for the right markets and sell the most profitable tickets for that market</p>

Copyright © 2010-2011 by Bain & Company, Inc. All rights reserved.

Bain & Company grants the London Business School permission, without charge, to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the content in the above Bain & Company practice case (the "Works") subject to the following conditions:

The above copyright notice set forth at the bottom of each page and this permission notice shall be included in all copies or substantial portions of the Works.

THE WORKS ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE WORKS OR THE USE OR OTHER DEALINGS IN THE WORKS.

BCG**Iceberg**

Europe

BCG

THE BOSTON CONSULTING GROUP

PROFIT**Case at a glance** (for the interviewer only)**Part A****Structure & hypothesis****Opening statement:**

“Our client is Iceberg, a major global branded ice cream producer. Iceberg develops, manufactures and markets ice cream products and sells to retailers who, in turn, sell to the end consumer. Ice cream is one of the most profitable products that Iceberg makes. The business has grown at 5% led by North America and developing markets. However, Iceberg has recently seen poor growth and competition intensifying in the European ice cream market, in particular from supermarkets’ own-brand ice cream. Iceberg management are sure they have great products: they continue to win in consumer taste tests, there is a strong pipeline of planned product launches, and they have strong brands in many markets. Management believes this allows them to sell their products at a higher price than the competition. What could be causing the performance issue in Europe?”

Tests ability to structure a problem and state and explain a clear hypothesis

Part B**Interpretation & numeracy**

Present the candidate with the slide titled: “UK ice cream tub prices” and tell them:
 “The Associate on this case prepared this slide. What is causing the performance issue in Europe?”
 (If the candidate is struggling, ask: “How should Iceberg segment the market and what is happening in each segment?”)

Tests business intuition and the ability to interpret data, draw conclusions and identify implications

“How does the market opportunity compare to Iceberg’s business today?”
 (If the candidate is struggling, ask: “Which segment would you recommend Iceberg focus on and what is the margin and volume potential in that segment?”)

Tests numeracy, ability to make reasonable assumptions, degree of confidence/insecurity and personality in the face of challenge to their work (ask “Are you sure you’re right?”)

Part C**Recommendations & summary**

Ask the candidate:

“What strategies could Iceberg use to address the performance issue in Europe and how would you prioritise them?”

Tests strategic thinking, creativity and ability to prioritise and provide reasons

“What are your recommendations for Iceberg’s management?”

Tests ability to synthesize and structure recommendations, business intuition and empathy

BCG

Iceberg

Key case insights an excellent candidate might uncover (for the interviewer only; do not tell the candidate)

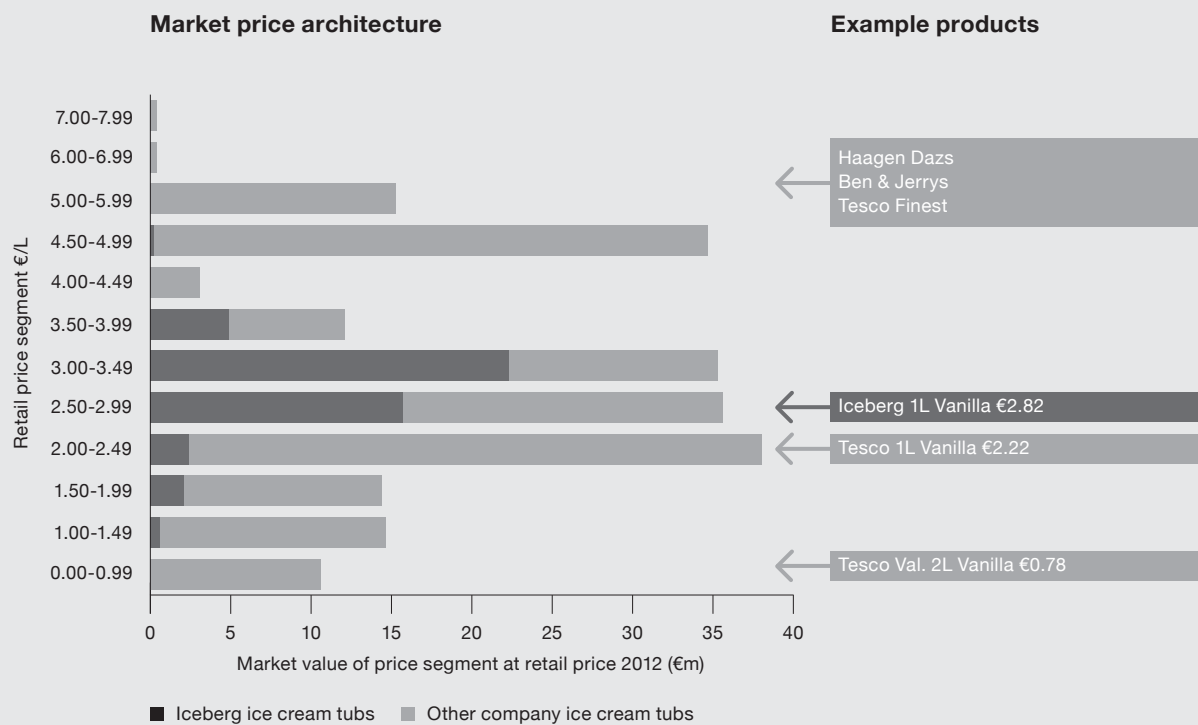
- There are 3 market segments: economy, mass market and premium-priced products
- Iceberg competes primarily in the mass market segment (defined as price points €2.00 – 3.99), with a ~38% market share by value (€46m out of €122m), ~34% by volume (15m L out of 44m L)
- Iceberg is winning market share in a shrinking mass market
- Premium segment is likely growing, as brands distinguish themselves from the mass market to retain and grow margins
- In any given segment recommended: Iceberg's volume, margin or profit potential; its competitiveness to customers and consumers (realising they are different); and its ability to win against branded and private label products
- To compete, Iceberg should:
 - Drive volume to improve plant utilisation (~35% in Western Europe, vs. ~60% in North America) and reduce unit costs, so that it is better able to compete on price in the mass market
 - Increase presence in premium (relying on taste performance and strength of brand)
 - Optimise drivers of consumer purchasing behaviour besides price (e.g. packaging / advertising / shelf placement)
 - Potentially expand in the upper end of the economy market, although its retailer purchase price may be less competitive
- Mass-market consumers are becoming more price conscious (sales of €2.00-2.59 are strongest in the mass market category)
- In the mass market and economy segments, Tesco is undercutting Iceberg and other competitors on price, growing the economy segment and pushing down Iceberg's revenue in the mass market

If the candidate delineates 3 segments slightly differently, their market size and share numbers would differ accordingly

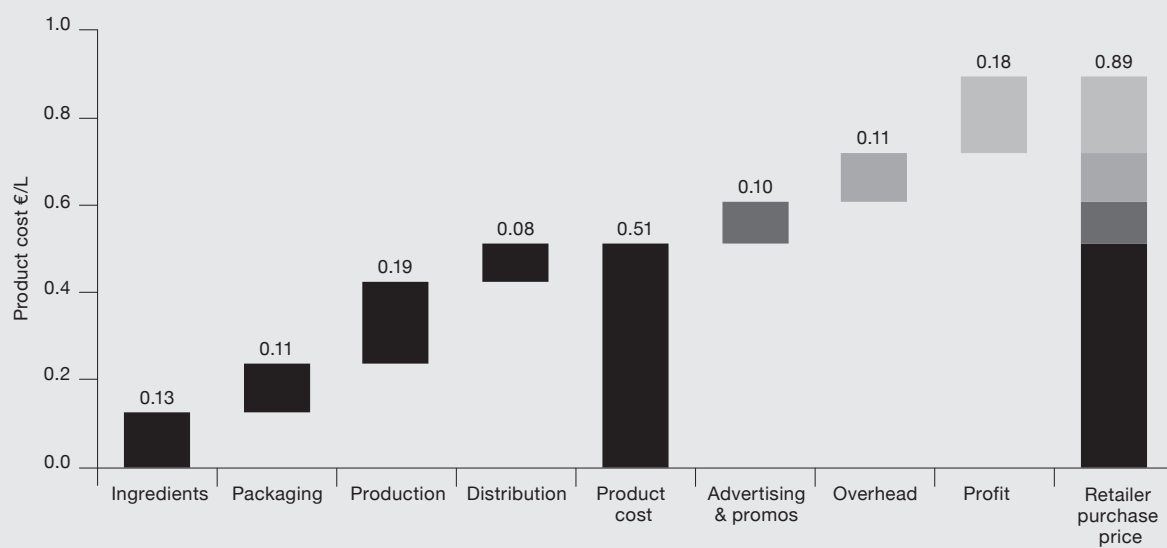
This case is long and candidates would not necessarily be expected to finish it

BCG

Iceberg

Exhibit: UK ice cream tub prices (show to candidate)

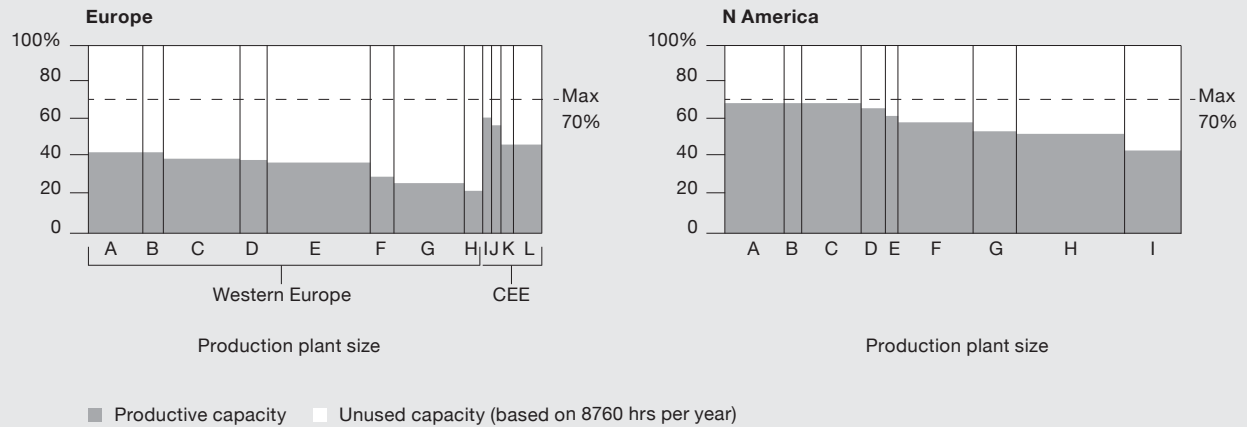
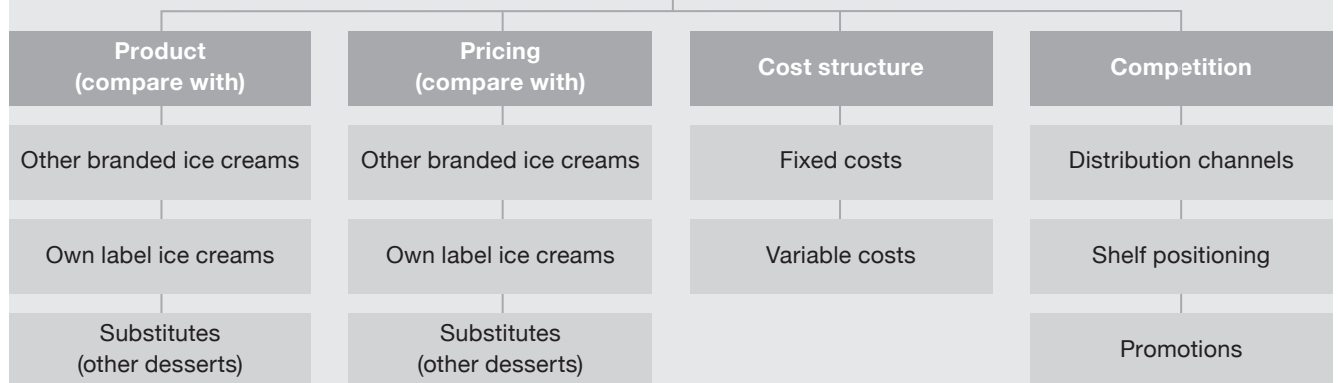
Source: Nielsen: Store research; BCG analysis

Exhibit: Iceberg cost structure of 2L vanilla ice cream tub in UK
(show to candidate if this data is requested)

Source: Client data; BCG analysis

BCG

Iceberg

Exhibit: Iceberg global ice cream production plant utilisation (show to candidate if this data is requested)**Example of a possible case structure (for review after the case interview)****What can Iceberg do to improve their competitiveness in Europe?**

BCG

Iceberg

Differentiation between poor, average and superior performance (for review after the case interview)

	Poor Performance	Average Performance	Superior Performance
Framing problem / prioritising issues	Suggests what supermarkets are doing without clear rationale or structure; does not consider differences across the range of supermarket products	Sets out a structure for analysis; identifies 3 price segments, and possibly that supermarkets have power because Iceberg is reliant on them to sell its products	Sets out a clear, logical structure for analysis; recognises that market has three segments, with Iceberg strongest in the mid-price segment; identifies need to understand Iceberg's ability to compete
Identifying relevant information	Starts asking for a variety of information – no clear logic	Asks a series of specific questions related to a single logical line; identifies some key points from the graphs; can process answers and move on	Defines information needed, including rationale; identifies key points and explains their implications from the graphs presented
Running calculations / drawing conclusions from facts	Calculates incorrectly that Iceberg cannot compete at supermarket price points	Correctly calculates Iceberg can compete at lower price points except Tesco Value and quantifies margin	Realises lowering price may dilute margins and suggests ways to avoid; identifies production utilisation issue and proposes solution; Calculates volume / revenue / profit potential
Identifying key implications and next steps; demonstrates creativity	Limited or illogical additional recommendations on where to improve; formulaic approach (e.g. spend more on marketing)	Needs to be asked for ideas on potential solutions; has a few ideas for how to improve	Identifies the key case insights; drives to solutions on their own; prioritises a list of alternate opportunities; goes beyond the obvious throughout the case process

BCG

Cupid's Arrow

North America v United Kingdom

MARKET
ENTRY

Case at a glance (for the interviewer only)

Part A Structure & numeracy

Do not share any exhibits until Part B

1) Structuring the case

"Our client is Cupid's Arrow, a successful subscription-based online dating agency. They currently operate exclusively in the US market, where they are the market leader. Cupid's Arrow are considering entering the UK online dating market. What are the main factors that they should consider?"

Tests ability to structure, hypothesise and think creatively around a problem

2) Market size estimation

"How would you estimate the size of the UK online dating market?" (if the candidate is struggling, clarify this as being "revenue per year")

Tests structure, numeracy and ability to make reasonable assumptions

"What does this tell us so far about the attractiveness of the market for Cupid's Arrow? What else do we need to think about?"

Part B Analysis & business judgement

Candidate is expected to continue with their case analysis. Share facts of the case or exhibits (see the following pages for details) when these are specifically asked for by the candidate.

When sharing an exhibit, ask the candidate:

"What does this exhibit tell us? How might this affect Cupid's Arrow's entry into the UK market?"

Tests business intuition and the ability to interpret data, draw conclusions and identify implications

Part C Recommendations & summary

Ask the candidate:
"So, what recommendations would you make to Cupid's Arrow's management?"

Tests ability to synthesize and structure their recommendations, business intuition and empathy

BCG

Cupid's Arrow

Key case insights an excellent candidate might uncover (for the interviewer only; do not tell the candidate)

- The UK market will nearly double in size over the next 2 years and is quite fragmented with at least a few new entrants
- Profit margin is healthy at 75% per customer (£180 p.a. per customer)
- Cupid's Arrow may struggle in entering the UK market (candidate may take a slightly different view of the future direction of the UK market and optimal strategy, but is expected to support their position with similar insights):
 - There is greater stigma around online dating in the UK (65%) than in the US (35%), although this is declining over time
 - Cupid's Arrow's core strength in the soul mates segment in the US (60% of the US market), is less applicable in the UK where this segment comprises only 25% of the market (socialising and casual dating segments comprise 75% of the market)
- The UK soul mates segment may already be quite competitive: HappyHearts (33% share and 20% p.a. growth) and Lovebirds (23% share) together have ~75% share and the soul mates segment is only 25% of the UK market
- UK may increasingly shift towards soul mates, like the US as online dating loses its stigma, but it is not there yet
- Overall, the UK market is attractive, but may require Cupid's Arrow to adapt its image / focus in the UK more towards the interests of UK customers (socialising / casual dating) and to form a clear strategy to compete against the aggressive growth of HappyHearts and the threat of new entrants
- Along with a clear strategy, aggressive marketing campaigns and friend referral benefit schemes, etc. are key to establishing a presence in the UK market
- Entry into the UK market could be via organic growth or syndicated from the existing US Cupid's Arrow site, but would be fastest via acquisition and rebranding of a smaller site, for instant network effects between subscribers. Given the anticipated pace of growth in the UK market and the likely lock-in effect in this market based on the size of a subscriber base, acquisition and rebranding of a smaller site would be advisable

This case is long and candidates would not necessarily be expected to finish it

Facts to share with the candidate if asked for specifically (for the interviewer only)

- Cupid's Arrow currently has US revenues of USD\$30m per year
- Cupid's Arrow currently focuses on finding "soul mates" / life partners for its subscribers in the US
- Expected revenue for Cupid's Arrow in the UK is £20 per month per customer
- Set-up costs for Cupid's Arrow in the UK for organic growth are minimal (e.g. IT equipment, customer survey)
- HappyHeart's growth is due to aggressive marketing campaigns and friend referral benefit schemes
- **"Exhibit: Historic and projected growth of the UK online dating market"** – share only in Part B of the case (after the market sizing) – if asked about market growth or competition
- **"Exhibit: Running costs for a typical UK online dating agency"** – share if asked about costs / profitability
- **"Exhibit: US vs. UK perceptions of online dating"** – share if asked about market segmentation / demographic differences / types of online dating sites in the US versus the UK

BCG

Cupid's Arrow

Exhibit: Historic and projected growth of the UK online dating market
(show to candidate if this data is requested)

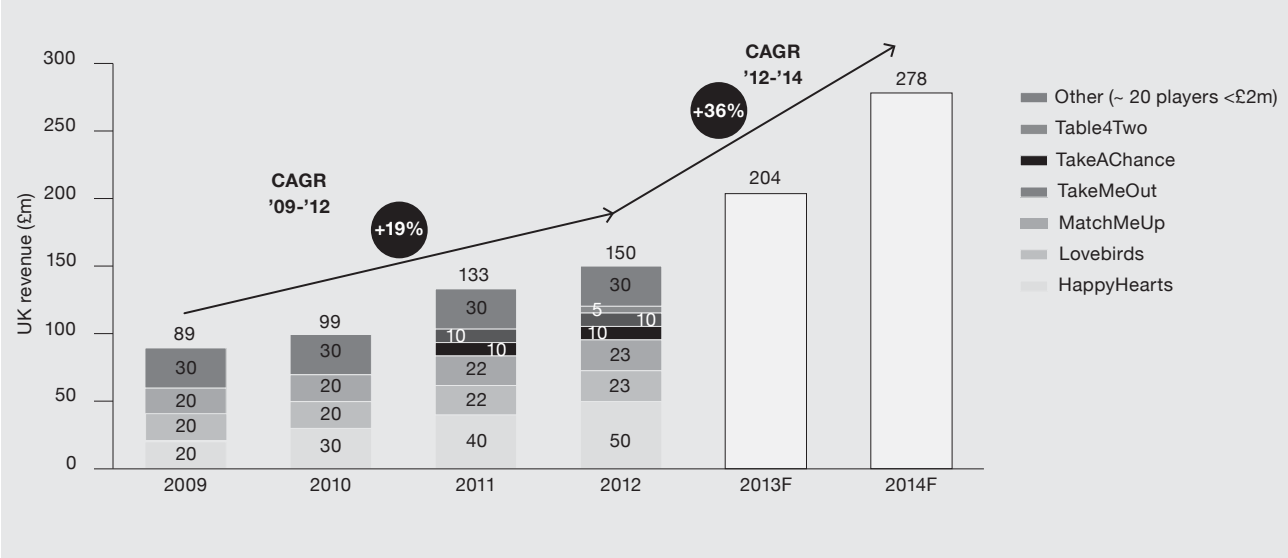


Exhibit: Running costs for a typical UK online dating agency (Show to candidate if this data is requested)

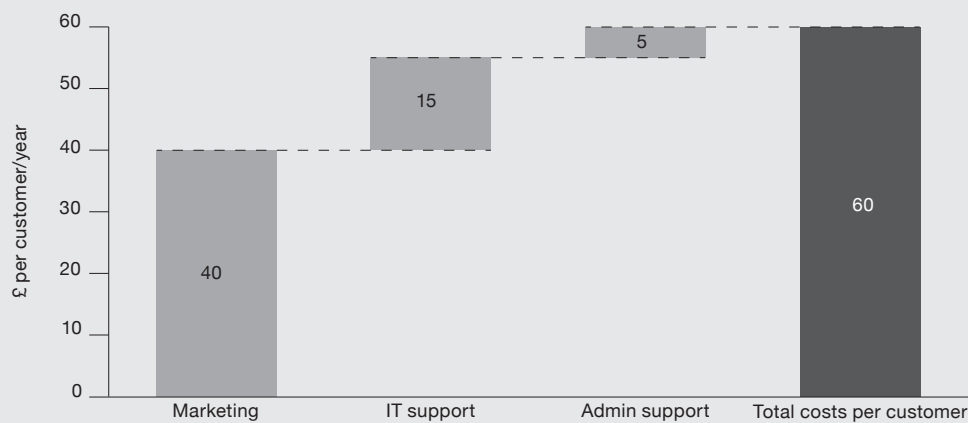
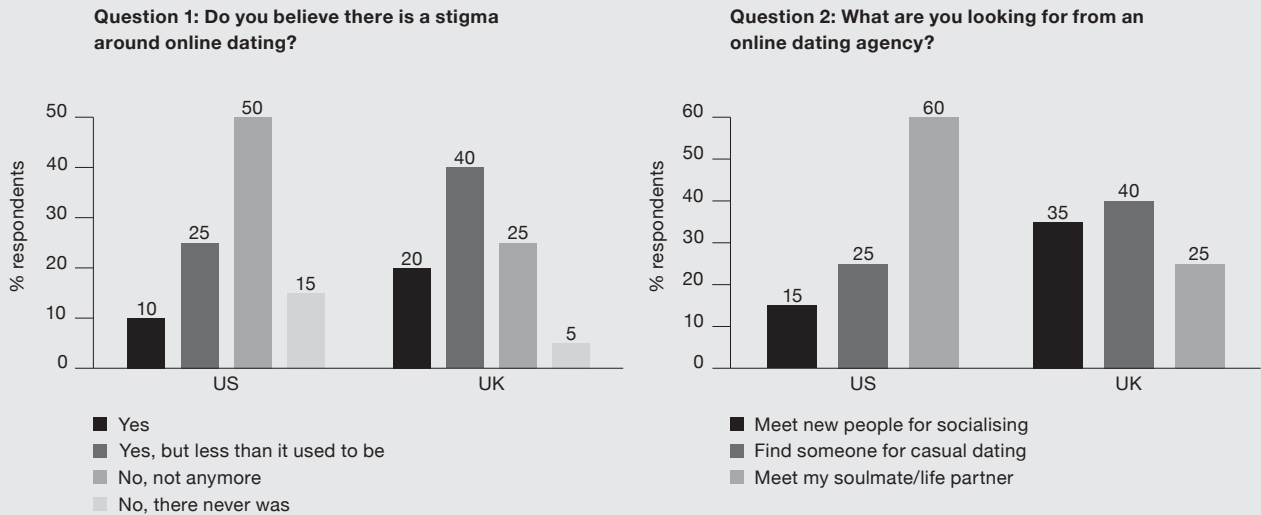


Exhibit: US vs. UK perceptions of online dating (show to candidate if this data is requested)

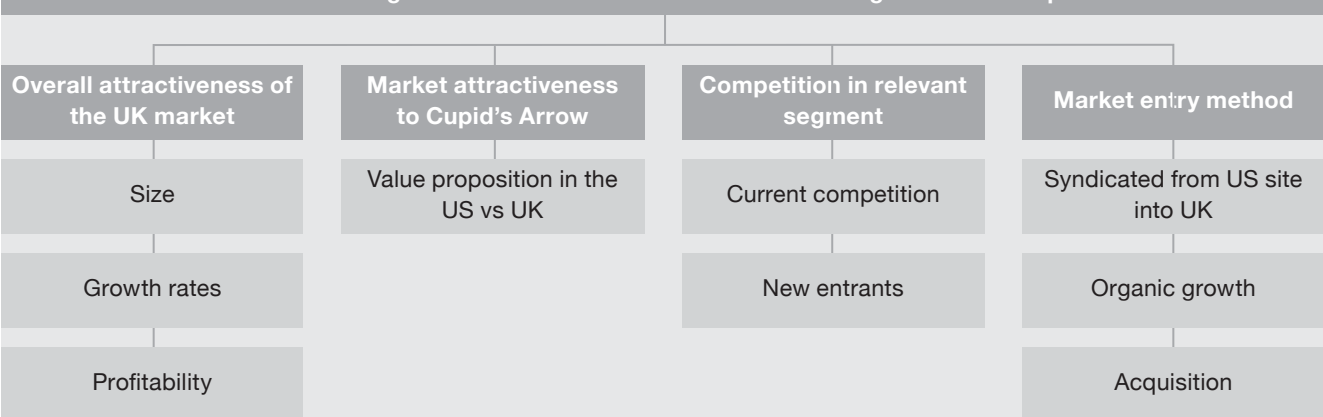
Responses to questions from a survey



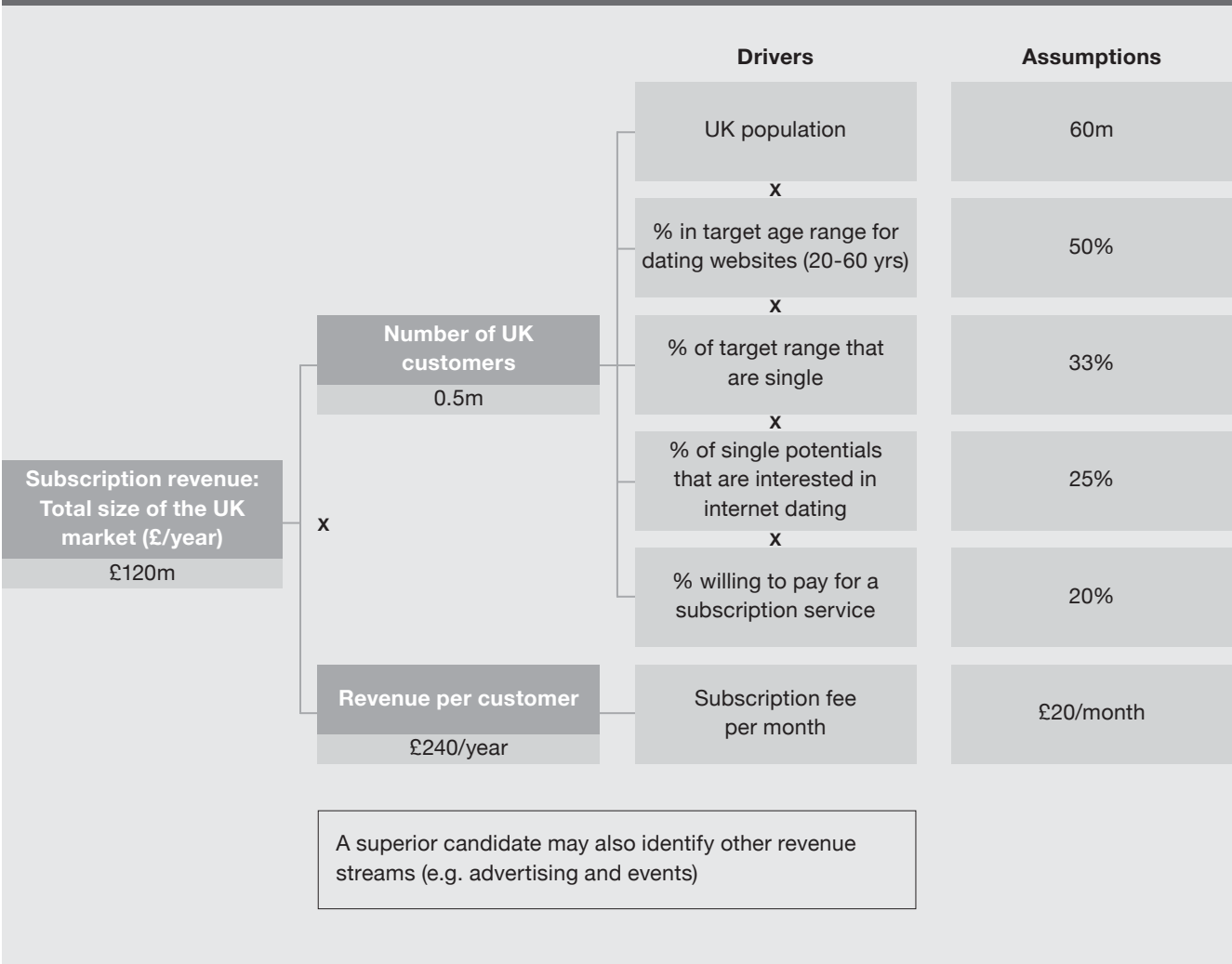
Source: Survey of a random sample 20-45 year olds from the US and UK (n=100 in each country)

Example of a possible case structure (for review after the case interview)

Main factors affecting the attractiveness of the UK online dating market for Cupid's Arrow



Example calculation for the size of the UK market (For review after the case interview)



BCG

Cupid's Arrow

Examples of creative ideas to maximise success in the UK (for review after the case interview)

Candidate may take different views of optimal strategy – not all of these will apply

Potential views of challenges**Potential creative solutions**

The UK has a stigma around online dating, compared to the US market

Adapt marketing to integrate with the UK market

- Be less overt about finding “The One”
- Emphasise socialising and meeting new people
- Supplement UK sites with in-person social events

HappyHearts is expanding aggressively through marketing campaigns

Analyse the target segments of HappyHearts

- Survey the target customers to understand their needs and identify those met by HappyHearts
- If this segment is attractive to Cupid's Arrow in the context of its new brand, offer initial sign-up deals (e.g. first 2 months free) and some free events

UK customers are looking for a different type of online service (socialising / casual dating), less geared towards finding a life partner

Rebrand in the UK towards a more social focus

- Appropriate branding to attract a wider pool of singles
- Modify the website to emphasise meeting friends/ casual dates as well as partners
- Offer regular managed events to get single people together in a fun setting (e.g. ice skating, bowling)

Although 75% UK market is today focussed on socialising / casual dating, with rapid UK market growth, online dating is expected to rapidly lose its stigma and customers will increasingly seek life partners online, as has been the case in the US

Expand existing US site directly into the UK with strong branding to reduce online dating stigma

- Maintain focus on finding life partners
- Aggressive, wide marketing base showing real members and matches to emphasise that “everybody's using it”
- Expect potentially slow growth until stigma reduces

BCG

Cupid's Arrow

Differentiation between poor, average and superior performance (for review after the case interview)

	Poor Performance	Average Performance	Superior Performance
Structuring the analysis	Only identifies one or two factors that affect the attractiveness of the market (e.g. market size, growth) and needs significant prompting to think of other factors. May focus exclusively on revenues/costs	Sets out a good structure for analysis- identifies at minimum three factors. Is able to provide a few explanatory points about each factor	Sets out a clear, logical structure for analysis; touches on wider issues such as the attractiveness of the UK in the wider context of the client's business (e.g. compared to other potential markets)
Making a market size estimate	Struggles to identify the main drivers of the market. Does not have a rough idea of UK population. Struggles to provide rationale for estimates. Makes basic numerical errors	Makes a clear structure for estimation, makes no / very few errors with numerical steps	Makes a clear structure for estimation and completes analysis with confidence and enthusiasm. Makes insightful commentary around estimate assumptions. Acknowledges potential other revenue sources.
Interpretation of graphical figures; identifying key info	Needs significant prompting to understand output. Draws only basic conclusions from the data; little insight	Correctly interprets main competitor trends from graph, is able to calculate profit margin, understands some of the survey findings with little prompting	Identifies all main trends plus more subtle features of graphical outputs, asks probing questions (e.g. Do we know what is driving the doubling of the market size?) and suggests hypotheses; synthesizes clearly between the market and survey exhibits
Synthesizing key findings and making recommendations; demonstrating creativity	Poor recollection of main findings; laundry list recall with little synthesis / insight. Unable to provide creative ideas for success in the market (e.g. suggests just offering a low subscription price)	Can correctly draw together key findings with reasonable synthesis of ideas; needs prompting to come up with creative ideas for Cupid's Arrow to be successful	Summary is a well synthesized and structured view that incorporates all the main findings. Drives independently to the need for a change in strategy for entry into the UK, gives a clear strategy recommendation and rationale and makes creative suggestions

Booz & Company

Business Class Airline

Europe

booz&co.

MARKET
ENTRY

Case Question

Our client is a budget airline considering entering a new market for business class flights. They are considering running an all business-class service within Europe. They want your advice on whether this is a good idea, and if so, how they should do it.

Intro Facts (tell the candidate if asked)

Q: What is the client's current business

A: A range of cheap short haul flights from the UK to various European destinations

Q: Do they offer any business class flights at the moment?

A: No, but passengers can pay for various upgrades such as speedy boarding and greater legroom

Q: How is their current brand perceived?

A: Extremely cheap, but very low quality service

Key Insights (do not tell the candidate)

- Issues exist around the brand of a low cost airline, meaning the rebranding might be necessary
- Landing slots at hub airports are critical to business travel, and will be very hard to acquire
- They do not have the full set of capabilities required to deliver a business class service, so choice of partners will be critical

Case at a glance

Part A

Structure the case and discuss the challenges that will be involved in entering this market

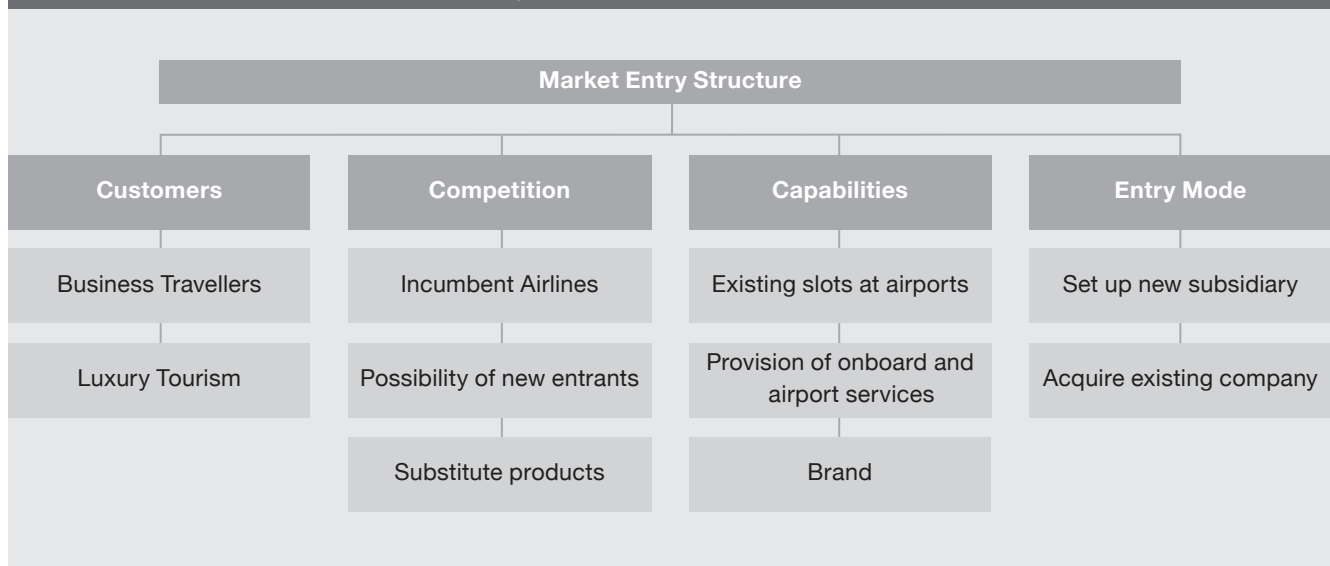
Part B

Identify some innovative service offerings for the luxury tourism market

Part C

Work out the cost to break even on a flight to Vienna

Structure – Use a classic 4Cs market entry structure



Booz & Company

Business Class Airline

Structure – Examples of typical questions that the interviewer could ask around each of the four areas

Customers	Competition
Business Travellers <ul style="list-style-type: none"> • How price sensitive are they? • What is most important to them? Luxury Tourists <ul style="list-style-type: none"> • Is there a likely market for this? • How would it differ from the market for business travellers? 	<ul style="list-style-type: none"> • How will incumbent airlines react to this? • Are alternatives such as train travel serious competition? • Can they position themselves as competition to other airlines' economy offerings?
Capabilities	Entry Mode
<ul style="list-style-type: none"> • Will their budget brand be a limitation or an asset? • What capabilities do they have as a budget airline that are particularly useful? • What do they not currently do that they will need to be good at? • Do they have access to landing slots? 	<ul style="list-style-type: none"> • Can this simply be launched as another route with a different service? • Whom could they partner with? • Is an acquisition or partnership a viable option? • Should they consider setting up a new company?

Creativity – Here are some ideas for innovative services in this market**Basic Ideas**

- 1 Fly a scheduled service to high end holiday resorts
- 2 Partner with luxury hotel chains and travel companies to offer packages
- 3 Fly from regional airports and include a chauffeur to get passengers there

More Innovative Ideas

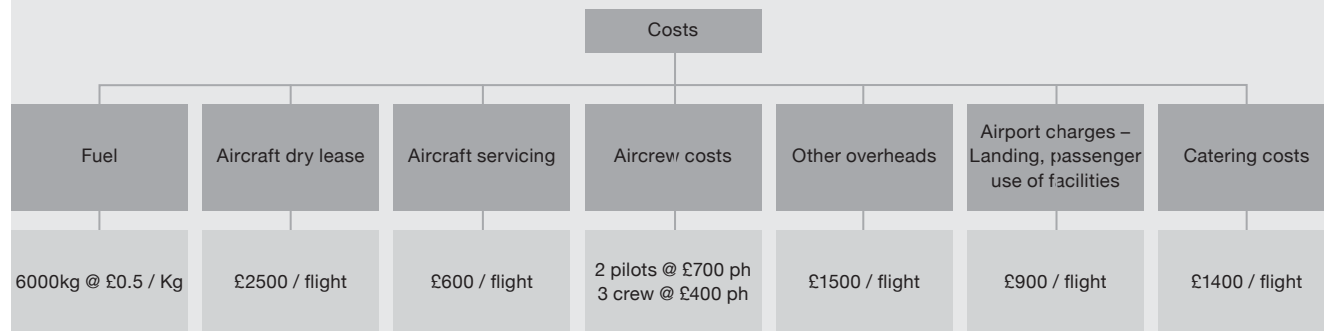
- 1 Charter to luxury cruise lines to offer passengers flights to the ship
- 2 Do not fly scheduled flights, but focus on one off flights to key European social events – Monaco Grand Prix, Paris Fashion Week, LBS winning MBAT
- 3 Offer packages including entry to these events
- 4 Run on board events, such as wine tastings
- 5 Offer 'experience flights' e.g. over the North Pole

Booz & Company

Business Class Airline

Calculation – Our first destination will be Vienna. How much would we have to charge to break even with 25 / 32 seats filled?

What are the main cost items that you would expect an airline such as this to face?



- The figures in each cost item can be given to the interviewee, although they should expect to make a reasoned estimate where possible
- Any cost items the interviewee does not identify should be given to them
- The interviewee should then work through to the answer below

Revenue

25 Passengers

£12,500 costs

£500 per passenger

Booz & Company

Business Class Airline

Differentiation between poor, average and superior performance (for review after the case interview)

	Poor performance	Average performance	Superior performance
Framing problem / prioritizing issues	Fails to offer a structure or to understand what is relevant within it	Uses a 4Cs structure well, and identifies some of the major challenges	Uses the structure to identify where the major challenges lie and has ideas about how they might be resolved
Identifying relevant information	Struggles to identify what the cost categories are, does not ask the right questions to get there	Identifies a number of the major cost categories, can make reasonable rule of thumb estimations	Identifies a number of the cost categories, understands what drives them and can make estimations
Running calculations / drawing conclusions from facts	Struggles with arithmetic, unable to work out a break even figure	Reaches an answer and shows the ability to sense check their numbers	Reaches an answer easily and demonstrates structure in their approach
Identifying key implications and next steps; demonstrates creativity	Thinks of only basic ideas for the airline service, probably things that are being done already	Comes up with 3-4 ideas for the airline service which are at least sensible	Comes up with a wide range of ideas, including innovative ones that may not have been heard before

Booz & Company

Rapid Margin Improvement

Europe

PROFIT

Case Question

Our client is a packaging coating company that produces coatings to protect beverage cans. They are experiencing a profit margin erosion and would like you to help them restore profitability without modifying their cost structure.

Intro Facts (tell the candidate if asked)

Q: Where and what is the company producing?

A: They provide European fillers with coating for the inside of beverage cans.

Q: What explains the margin erosion & is competition facing the same challenge?

A: The reason is macroeconomic: a slow economic recovery since the financial crisis & a raw material volatility have been affecting the entire market.

Q: What is the specific objective & what is the deadline?

A: A 5% profit margin improvement is expected within 2 yrs

Key Insights (do not tell the candidate)

Without touching at the cost structure, volume, price & product mix are the key levers to improve margins.

The most effective margin lever is price, hence we shall focus on improving the pricing strategy.

Case at a glance

Part A

Let's review the main pricing strategies to fix prices.

Discuss the main 3 pricing strategies: cost-based; value-based; competitive-based pricing strategies.

Part B

**Identify some innovative service
Let's look at a value-based pricing approach for their product: what could be the benefits that customer are looking for?**

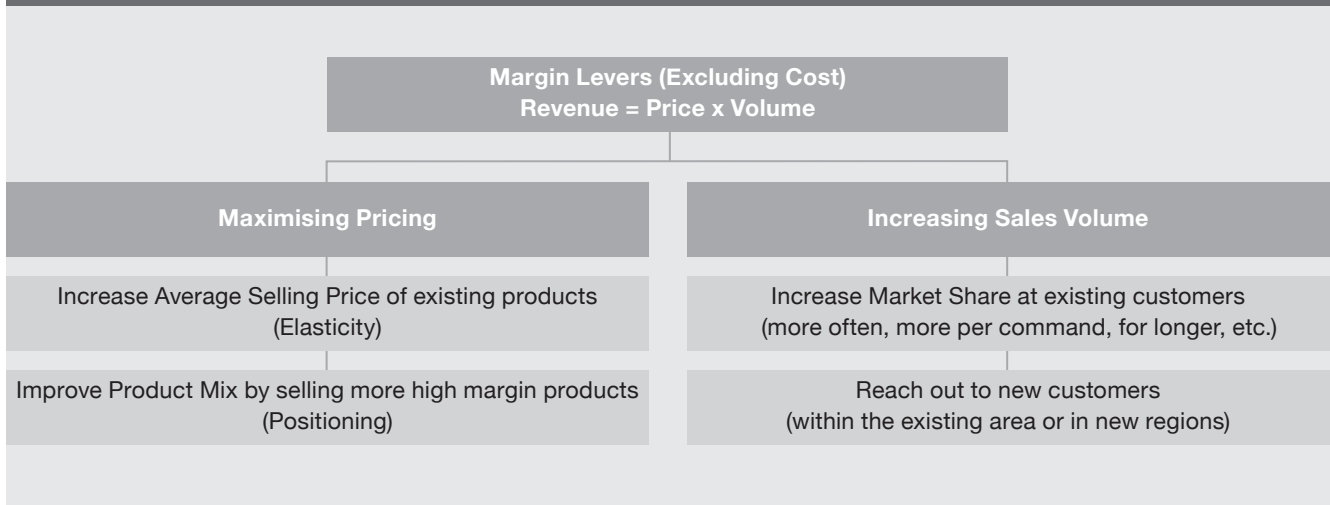
Imagine potential customer benefits from product features & services offerings.

Part C

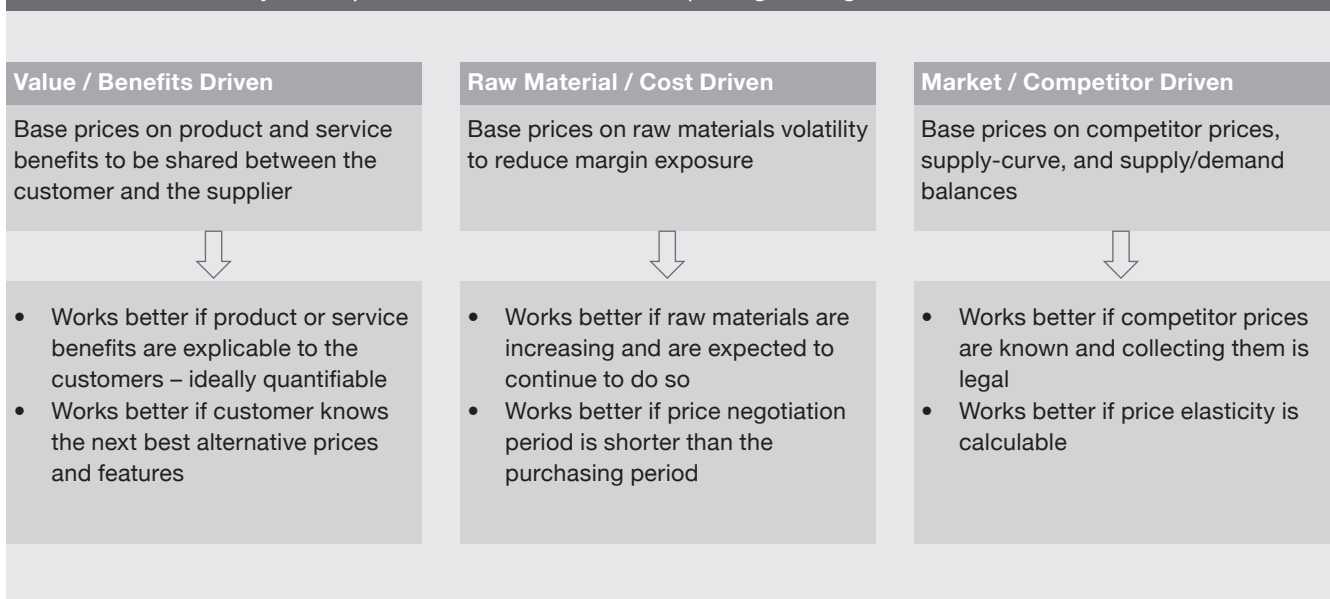
Let's estimate the price increase that could be realized thanks to a value-based pricing approach on their product.

Based on the following 3 benefits - Technical Assistance; Coating Waste Reduction & Scratch Resistance - let's assess the potential price impact (total gain, gain per Kg and % price increase).

Example of Structure



Structure – How do you set price and what are the main pricing strategies?



Booz & Company**Rapid Margin Improvement**

Creativity – Let's now focus on value-based pricing: what could be the customer benefits of a coating product for the inside of cans of soda?

Below Average:

Thinks about a couple of product features but does not manage to translate them into benefits for the customers

Average

Suggests:

- Reduce down time to increase productivity
- Reduce product usage
- Reduce labour cost

Above Average

Same as before plus a couple of the following:

- Protect brand image (scratches, taste, customer claim)
- Provide local support
- Extend product life expectancy
- Fulfil legislation compliance
- Shift ordering responsibility to the supplier

Comes up not only with product related but also service based benefits

Quantitative analytics – What is the potential price increase to be realized thanks to a value-based pricing strategy on a coating product for soda cans?

Q: What is the price and volume sold of our product?

A: We sold **500 Tons** of *AquaCoat* at **€2.25 / Kg** to our only client

Q: What is the next best alternative and what is its price?

A: The closest competitive product is *Prime Coat* and costs **€2.00 / Kg**

Q: What are the key differentiating benefits of our products?

A: The main benefits are technical expertise, coating waste reduction and scratch resistance

Benefits	Assumptions	Calculation	Total Saving & Price Impact / Kg
Technical Assistance	<ul style="list-style-type: none"> • Technicians on site: 20 Days / Year • Cost of a technician: €150,000 / Year • Travelling Expenses: €400 / Day 	Days of Technician 20 x [Daily Cost €500 (150K / 300) + Travelling cost €400]	€18,000 Total €0.04 / Kg
Coating Waste Reduction	<ul style="list-style-type: none"> • 4% product saved • Cost of disposal: €250 / Ton 	Product Saved 4% x Volume 500,000Kg x [ASP €2.25 + Disposal €0.25]	€50,000 Total €0.10 / Kg
Scratch Resistance	<ul style="list-style-type: none"> • Reduce scratched cans by 4% of the overall production • 2 grams of coating / can • Filled can cost: €0.02 / Can 	Product Saved 4% x Cans 250M (500,000/0.002) x Can cost €0.02	€200,000 Total €0.40 / Kg
€143,000 Total {268,000-[(2.25-2.00)*500,000]} Potential Price Increase: €0.29 / Kg (0.54-0.25): +24% (2.79/2.25)			€268,000 Total €0.54 / Kg

Booz & Company

Rapid Margin Improvement

‘Differentiation between poor, average and superior performance’ (for review after the case interview)

	Poor performance	Average performance	Superior performance
Framing problem / prioritizing issues	Focusses on potential cost savings (off topic)	<ul style="list-style-type: none"> Only one level tree Just mentions price & volume 	Draws at least a 2 level tree: <ul style="list-style-type: none"> Price from ASP & product Mix Volume from new & existing customers Explains with case terminology
Identifying relevant information	<ul style="list-style-type: none"> Comes up with less than 2 pricing strategies Comes up with less than 3 product benefits 	<ul style="list-style-type: none"> Understands the industry Figures out objectives Comes up with ideas to improve volume & price Lists 2 pricing strategies 	<ul style="list-style-type: none"> Imagines 3-5 relevant potential customer benefits Refers to the filler's supply chain Finds all 3 pricing strategies
Running calculations / drawing conclusions from facts	<ul style="list-style-type: none"> No clue on how to assess the premium generated by each benefits Forgets to include the price difference vs. the competition in final outcome Mixes units (day vs. year or tons vs. Kg) Multiple calculation errors 	<ul style="list-style-type: none"> Mixes units or makes a calculation error once Finds the potential financial gain of each benefits but does not put findings in perspective and does not do the "So What?" 	<ul style="list-style-type: none"> Perfect flow to come up with the numerical solution & proactive about assumptions Puts outcome in perspective: +24% Mentions next steps: Difficulty to pass it all to the customer
Identifying key implications and next steps; demonstrates creativity	<ul style="list-style-type: none"> Just thinks of increasing the price by the exact number estimated during the case 	<ul style="list-style-type: none"> Articulates wrap up including clear answer to improve margins Understands the need to share the benefits with the customer 	As before plus: <ul style="list-style-type: none"> Thinks of a strategy to conduct the pricing negotiation Includes next steps in the wrap up

Booz & Company

Mobile Network Revenue Generation

United Kingdom

PROFIT

Case Question

Our client is a mobile network operator in the UK. It has recently been suffering from high costs driven by increasing data usage, and this has led to a fall in profit. They want to explore options for increasing their revenue

Intro Facts (tell the candidate if asked)

Q: Is it just data usage driving costs?

A: Yes. Growth in data usage leads to the need for constant investment in the network infrastructure and higher running costs

Q: Are we interested in reducing costs?

A: Of course, but it's out of our scope

Q: What is the charging structure?

A: There is a monthly line rental, which includes some calls and SMSs, and beyond that calls are charged per minute, SMS per message, and data is unlimited on all tariffs for a £5 monthly fee

Key Insights (do not tell the candidate)

- The market for mobile network operators is becoming commoditised – there is little to distinguish between networks and customers switch easily if prices are too high
- The money in mobile internet is made by those who control the content, not the flow of data

Case at a glance

Part A

What are the drivers of revenue for a mobile network operator and what improvement levers do we have?

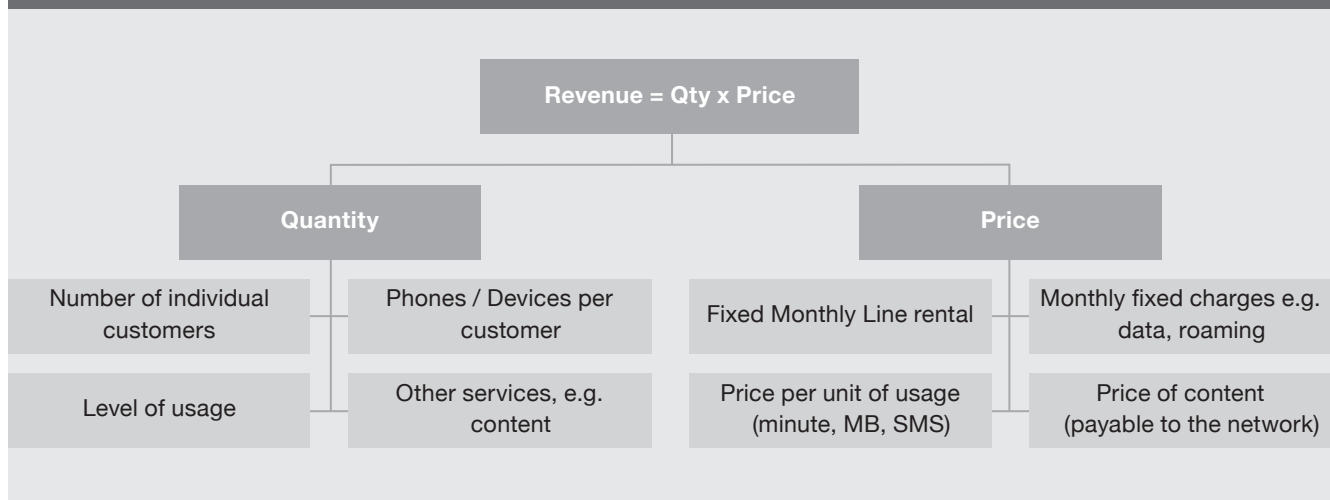
Part B

Beyond the commodity business of transmitting data, in what other ways could a network operator generate revenue from the growth in the mobile internet?

Part C

A quantitative assessment of whether it would be better to charge customers per Mb of data used rather than a fixed fee, and a qualitative view on whether it is a good idea or not.

Structure – A particularly good structure for this case is one that really understands the breakdown of quantity and price



Discussions around the structure – Could involve some of the following**Possible Discussion Topics**

Not Exhaustive

Number of Devices

- Increase market share by winning customers from other networks
 - How? If those customers also consume a lot of data, what will the impact on costs be?
- Create new devices that people may sign up to in addition to their existing ones
 - What sort of device? How will we charge for the data on it?

Usage

- Drive increased usage of those services where we are able to charge on a 'per-usage' basis
 - Would we have to lower price to do that? Are there ways we could increase the value-add of our services?
- Conversely we could try to discourage data usage if it is charged on a flat fee basis, to reduce costs rather than increase revenue
 - How? Introduce limits?

Pricing Models

- Increase the fixed price we charge for data
 - Could this make us uncompetitive?
- Introduce a variable charge for data based on how much people use, e.g. a cost per Mb
 - Would this scare off the high data users? Would that even be a bad thing?
- Use a combination of the two, such as a range of different packages
 - How might you segment your users?

Booz & Company

Mobile Network Revenue Generation

Creativity – Transmitting data is becoming commoditised. How else might the network generate revenue from mobile internet?

Possible Ways of Generating Revenue

Not Exhaustive

	Positives	Negatives
Create content and charge customers for it	<ul style="list-style-type: none"> The network will get the full revenue for any content it creates 	<ul style="list-style-type: none"> Network operator likely to have no experience at generating content
Charge for hosting content, i.e. a web portal where content owners pay for their content to be included	<ul style="list-style-type: none"> Can provide customers with a easy way of finding suitable content Could be a distinguishing feature for the network, e.g. Apple Apps Store 	<ul style="list-style-type: none"> May be difficult to persuade content owners to provide content if they can offer it for free elsewhere
Introduce advertising to the network	<ul style="list-style-type: none"> Generates easy revenue 	<ul style="list-style-type: none"> Likely to meet resistance from customers who are already paying
Other services e.g. credit card readers, stolen car trackers etc	<ul style="list-style-type: none"> Creates a new revenue stream for the networks 	<ul style="list-style-type: none"> Requires close involvement of device manufacturers and access to new markets



- A **strong** candidate will identify a number of ways of monetising content and creating further forms of usage, understand the positives and negatives of each and form a view on what the network has the capabilities to actually do. They may get to this stage without prompting
- An **average** candidate will identify some additional ways of generating revenue and understand which are more suitable than others
- A **poor** candidate will identify one or two additional options, but recommend those that are not likely to be suitable for a network operator to do

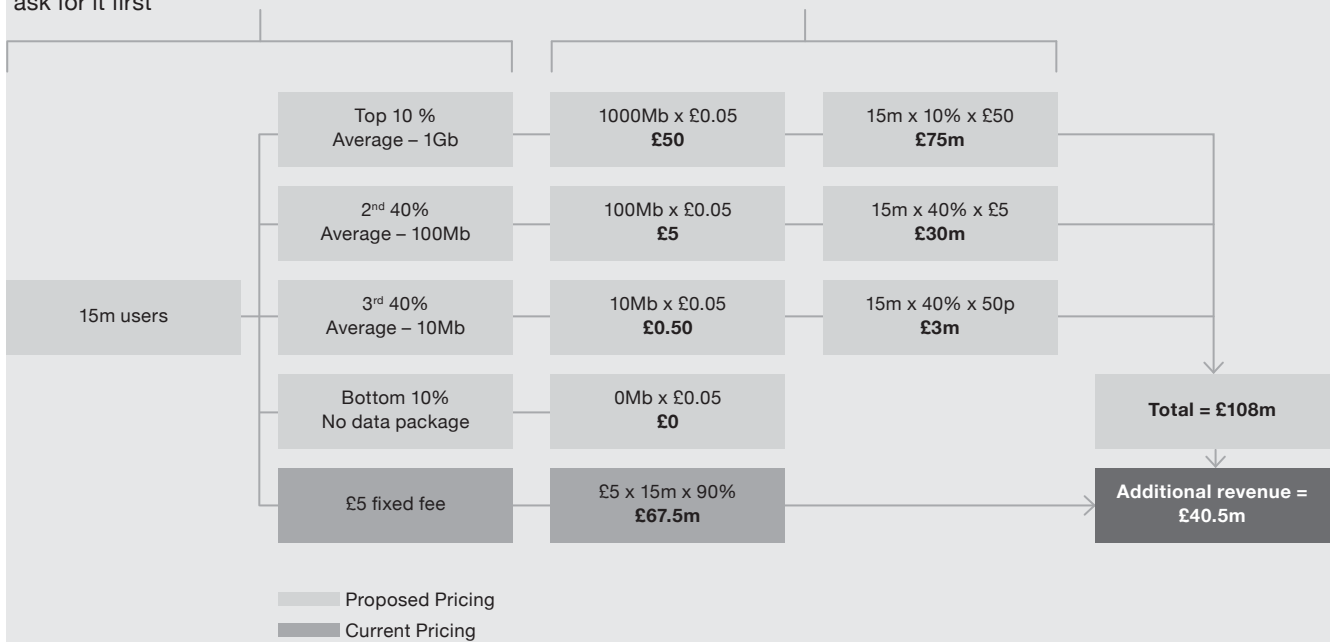
Booz & Company

Mobile Network Revenue Generation

Calculation – How much additional revenue could we generate if we charged users £0.05 per Mb rather than £5 monthly fixed fee? Would you recommend doing this?

The 15m users figure and the usage data is given to the candidate, although they should ask for it first

This should all be calculated by the candidate



Booz & Company

Mobile Network Revenue Generation

Differentiation between poor, average and superior performance (for review after the case interview)

	Poor performance	Average performance	Superior performance
Framing problem / prioritizing issues	Uses a standard profit framework and examines costs instead of revenues	A good structure that is able to break quantity and price down to at least 2 components within each	The ability to understand which measure of quantity is relevant depending on how the price is charged
Identifying relevant information	Does not understand that the fixed fee for data is the problem, and focusses on other factors instead	As a minimum identifies that charging for data with a fixed fee is the problem, and suggests alternatives	Would identify what is driving data usage, and then begin to discuss other ways of generating revenue from this
Running calculations / drawing conclusions from facts	Fails to account for the current revenues, or a simple average of data use across all customers	The right answer as a minimum, structured by each usage segment	An understanding of whether this is a good idea based on more than a comparison of numbers, showing good commercial sense
Identifying key implications and next steps; demonstrates creativity	Thinks in terms of pricing models only, fails to understand where the money is in mobile internet, suggests things that will also drive up costs	One or two good ideas around monetising content, and understanding of the pros and cons of each	As per an average candidate, but would show a real understanding of where money is being made in mobile internet and what the network has the capabilities to do

L.E.K. Consulting

NewCo Petrol Retailer



Case Background

You are an entrepreneur on an island of 50 million people. You feel that there is an opportunity to invest in petrol retailing (there are already 1,000 petrol stations on the island).

However, you do not have any meaningful capital and are going to need to raise the investment required so you visit your local banker.

She asks you to estimate what capital you are likely to need in the business.

If prompted, the interviewer will clarify that no additional information is available to answer the question.

You have not been given much information with which to form a view of the size of the investment required. Before starting to answer the question, it is worth taking a minute to think through a logical framework to structure your response, and to explain the intended approach to the interviewer at the outset.

The approach set out below starts by determining the potential sales of the new petrol outlet, which in turn depends on the total market size and expected market share. The economics of the business are then mapped out to develop an estimate of the profitability of the business. Using this estimate of its profitability,

together with a reasonable assumption for the required rate of return on capital, the amount of capital required from the bank can be calculated.

A strong candidate would receive no further guidance. Where necessary, candidates would be prompted to address each of the following areas in turn to arrive at an estimate of the capital requirement.

Question 1: What is the total market size for petrol retailing?

This can be tackled either at an individual or household level. At an individual level, an assumption would need to be made about how many of the 50m population own cars / drive and therefore purchase petrol. An assumption would also need to be made about their typical annual expenditure, which could be based on assumed miles travelled, typical fuel economy, and typical fuel price.

Alternatively the market size can be tackled at the household level. Here assumptions would need to be made around average number of people per household, proportion of households owning a car, and average petrol expenditure per annum (perhaps based on average mileage per annum and fuel economy).

Additional points that could be mentioned to improve the market size estimate would include factoring any taxation that is applied to fuel before deriving the final value of the market from the perspective of petrol retailers. In addition, the contribution from ancillary revenues e.g. convenience retail formats on the forecourt could also be considered.

Example calculation:

- 20m households on the island (assuming 2.5 people on average per household)
- 80% of households are assumed to own cars
- Average annual mileage of 12k per household
- Annual expenditure of £2160
(12k miles @ 30 miles per gallon = 400 gallons x 4.5 litres per gallon = 1800 litres @ £1.20 per litre)
- Annual revenue net of tax c. £650 (assuming tax take of c. 70%)
- Ancillary revenue of £80
 - c. 40 refuels per annum (assuming average refuel size of c.45 litres per visit)
 - average ancillary spend per visit of £2
- Total market value = c. £12bn (20m x 80% x (£650 + £80))

Question 2: What share of the market might you be able to get?

The market size estimate can be divided by 1000 to obtain the average revenue per petrol outlet. In practice, however, the prime sites for locating a petrol outlet are likely to have been taken already, and therefore some downward adjustment to reflect this would be required to develop an estimate of the likely revenue for the proposed new development.

Example calculation:

- Market size = £12bn
- Average revenue per station = £12m (market size / 1000 stations)
- Potential revenue of proposed investment = £10m per annum (assuming declining revenue from new site locations)

Question 3: What are the economics of the business likely to look like?

Having already estimated the revenue for the site, there are two possible approaches here. One would be to identify the various elements of fixed and variable costs and develop estimates for each of these. The second (simpler) approach is to consider typical operating margins for retail businesses, and assume this business would perform in line.

Example calculation:

- Typical operating margin = 5%
- EBIT = £500k ($£10\text{m} \times 5\%$)

Question 4: What is the required rate of return?

In market equilibrium, the return achieved on an investment on an incremental petrol station will be just sufficient to meet the market rate of return for this asset class. Having calculated the EBIT for the outlet, this relationship can be used to derive the implied total investment capital that would be necessary to maintain this equilibrium state.

Example calculation:

- Assumed pre-tax required rate of return = 20% (the asset class would require a return above the risk free rate, but is potentially less risky than VC-style investments that typically require a target return of c. 30-40%)
- Investment = £2.5m (= EBIT of £500k / 20%)

Having derived the implied investment amount, it should be sense-checked to ensure it appears reasonable, and prior assumptions revisited where necessary. Strong candidates would consider which assumptions the final result is most sensitive to, and would pay particular attention to the degree of uncertainty around the values attributed to these items.

Marakon**AirJet Inc.**

North America

Marakon**PROFIT****Case Summary (for interviewer only)**

Overall, aircraft manufacturing is a profitable business, but market economics vary depending on the business segment. AirJet participates in two segments

- jet engine, 80 to 100-seat aircraft
- propeller, 20 to 30-seat aircraft

AirJet Inc. is losing money in the jet engine business. However, the average player in the jet engine aircraft market is profitable. AirJet has gained significant market share by aggressively serving the Lessor customer segment which tends to

buy 15 or more planes. Lessors, in purchasing large volumes of aircraft, have been able to exert significant buying power over our client and achieve large price concessions.

Interviewer's Discussion Guide**Step 1: Provide the candidate with the following problem statement:**

- AirJet Inc. is a U.S. manufacturer of small, regional airplanes. It manufactures two types of aircraft: Jet engine (80 to 100-seat) and propeller aircraft (20 to 30-seat)
- In 2011, AirJet delivered 110 jet engine aircraft and 150 propeller aircraft. This represented a unit volume increase year-over-year of 10% and 5%, respectively, and revenues of \$794 million and \$225 million, respectively
- Although overall AirJet turned a profit, profitability varied significantly by business
- AirJet's senior management team has hired a team of consultants to help the company develop a value-maximizing strategy. We need your help to understand
 - What are the key issues and opportunities at AirJet?
 - What solutions would you recommend to management?

Step 2: Structure the Problem

Encourage candidate to develop an approach to root cause the profitability issue. Provide the following information (either in full or as requested by the candidate)

	Jet Engine Aircraft Business		Propeller Aircraft Business	
2011	<i>Financials (\$m)</i>	<i>% of Sales</i>	<i>Financials (\$m)</i>	<i>% of Sales</i>
Revenues	794	100%	225	100%
COGS	-659	-83%	-86	-38%
SG&A	-99	-12%	-16	-7%
Delivery & Other	-42	-5%	-8	-4%
Net Income	-6	-1%	69	31%
Capital Charge (at 10%)	-25	-3%	-3	-1%
Economic Profit	-31	-4%	66	29%

Economic Profit = Net Income – Charge for Cost Capital

[Note] Economic profit includes a charge that accounts for the required return on capital. When $EP > 0$ value is created, when $EP < 0$ value is destroyed (even if Net Income is positive!), and at $EP = 0$ the business generates exactly the required return

Marakon

AirJet Inc.

Using a typical profitability framework, the candidate should make the following observations

- The Jet Engine business is unprofitable while the propeller business is highly profitable
 - Gross margins in the Jet Engine business are much lower than the Propeller business
 - The problem lies with the Jet Engine business
 - Jet engine parts are complex and typically bought from specialized OEMs
- Additional information*
- Costs and hence margins are in line with market average

Step 3: Analyze the Jet Engine Regional Aircraft Business

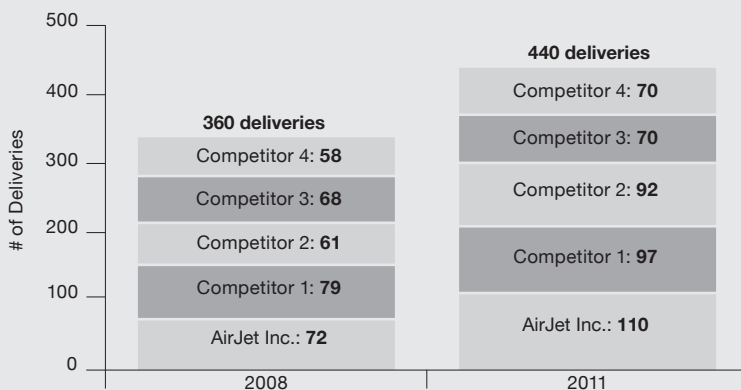
The candidate should focus the rest of the discussion on the Jet Engines business and understanding market size, growth and profitability within the segment. Provide the following information (in full or as requested)

Market Structure and Economics

Overall Market Economics

	2011, \$m
Total US Market Size	3,520
Average Costs per Aircraft	\$6.8
# of Jets Sold	440
Total Capital Invested	3,300
Cost of Capital	10%

Market Structure



'08 – '11 CAGR

Competitor 4	6%
Competitor 3	1%
Competitor 2	15%
Competitor 1	7%
AirJet Inc.	15%
Total Market:	7%

Marakon

AirJet Inc.

Key insights

- The market is profitable and growing with the average competitor generating 5% economic profit margins
 - Total Revenues = \$3520 mn
 - Revenue per aircraft = $\$3520/440 = \8mn
 - Cost per Aircraft = $\$6.8\text{m} + 10\% \text{ of } \$3300\text{mn Capital} = \7.6mn
 - Economic Profit per aircraft = $\$8\text{mn} - \$7.6\text{mn} = \$0.4\text{mn}$
 - EP Margin = $0.4/8 = 5\%$
- AirJet has the largest market share at 25% (was 20% 3 years back)
- AirJet growing at ~15%, market growing at ~7%
- Four other competitors control the remaining market ranging from 16-22%
- There is no dominant competitor in the jet engine business

Good candidates would seek to explore the market growth. Additional information for discussion:

The market is expected to continue growing at 7% for the next 10 years due to:

- Changes in regulation (e.g. Open Skies) and globalization (India, China) have lifted restrictions on U.S. based airlines to service these segments
- The current customer base for AirJet is largely US based
- Success of newer businesses such as Fractional Jet Programs (time sharing of jets)
- Expected replacement cycles as older jets are retired

Competitive Position

Once the candidate identifies that AirJet has gained market share over the last 3 years, he/she should explore the reasons for it. Information for supporting this discussion

- AirJet is pricing its product lower than the market on average. They can increase price by 20% and still have a competitive product which provides a fair benefit to customers
 - Cockpit*: Similar to industry standard, resulting in low switching costs for new customers
- There doesn't seem to be much differentiation versus products from competitors
 - Performance*: Range of ~500 miles which is similar to the market average
 - Maintenance and Asset Life*: The majority of the fragmented jet engine aircraft maintenance companies have the capabilities and parts to service AirJet's aircraft
- Therefore, just increasing the price by 20% will put AirJet in midst of the cluster. Without any offer advantage, AirJet will lose market share relative to its current position

AirJet's Customers

Once the candidate identifies pricing disadvantage as the issue, direct the conversation to lead to customer segmentation at the root of the issue. Provide the candidate with the following information

Jet Engine Economics

2011, \$m	Per Aircraft ¹	Total
Fixed Cost	\$1.5	\$165
Variable Cost	\$6.0	\$660
Total Cost²	\$7.5	\$825

Note

1 Per Aircraft costs based on 2011 volume of 110 planes

2 Total Cost includes Cost of Capital

Jet Engine Customer Segments

2011, \$m	Affluent Individuals	Corporate Customers	Lessors
AirJet Revenues	\$84	\$320	\$390
# Customers	10	13	4
# Aircraft sold	10	40	60
Market share	12.50%	33%	25%

Share the following information as requested by the candidate

- Affluent Individuals: Buy 1 aircraft during a buying cycle (approximately every 5 to 15 years)
- Corporate Customers: Buy 2-3 aircraft, mostly large multinationals for executive travels
- Lessors: Buy 15 or more aircraft and lease to airlines, governments, corporations etc.

Marakon

AirJet Inc.

Key Insights (Drivers of Segment Profitability)

Ask the student to compute average price by customer segment

- The main driver of profitability between segments is solely price without doing any math, since operating cost per aircraft produced and delivered is the same regardless of the intended customer
- The Lessor segment makes large purchases and exploits a negotiating leverage over AirJet
- Lessors comprise the largest customer segment [more than 50% of the total market by volume]
 - Segment 1: 80 planes, our share 12.5%
 - Segment 2: 120 planes, our share 33%
 - Segment 3: 240 planes, our share 25%
- Average revenue per customer is: \$390M/ 60 aircraft = \$6.5M per aircraft from Lessors, compared to \$8.4M from Affluent Individuals and \$8.0M from Corporate Customers

Step 4: Generate Alternatives

Prompt the candidate to develop alternatives for solving the profitability issues. Some suggestions based on participation choices

- 1 Increase prices for Lessors: for every \$500K we lose 1 customer (15 aircraft). After a few calculations the candidate should see that with such elasticity this alternative cannot be profitable, e.g.
 - a **Increase in Price to \$7.0 mn, losing 1 customer**
 - b Total Aircrafts sold =
 $10 + 40 + 45 = 95$
 - c Total Aircrafts Cost =
 $165 + 95 \times 6 = \$735$
 - d Total Revenue =
 $84 + 320 + 7 \times 45 = \719
 - e Profit (Loss) = (\$16) mn [remains unprofitable at \$7.5m and \$8m – i.e. losing 2 or 3 customers]
- 2 Exit the Lessors segment: Similar calculations show that the loss of scale makes the other two segments unprofitable as well (cannot cover fixed costs)
- 3 Enter the leasing business: Forward integration. Also creates a threat for the Lessor customer and improve negotiating leverage
- 4 Other

Marakon

AirJet Inc.

Discuss with the candidate possible pros and cons of each alternative. Specifically for Alternative 3 (enter the leasing business) the following information should indicate that it is a good opportunity that can help prop-up the Lessor segment as well

- **Market Growth:** The jet engine, regional aircraft leasing market is large and growing. In 2011, the new aircraft leasing market represented almost 50% of all new aircraft delivered (with operating leases comprising half) and is expected to grow 5% per year
- **Market Economics:**
 - i The aircraft leasing market is profitable with the average competitor generating ROE's of ~15% (cost of equity ~10%)
 - ii The key driver of profitability is cost of funds. AirJet would be at parity
- **Competition:** Three aircraft lessors (also AirJet's customers) dominate the market with a combined share of 65%
- **Customer:** AirJet has marketing relationships with all aircraft end-users who are leasing their aircraft from the company's aircraft lessor customers. AirJet works with these end-users to help them configure the plane during the front end of the sales process

If time permits and the candidate has reached a satisfying solution for the profitability issue, use the rest of the time to brainstorm additional growth alternatives for the business. The following is a starter list

- | | | |
|---|---|---|
| 1 Other Markets: Jet Engine Segments – 50 to 80 seaters, 100+ segment | 2 Geographies – International Expansion | 3 Understand the propeller business to find avenues of growth |
| | | 4 Enter Fractional Jet Ownership Market |

McKinsey & Company

OldPharma

Europe

McKinsey&Company

MARKET
ENTRY

Case Background

This document is intended to help prepare you for the case portion of a McKinsey & Company interview. While interviewers at McKinsey have a good deal of flexibility in creating the cases they use in an interview, we believe

that the following case is a good example of the type of case many of our interviewers use. However, in most interviews the interviewer will only ask a selection of the questions in this case.

The example below is set up to teach you how to approach a typical case.

Context

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

Let's assume our client is *OldPharma*, a major pharmaceutical company (pharmaco) with USD 10 billion a year in revenues. Its corporate headquarters and primary research and development (R&D) centers are in Germany, with regional sales offices worldwide.

OldPharma has a long, successful tradition in researching, developing, and selling "small molecule" drugs. This class of drugs represents the vast majority of drugs today, including aspirin and most blood-pressure or cholesterol medications. *OldPharma* is interested in entering a new, rapidly growing segment of drugs called "biologicals". These are often proteins or other large, complex molecules that can treat conditions not addressable by traditional drugs.

Biological R&D is vastly different from small molecule R&D. To gain these capabilities, pharmacos can build them from scratch, partner with existing startups, or acquire them. Since its competitors are already several years ahead of *OldPharma*, *OldPharma* wants to jumpstart its biologicals program by acquiring BioFuture, a leading biologicals start-up based in the San Francisco area. BioFuture was founded 12 years ago by several prominent scientists and now employs 200 people. It is publicly traded and at its current share price the company is worth about USD 1 billion in total.

OldPharma has engaged McKinsey to evaluate the BioFuture acquisition and advise on its strategic fit with *OldPharma's* biologicals strategy.

Should *OldPharma* acquire BioFuture?

- Write down important information
- Feel free to ask interviewer for explanation of any point that is not clear to you

McKinsey & Company

OldPharma

Questions

In McKinsey & Company case interviews, the interviewer will guide you through the case with a series of questions that will allow you to display a full range of problem solving skills. Below is a series of questions and potential answers that will give you an idea of what a typical case discussion might be like.

Question 1

What factors should the team consider when evaluating whether *OldPharma* should acquire BioFuture?

- Take time to organize your thoughts before answering. This tells the interviewer that you think about the problem in a logical way
- Develop overall approach before diving into details

A good answer would include the following:

Value of BioFuture's drug pipeline.

Number of drugs currently in development. Quality of drugs (likelihood of success). Potential revenues and profits

Biofuture's R&D capabilities (future drug pipeline). Scientific talent.

Intellectual property (e.g., patents, proprietary processes or "know-how" for biologicals research). Buildings, equipment and other items that allow Biofuture's R&D to operate

BioFuture's marketing or sales capabilities.

Especially how promotional messages will be delivered, e.g., relationships with key opinion leaders that can promote biologicals; Key opinion leaders can come from the academic arena, like prominent medical school professors, or from the public arena, like heads of regulatory bodies or prominent telejournalists

Acquisition price

A very good answer might also include multiple additional key factors *OldPharma* should consider. For example:

BioFuture's existing partnerships or other relationships with pharmacos

***OldPharma's* capability gaps in biologicals, R&D, sales and marketing, etc.**

***OldPharma's* alternatives to this acquisition.** Alternative companies *OldPharma* could acquire. Other strategies for entering biological segment, e.g., enter partnerships rather than acquisition. Pursuing other strategies than entering the biological segment.

McKinsey & Company

OldPharma

Question 2

The team wants to explore BioFuture's current drug pipeline. The team decides to focus first on evaluating the value of BioFuture's drug pipeline – both its current portfolio, as well as its ability to generate drugs on an ongoing basis. What issues should the team consider when evaluating the value of BioFuture's existing drug pipeline?

Ensure to mention different issues instead of immediately diving very deep into one issue. Then ask your interviewer if he/she wants to go deeper on any of them.

A good answer would include the following:

Further cost of R&D until each drug is ready to be sold.

Potential value of selling each drug.

- Market size, e.g., size of patient population, pricing
- Market share, e.g., number of competitive drugs in R&D or on the market; different side effects, convenient dosing schedule (i.e., patients are prescribed to take a drug at regular intervals that are easy to remember such as once a day or every 12 hours), etc.

- Costs to manufacture and sell, e.g., marketing, distribution, etc.

- Press about these drugs, e.g., have famous doctors called for this kind of drug, is it only slightly improving on what is on the market already?

A very good answer would also include the following:

Risk level

- Likelihood clinical trials of a drug will prove effective
- Likelihood drug will win regulatory approval

- Side effects and potential legal exposure, e.g., potential law suits due to unexpected side effects

- Emergence of substitutes – are competitors working on substitutes already? Is it about speed and does BioFuture have enough researchers working on the respective drugs?

- Strength of underlying patents, i.e., how likely is it that a competitor can successfully copy BioFuture's drug?

Question 3

Below is a description of expected probability of success, by stage, in the Pharma R&D pipeline.

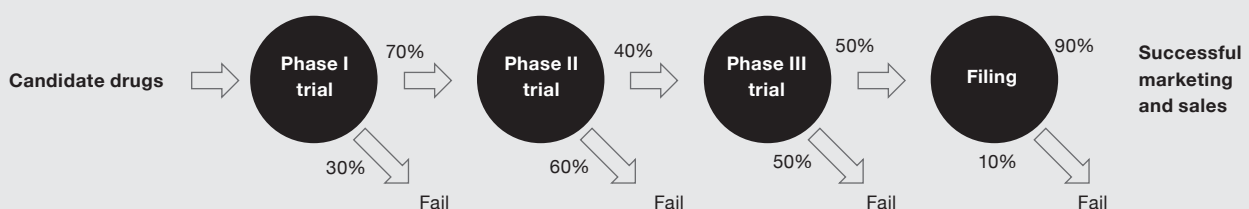
Note: "Filing" is the process of submitting all of the clinical and safety evidence from Phase I, II, and III trials, and asking for regulatory approval to actually sell the drug.

Exhibit 1

Fictitious exhibit

Expected probability of success, by stage of research and development

Percent



McKinsey & Company

OldPharma

OldPharma believes that the likelihood of success of BioFuture's primary drug candidate can be improved by investing an additional USD 150 million in a larger Phase II trial. The hope is that this investment would raise the success rate in Phase II, meaning that more candidate drugs successfully make it to Phase III and beyond. By how much would the Phase II success rate need to increase in order for this investment to breakeven?

The interviewer would tell you to assume that if the drug is successfully marketed and sold, it would be worth USD 1.2 billion (i.e., the present value of all future profits from selling the drug is USD 1.2 billion).

- Ask for clarification of information if necessary
- Take notes of the numbers
- Take time to plan out how to approach the calculation
- Describe your approach and talk the interviewer through your calculation

A very good answer would include the following:

Investment would need to increase probability of success in Phase II from 40% to 80% (increase of 40 percentage points). There are multiple ways to approach this calculation. One method is shown here:

- If a candidate drug passes Phase II, then it has a $50\% \times 90\% = 45\%$ chance of being successfully marketed and sold. Since a successful candidate drug is worth \$1.2 billion, a candidate drug that passes Phase II is worth $45\% \times \$1.2 \text{ billion} = \540 million
- To breakeven, i.e. to make the \$150 million investment worth while, value of the candidate drug that passes Phase II would need to increase to $\$540 \text{ million} + \$150 \text{ million} = \$690 \text{ million}$. This means, the probability of combined success in Phase I and II would need to increase by $(150/540) = 28$ percentage points
- So the current probability of Phase I and II, i.e., $70\% \times 40\% = 28\%$ would have to increase by 28 percentage points, i.e., to 56%. In order to come up to 56%, Phase II probability would have to increase from 40% to 80% ($70\% \times 80\% = 56\%$)
- This seems like a very big challenge as an increase by 40 percentage points means that the current probability of 40% needs to double

Question 4

Next, the team explores the potential setup with BioFuture after the acquisition. Although BioFuture's existing drug pipeline is relatively limited, *OldPharma* is highly interested in its ability to serve as a biological research "engine" that, when combined with *OldPharma*'s existing R&D assets, will produce many candidate drugs over the next 10 years. What are your hypotheses on the major risks of integrating the R&D functions of BioFuture and *OldPharma*?

A very good answer would include the following:

- Scientists do not have overlapping disease (therapeutic area) interests or expertise and are unable to materially collaborate
- Integration into the process-driven *OldPharma* culture kills the entrepreneurial culture at BioFuture that has been key to its success
- Language barriers severely hinder communication and sharing of information
- Poor management and sense of community as a result of R&D operations that might come with a time difference of 9 hours
- Key scientific talent leaving BioFuture after the acquisition – either because acquisition makes them independently wealthy or because they don't want to be a part of the new big *OldPharma* pharma

Question 5

Post-acquisition, *OldPharma* believes that it will be necessary to consolidate all biologicals R&D into one center. There are two logical choices: *OldPharma*'s existing headquarters in Germany, and BioFuture's current headquarters in San Francisco. *OldPharma* does not have any current biologicals facilities or operations in Germany, so new facilities would have to be built. How would you think about this decision?

A very good answer would include the following:

Reasons for consolidating at *OldPharma*'s corporate HQ in Germany.

- Better coordination with non-biologicals R&D at *OldPharma*
- Better coordination with other business units of *OldPharma* (e.g., marketing, manufacturing)
- Easier to intermix scientists in biologicals and traditional R&D units, and transfer any unique capabilities & knowledge

- Overall easier to integrate BioFuture's R&D capabilities into *OldPharma*

Reasons for consolidating in BioFuture's San Francisco location.

- Less likely to see flight of talent: many top scientists would likely leave rather than relocate to Germany
- Easier to recruit and find top research talent in San Francisco vs Germany

- Easier to retain the entrepreneurial spirit and culture of BioFuture
- No need to rebuild e.g. manufacturing plants, research facilities

Question 6

While researching the integration barriers, the team learns that one of *OldPharma*'s top competitors, DrugMax, has already partnered with BioFuture on their lead drug candidate essentially agreeing to split all development costs and future profits 50/50. *OldPharma* is considering buying out DrugMax's 50% share of the BioFuture lead drug candidate. As a first step in valuation, they have asked the McKinsey team to estimate the potential peak sales of this drug candidate – this is another way to verify potential future profits of a drug. The drug candidate is intended to treat non-Hodgkin's lymphoma. New cases are diagnosed each year in 25 out of every 100,000 U.S. men and 15 out of every 100,000 U.S. women. Given this and any other information you might need, what are the estimated U.S. peak sales of this compound?

The following information will be given to you by the interviewer upon request:

- U.S. population is 300 million, half men, half women.
- Full course of therapy takes 90 days and *OldPharma* believes the drug can be sold at a price of \$500 per day.
- Estimated market share (i.e., % of eligible patients who are treated with this drug), is 25%.

A very good answer would include the following:

- Expected peak sales of this drug candidate are USD \$675 million
- Assuming a U.S. population of 150 million men and 150 million women, there would be 37,500 estimated diagnoses among men, and 22,500 diagnoses among women, or 60,000 new cases of non-Hodgkin's lymphoma per year

- Each course of therapy will yield \$45,000 in revenue (90 days at \$500 per day). Therefore total U.S. market potential is \$2.7 billion. Estimated market capture is 25%, leading to an estimated U.S. peak sales of \$675 million.

McKinsey & Company

OldPharma

Question 7

On the third day of the engagement you run into the Vice President of Business Development for *OldPharma* in the cafeteria. He asks what the team's current perspective is on the BioFuture acquisition and what next steps you are planning to take. How would you respond?

There is no right or wrong answer on whether to buy or not buy and there are various ways on how to build an argumentation. One possible very good answer would be:

An acquisition of BioFuture can bring two major sources of value to *OldPharma*: the value of its existing compounds and the potential value of integrating its research capabilities into *OldPharma*

In terms of BioFuture's existing pipeline there are a couple of challenges: firstly, the proposed idea of investing heavily

in Phase II trials is not likely to be a profitable investment; secondly, one of your competitors, DrugMax, currently has a cooperation with BioFuture for its lead drug candidate. This needs to be taken into account when trying to acquire BioFuture. We are still looking into other potential synergies, but it appears unlikely that *OldPharma* can justify the cost of an acquisition purely based on BioFuture's existing pipeline

The greater source of upside is likely to be the long-term benefits of integrating BioFuture's research capabilities with

OldPharma. There are significant risks to this as well, given the "two worlds" nature of their organizational cultures.

As next steps we therefore want to better understand the feasibility of bridging the cultural gap and better understand pros and cons of different consolidation options; estimate the cost of this research integration; get a better understanding of the value of BioFuture's future potential to develop drugs

McKinsey & Company

RefreshNow! Soda

North America

**NEW
PRODUCT
LAUNCH****Case Background**

This document is intended to help prepare you for the case portion of a McKinsey & Company interview. While interviewers at McKinsey have a good deal of flexibility in creating the cases they use in an interview, we

believe that the following case is a good example of the type of case many of our interviewers use. However, in most interviews the interviewer will only ask a selection of the questions in this case.

The example below is set up to teach you how to approach a typical case.

Context

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

Our client is *RefreshNow!* Soda. *RefreshNow!* is a top 3 beverage producer in the U.S. and has approached McKinsey for help in designing a product launch strategy.

As an integrated beverage company, *RefreshNow!* leads its own brand design, marketing and sales efforts. In addition, the company owns the entire beverage supply chain, including production of concentrates, bottling and packaging, and distribution to retail outlets. *RefreshNow!* has a considerable number of brands across carbonated and non-carbonated drinks, 5 large bottling plants throughout the country and distribution agreements with most major retailers.

RefreshNow! is evaluating the launch of a new product, a flavored non-sparkling bottled water called *O-Natura*. The company expects this new beverage to capitalize on the recent trend towards health-conscious alternatives in the packaged goods market.

RefreshNow!'s Vice President of Marketing has asked McKinsey to help analyze the major factors surrounding the launch of *O-Natura* and its own internal capabilities to support the effort.

Which factors should *RefreshNow!* consider and act on before launching *O-Natura* into the U.S. beverage market?

- Write down important information
- Feel free to ask interviewer for explanation of any point that is not clear to you

McKinsey & Company

RefreshNow! Soda

Questions

In McKinsey & Company case interviews, the interviewer will guide you through the case with a series of questions that will allow you to display a full range of problem solving skills. Below is a series of questions and potential answers that will give you an idea of what a typical case discussion might be like.

Question 1

What key factors should *RefreshNow!* consider in deciding whether or not to launch *O-Natura*?

- Take time to organize your thoughts before answering. This tells the interviewer that you think about the problem in a logical way
- Develop overall approach before diving into details

A good answer would include the following:

Consumers. Who drinks flavored water? Are there specific market segments to address?

Cost/Price. Is the flavored bottled water market more profitable than those markets for *RefreshNow!*'s current products? Is it possible to profitably sell (price set by the market, internal production costs) *O-Natura*? Given fixed costs involved, what would be the break-even point for *O-Natura*?

Competitors. Which products is *O-Natura* going to compete with? Which companies are key players and how will they react?

A very good answer might also include multiple additional key factors *RefreshNow!* should consider. For example:

Capabilities and Capacity. Are the required marketing and sales capabilities available within *RefreshNow!*? Does the product require specialized production,

packaging, or distribution? Is it possible to accommodate *O-Natura* in the current production and distribution facilities? What impact does geography have on the plant selection?

Channels. What is the ideal distribution channel for this product? Are current retail outlets willing to add *O-Natura* to their product catalogue?

Question 2

After reviewing the key factors *RefreshNow!* should consider in deciding whether to launch *O-Natura*, your team wants to understand the beverage market and consumer preferences to gauge potential success of *O-Natura*.

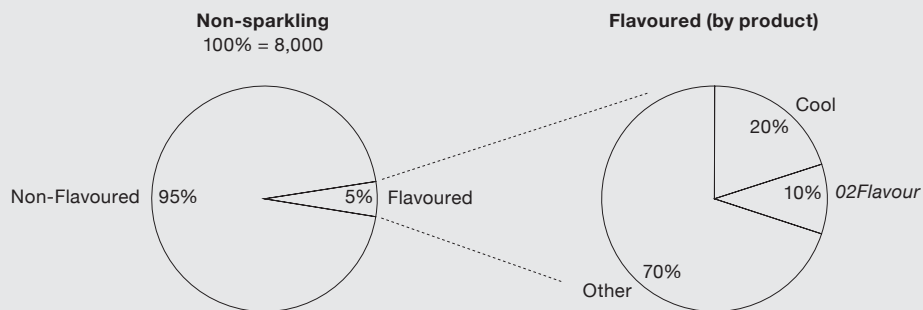
The bottled market splits into non-sparkling, sparkling, and imports. Flavored water falls within non-sparkling. Your team has gathered the following information on the U.S. bottled water market. The information shows an estimate for the share of flavored water, as well as the current share for the two main products: Cool and O2Flavor.

Exhibit 1

Fictitious exhibit

U.S. Bottled water market

Millions of gallons



Based on the target price and upfront fixed costs, what share of the flavored non-sparkling bottled water would *O-Natura* need to capture in order to break even? Here is some additional information for you to consider as you form your response:

- *O-Natura* would launch in a 16 oz. presentation (1/8 of a gallon) with a price of \$2.00 to retailers
- In order to launch *O-Natura*, *RefreshNow!* would need to incur \$40 million as total fixed costs, including marketing expenses as well as increased costs across the production and distribution network
- The VP of Operations estimates that each bottle would cost \$1.90 to produce and deliver in the newly established process.

- Ask for clarification of information if necessary
- Take notes of the numbers
- Take time to plan out how to approach the calculation
- Describe your approach and talk the interviewer through your calculation. The more you talk the easier it will be for your interviewer to help you

McKinsey & Company

RefreshNow! Soda

A very good answer would include the following:

O-Natura would need to capture a 12.5% market share of flavored non-sparkling bottled water in order to break even. Therefore, *O-Natura* would need to be the Number 2 product in the market:

- 1 *O-Natura* would need to sell 400 million units in order to break even:
 - Variable profit per unit = $\$2.00 - \$1.90 = \$0.10$
 - Break even units = Total fixed costs / Variable profit per unit = $\$40 \text{ million} / \$0.10 \text{ per unit} = 400 \text{ million units}$
- 2 *O-Natura* would need to capture a 12.5% market share:
 - Non-sparkling flavored bottled water market = $5\% \times 8,000 \text{ million gallons} = 400 \text{ million gallons}$
 - *O-Natura* sales in millions of gallons = $400 \text{ million units} / 8 \text{ units per gallon} = 50 \text{ million gallons}$
 - Market share = $50 \text{ million gallons} / 400 \text{ million gallons} = 12.5\%$.

Question 3

RefreshNow! executives believe that the company's position as the top 3 beverage company in the country gives them strategic strengths toward achieving the desired market share. However, they ask the team to characterize realistically what they would need to achieve that target.

What would *RefreshNow!* need to ensure realistically to gain the required market share for *O-Natura* (12.5% of non-sparkling flavored bottled water)?

A very good answer would include the following:**Match with Consumer Preferences.**

Ensure product image, attributes, and quality fulfill the needs of all consumers or niche segment, reaching desired market share. Ensure target price is consistent with other products in the market and the consumer's expectations

Strong Branding/Marketing. Create a successful introductory marketing campaign, including advertising, pricing, and bundling promotions. Leverage top 3 producer status and limited market fragmentation in order to position *O-Natura* brand within top 3 in the market segment. Anticipate response from competitors (e.g., advertising, pricing, distribution agreements). Ensure product positioning does not cannibalize on other, more profitable, *RefreshNow!* products. (Note: In marketing, the decreased demand for an existing product that occurs when its vendor releases a new or similar product is called "cannibalization". It is not important for you to use this business terminology.)

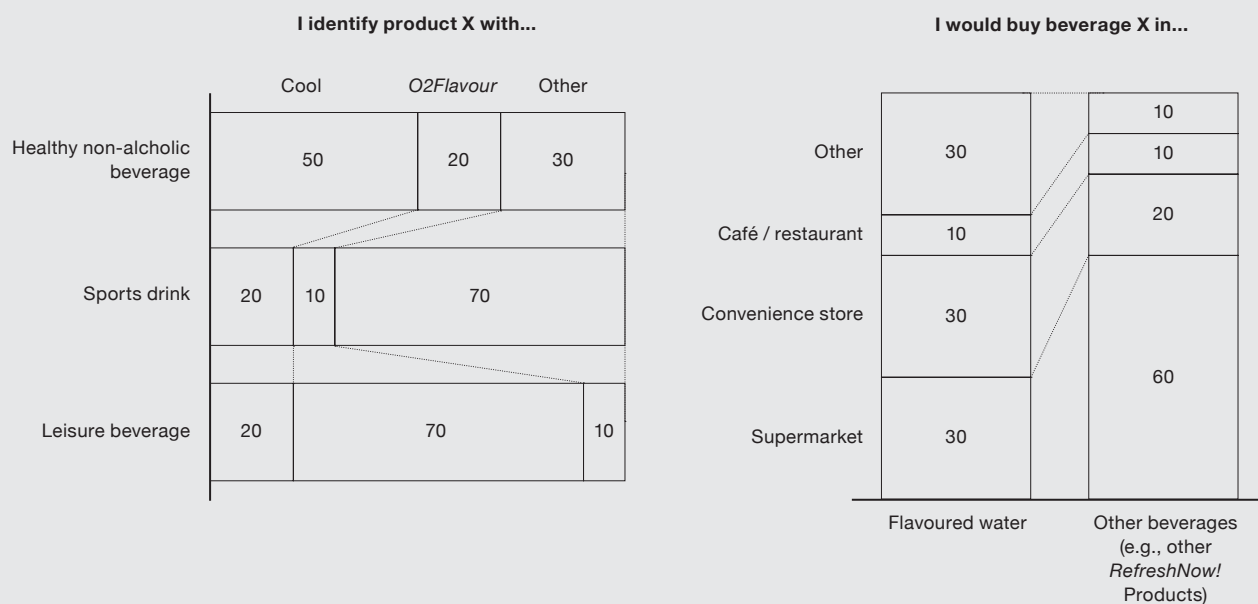
Operational Capabilities. Ensure access to preferred distribution channels. Ensure sales force capabilities to sell the new product. Ensure production ramp-up that allows response to increased demand.

Question 4

Within the key drivers for market share, *RefreshNow!* wants to know which to tackle first and what the strategy should be. Therefore McKinsey helped *RefreshNow!* design and run a study to understand branding and distribution. The following information shows results from the study, based on a sample of target consumers. What can you conclude from the study in regards to the preferred marketing image and strategy of *O-Natura*?

Exhibit 2
Consumer Preferences
In percent

Fictitious exhibit



A very good answer would include the following insights:

Branding should emphasize sports drink identity. “Healthy” identity is dominated by Cool product, “Leisure” by O2Flavor and “Sports” fragmented in other products. Clear niche within “Sports” identity, with top 2 brands currently occupying only 30% of share of mind. Sports branding should also determine thinking around the sales channels (e.g., sales during sports events or at sports facilities)

Distribution differs from current outlets and needs new agreements/research. Major shifts compared to current distribution model required in “Supermarkets”, “Other”, and “Convenience stores”. Agreements with major retail players may accommodate for product introduction, with *RefreshNow!* managing mix across channels. “Other” channels need further research, since they are a major component of the Flavored water segment

Marketing message to emphasize identity and availability. Marketing campaign should be built around the currently unaddressed market need for sports drink in order to connect with customers in that segment. Given required changes in distribution channels, *O-Natura* messaging should clarify new distribution strategy.

Question 5

The team now explores *RefreshNow!*'s internal operational capacity to fulfill the projected *O-Natura* demand. *RefreshNow!* has decided to produce *O-Natura* from an existing dedicated production line in a single facility. In order to be on the safe side in case of increased demand they plan for an annual capacity of 420 million bottles (units) of *O-Natura*. The production line they have in mind currently operates for 20 hours per day, 7 days a week and 50 weeks per year. The speed for the current bottling process is 750 units per minute.

Is the current production capacity sufficient to fulfill the desired annual production plan of 420 million bottles of *O-Natura*?

A very good answer would include the following:

RefreshNow! Would need to increase its capacity because it would currently only allow to produce 315 million bottles of *O-Natura*:

- Daily production = 750 bottles per minute x 60 minutes per hour x 20 hours per day = 0.9 million bottles
- Weekly production = 0.9 million bottles per day x 7 days per week = 6.3 million bottles
- Annual production = 6.3 million bottles per week x 50 weeks per year = 315 million bottles

Question 6

Given the need for a specialized production process for *O-Natura*, the company has decided to add a new production line to only one of their 5 facilities. What factors should they consider in selecting the adequate plant?

A good answer would include economic factors like:

Economic factors.

- Required investment in target plant consistent with *O-Natura* budget
- Match of selected plant cost structure with fixed and variable cost targets for product
- Product assignment matches network growth targets (i.e., expected growth due to *O-Natura* is consistent with planned growth for the plant)
- Speed of installation given current plant commitments
- Adequate location for overall logistics; if only one plant concentrates on production, national shipments should be optimized

A very good answer would include both economic and non-economic factors, and provide examples of how different conditions could shift decision:

Non-economic factors

- Availability of additional resources, for example:
 - Space
 - Water
 - Material supplies (e.g., bottle caps, labels)
 - Local labor pool
 - Management bandwidth
 - Skills and training needs due to specialized process
 - Commitments to and support from selected plant community

Question 7

The *RefreshNow!* CEO has seen the team's analysis and confirms that the decision to launch *O-Natura* has been made. The product will be marketed as a sports drink, produced in the Midwest US, and distributed through supermarkets, convenience stores, and sport outlets. He asks the team what the company should start doing tomorrow?

Ensure to mention different insights instead of immediately diving very deep into one insight. Then ask your interviewer if he/she wants to go deeper on any of them

A very good response would include the following:

Finance to allocate required resources for launch.

- Communicate launch decision and timeline to Finance department
- Analyze upfront investment and ongoing profitability targets
- Secure resources required for initial investment and allocate to each department (e.g., Marketing, Sales, Production, Distribution)

Marketing to start designing launch strategy.

- Design product identity, message, packaging, etc.
- Create advertising and promotional campaign
- Define any channel-specific considerations (e.g., displays, alternative campaigns)
- Prepare product communications for investors, customers, and consumers

Operations to begin product testing, production line design, and logistics.

- Create and test product
- Communicate and negotiate product characteristics and prices with suppliers
- Renegotiate supplier contracts for materials and water supply if necessary
- Increase capacity of the existing production line (maybe building a new one)
- Hire new people if needed

Sales to start designing product approach and training for Associates.

- Collaborate with marketing in defining message for retail outlets and consumers
- Design distribution strategy and allocate resources for new product
- Design and deliver product training for sales
- Communicate new product characteristics and targets to clients (e.g., supermarkets, convenience stores, restaurants, sport clubs).

Monitor Deloitte

Footloose

Europe

Monitor Deloitte.

PROFIT

Footloose: Introduction

Duraflex is a German footwear company with annual men's footwear sales of approximately 1.0 billion Euro(€).

They have always relied on the boot market for the majority of their volume and in this market they compete with three other major competitors.

Together, these four brands represent approximately 72% of the 5.0 billion € German men's boot market. The boots category includes four main sub-categories:

Work boots, casual boots, field and hunting boots, and winter boots. Work boots is the largest sub-category and is geared to blue collar workers¹ who purchase these boots primarily for

on-the-job purposes. Casual boots is the fastest growing sub-category, and is geared more towards white collar workers² and students who purchase these boots for week-end / casual wear and light work purposes.

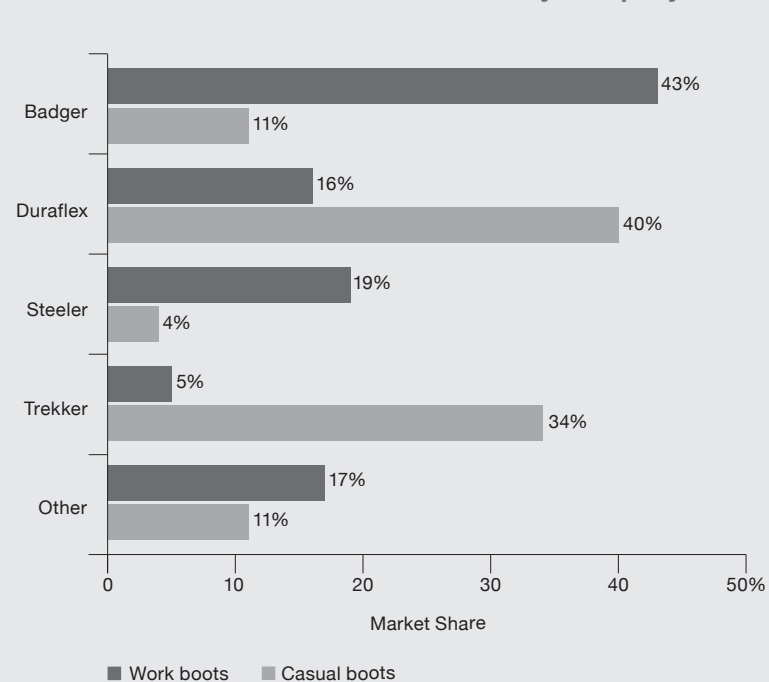
The four key competitors in the market are Badger, Duraflex, Steeler, and Trekker.

Competitor Profiles

Badger and Steeler are both well established as work boot companies, having a long history and strong brand recognition and credibility among blue collar workers. At the other extreme is Trekker, a strong player in the casual boot market but a very weak player in work boots. Duraflex, however, is a cross between the other competitors, having a significant share in both work boots and casual boots.

Historically Duraflex had an even stronger position in the work boot sector. However, since 1996 when the company began selling casual shoes and focusing on the growth opportunity in casual boots, sales of the Duraflex work boot line have steadily declined. Also, around the same time Duraflex shifted its emphasis, Badger became a much more assertive competitor in the work boot market, increasing its market share to 43% in just three years.

Market Share of Work and Casual Boots by Company



¹ Blue collar workers: wage earners who generally work in manual or industrial labour and often require special work clothes or protective clothing, which are replaced approximately every 6 months

² White collar workers: salaried employees who perform knowledge work, such as those in professional, managerial or administrative positions

Monitor Deloitte

Footloose

Consultants' Role & Data Collected

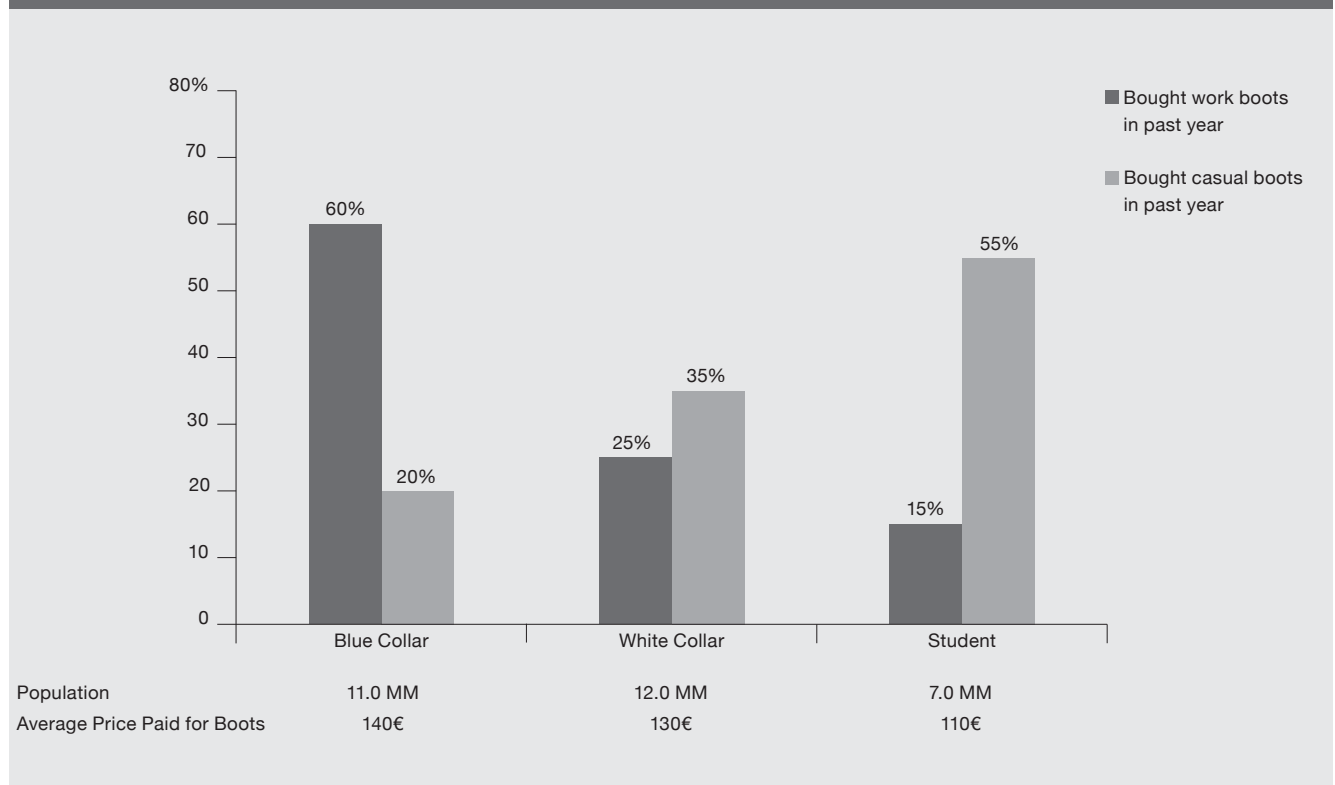
In the fall of 1998, Badger launched a new line of aggressively priced work boots. The strong success of this line has caused Duraflex's management to re-evaluate their position in work boots. With limited additional resources, management must now decide if they should focus their efforts on competing with Badger in the work boot sector, or focus their resources on further strengthening their position with casual boots.

In January of 1999 Duraflex hired a leading consulting firm to conduct research to help management in its decision making. To make an informed recommendation, the consultants realised they needed to collect information that would enable them to size the market and better understand Duraflex's competitive position.

To begin with, the consultants developed a 20 minute quantitative

telephone survey that was conducted among 500 randomly dialed consumers across the country's 6 primary regions. In addition, the consultants completed some internal cost and pricing analysis for Duraflex's work and casual boot lines. The market pricing analysis showed Duraflex competing at the premium end of the market for both its casual and work boot lines.

Exhibit One – Propensity to buy boots by population segment (Male Population 12+)



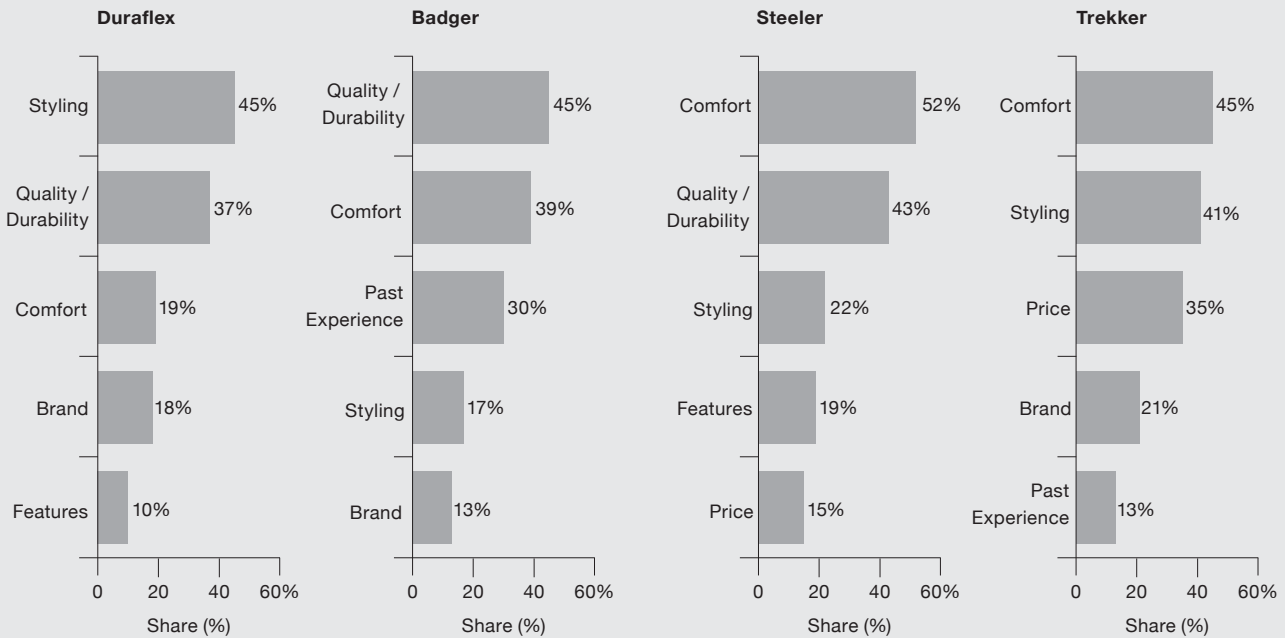
Monitor Deloitte

Footloose

Exhibit Two – Channel Preference by Brand

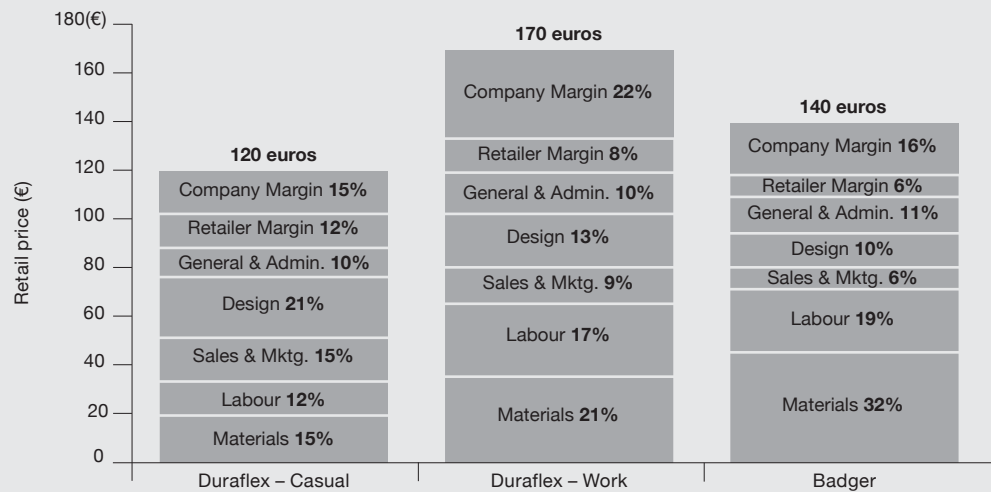


Exhibit Three – Buyer Purchase Criteria by Brand



Monitor Deloitte

Footloose

Exhibit Four – Retail price of selected boots, split by price component**Case Study Questions**

Work through these questions on your own, using the text and exhibits in the preceding pages. An answer key is provided in the pages that follow...

Question 1

How big is the work boot market (expressed in euros)? Does Duraflex get more of its revenue from work boots or casual boots?

Question 2

Explain why Badger is outperforming Duraflex in the work boot market.

Question 3

What changes would you recommend to Duraflex's work boot strategy? Why? Would you recommend they introduce a sub-branded boot line?

Monitor Deloitte

Footloose

Answer Q1: How big is the work boot market (expressed in euros)? Does Duraflex get more of its revenue from work boots or casual boots?

To find the size of the market, we can use the following equation:

$$\begin{aligned} & (\text{Average Boots Price}) \times (\% \text{ of male population that bought work boots in past year}) \\ & \times (\text{total population for the segment}) \times (\text{number of pairs bought in a year}) \end{aligned}$$

Exhibit One gives us the populations for each segment and the percentages that bought boots. We therefore need to find the *number of boots sold* and the *average price of each pair*. For this question, the candidate will need to make some assumptions.

1 Average number of boots purchased per user

- For work boots, we know that blue collar workers purchase **an average of 2 pairs per year** (from Introduction, Footnote1)
- White collar workers and students who buy work boots probably use less rigorously and less frequently, therefore *probably only 1 pair per year*
- For casual boots, we can make a reasonable assumption, knowing that casual boots are purchased primarily for weekends and light wear (from text) so the average number of pairs should be no more than work boots from Exhibit 1 (i.e. *1 pair per year*)

2 Average price per pair of boots

Work boots cost more (compare Blue Collar vs. Student) so the average price should be higher than 140 € for all (150 € is reasonable); casual should be lower than student (100-110 € is reasonable).

The total market value will then be the sum, for each segment, of the following equation:

$$\begin{aligned} & (\text{Average Boots Price}) \times (\% \text{ of male population that bought work boots in past year}) \\ & \times (\text{total population for the segment}) \times (\text{number of pairs bought in a year}) \end{aligned}$$

$$(\text{€}150 \times 60\% \times 11\text{Mill} \times 2) + (\text{€}150 \times 25\% \times 12\text{Mill} \times 1) + (\text{€}150 \times 15\% \times 7\text{Mill} \times 1) = \text{€}2,587.5 \text{ Mill or €}2.6 \text{ Bill}$$

The following table shows another way to see it:

	Population	% Buying Work Boots	# Pairs work boots bought / year	Price Per Pair (€)	Segment Size (€)
Blue Collar	11.0 Million	60%	2	150	2.0 Billion
White Collar	12.0 Million	25%	1	150	450 Million
Student	7.0 Million	15%	1	150	155 Million
Total					2.6 Billion

Monitor Deloitte

Footloose

Following the same procedure the casual boot market is then:

(Average Boots Price) x (% of male population that bought work boots in past year)
 x (total population for the segment) x (number of pairs bought in a year)

$(€100 \times 20\% \times 11\text{Mill} \times 1) + (€100 \times 35\% \times 12\text{ Mill} \times 1) + (€100 \times 55\% \times 7\text{ Mill} \times 1) = \text{€1,025 Mill or €1.0 Bill}$

Or:

	Population	% Buying Work Boots	# Pairs work boots bought / year	Price Per Pair (€)	Segment Size (€)
Blue Collar	11.0 Million	20%	1	100	220 Million
White Collar	12.0 Million	35%	1	100	420 Million
Student	7.0 Million	55%	1	100	385 Million
Total					1.0 Billion

Summary

- We know from Exhibit 1 that Duraflex has a 16% share of the work boot market and 40% of the casual boot market, therefore:
 - **Duraflex's revenue from the work boot market = 16% x 2.6 Bill = 416 Mill**
 - **Duraflex's revenue from the casual boot market = 40% x 1.0 Bill = 400 Mil**
- So Duraflex gets most of its revenue from work boots, even though the revenues are almost evenly split

Our Answer:

The work boot market is 2.6 Billion €. The casual boot market is 1.0 billion €. Duraflex generates 416 Million € from work and 400 Million € from casual. Depending on assumptions, casual may be slightly larger but the two should be relatively close.

Monitor Deloitte

Footloose

Answer Q2: Explain why Badger is outperforming Duraflex in the work boot market.**Ways to approach the question**

According to the data we have, and what we know as industry dynamics, the analysis can be split in 4 main areas that would demand further study:

- Distribution
- Buyer Purchase Criteria by Brand (BPCs)
- Pricing
- Cost analysis

Even if you have many good ideas to answer this question, you won't be impressive without STRUCTURE. You don't need a formal framework, just be methodical and organised in your approach – and summarise at the end!

Distribution

Duraflex is not sold where work boots are being purchased. Exhibit 2 shows that Badger's and Steeler's boots are often purchased in safety / work channels, whereas Duraflex does not have a significant presence in them

Therefore, Duraflex will need to broaden distribution if it is to increase its share; it needs to get shelf space in the relevant channels

Buyer Purchase Criteria by Brand (BPCs)

Exhibit 3 shows us that Badger's top two associated criteria are: "Quality / Durability" (45%) and "Comfort" (39%). The same holds true for Steeler. Thus, these seem to be critical criteria for work boot market

- However, Duraflex's top criteria are "Styling" (45%) and "Quality / Durability" (37%), with Comfort is a distant 3rd at 19%, far from its competitors figures

Duraflex is not meeting the key needs of blue collar workers and will need to strengthen its "comfort" perception

Additionally, we should note that Badger has built up a loyal customer base: "past experience" as a criteria represents 30% and is 3rd on its list of associated criteria

Pricing

We know that Badger is launching an "aggressively priced" work boot line. Duraflex can alter its pricing strategy, e.g. lower its own boot price

- However, looking at Exhibit 3, among the stronger work boot market competitors, we see that only Steeler shows price as a top BPC (and then it is the lowest one) – potentially because they are the lower cost option in this market

Given that price does not appear to be an important criteria for work boot consumers, Duraflex will likely not realise great benefits from this strategy, and will also lower its profits in so doing

We know from the case that Duraflex has premium price positioning, hence lowering its price may lead to perception of lowering quality

Monitor Deloitte

Footloose

Cost Analysis

Comparing Badger to Duraflex work boots, from Exhibit 4, there is one key area where Badger proportionately and absolutely spends more than Duraflex: “materials”. This supports their perception of “quality / durability” and “comfort” among their consumers. Also, they spend more on “labour”

- Retailer margin is lower for Badger – due to significant presence in safety / work channel
- Sales & Marketing spend is lower for Badger – potentially driven by lower marketing requirements in safety / work channel as well as established brand name among blue collar workers; Also, Badger has built a loyal customer base, and it is less costly to maintain existing customers than attract new ones

Badger has lower margins (both absolute and relative); given already higher market price, Duraflex has limited flexibility to raise its boot prices; Duraflex may lower its margin somewhat and shift emphasis to labour and materials

Summary

- Duraflex is not sold where work boots are being purchased
- Duraflex is not meeting the key needs of blue collar workers, as it is weaker than competitors on the critical ‘Comfort’ dimension
- Badger prices its boots more competitively, which is likely to be particularly appealing to the large work boot market; this has helped develop a large and loyal consumer base
- Badger has lower retailer margins (both absolute and relative) and spends less on Sales & Marketing

Answer Q3: What changes would you recommend to Duraflex’s work boot strategy? Why? Would you recommend they introduce a sub-branded boot line?

There are two reasonable answers to this question. The company can either:

- **Focus on increasing its work boots activities, or**
- **Emphasize casual boots**

Each option has its own justifications and implications.

The important thing with a subjective question is not **what** you answer to the question, but **how** you answer the question – pick a point of view and support it with critical reasoning!

Monitor Deloitte

Footloose

Increased Work Boot Market Focus

Justification:

- Represents approximately 40% of Duraflex's business (from question 1), making it very difficult to profitably ignore this market
- While Duraflex does have greater market share in the casual boot market, we know from information given in the case that the casual boot market is smaller in size than the work boot market, which may indicate less opportunity for share growth; also, we derive lower margins (15% vs. 21%) from casual boots (from Exhibit 4)
- Given that Badger is introducing a new work line, they may see new growth potential in the market which Duraflex may also want to capitalise on
- Building a stronger image among blue collar workers may entice them to try other Duraflex footwear products

Implications:

- Enter safety / work channel – we may be faced with pressure from Badger exerting influence on retailers in this channel
- Build “comfort” and “quality / durability” perception among blue collar workers
- Increase proportion of costs allocated to materials and labour – potentially reducing company margin
- There may be unique / niche positionings for Duraflex (suggestions should be well thought out)
- Introduce sub-brand or increase promotion of brand with a focus on blue collar workers: may include on-site promotions, advertising in industry publications, or advertising in magazines / on television during programmes with a higher blue collar readership / viewership

Emphasise Casual Boots

Justification:

- Stronghold for Duraflex right now (40% market share)
- Fastest growing market
- Represents approximately 40% of Duraflex's business (from question 1), making it very difficult to profitably ignore this market
- Focusing additional resources on work boot market would risk of alienating casual boot buyers (white collar workers and students)
- “Style” is the top BPC for Duraflex (from Exhibit 3). From the statistics on Badger and Steeler, we know this is likely not an important criteria for the work boot market. By focusing on the casual boot market Duraflex can devote additional resources to keeping up with styles to better appeal to this target

Implications:

- Unlikely to be a strong competitor reaction, since Duraflex is already dominant player
- Duraflex will not need to enter new distribution channels
- Candidate should discuss a strategy for work boot market – either winding down, maintenance etc. and implications of this

Roland Berger Strategy Consultants

Roland Berger
Strategy Consultants

PROFIT

Mobile Phone Company (MPC) – Market Share Gain

Europe

Case Background

MPC is a global mobile phone handset manufacturer that has seen its market share in Europe (by value) slip from 20% five years ago to 1% today. MPC has discussed its ambition to become relevant in Europe again and has set itself a stretch target to get back to its previous market share position. The European handset market has traditionally been dominated by two players but the last few years has witnessed new entrants from the far East.

Question

What volume does MPC need to regain its past market share position and what key challenges does it face in getting there?

Information to be provided as a response to candidate questions:

- Assess only the five key markets of UK, Germany, France, Spain and Italy (populations of 60m, 80m, 65m, 45m, 60m)
- European mobile market is dominated by four key operators that handset manufacturers sell to (Vodafone, Orange, Telefonica/O2, T-Mobile)
- Handsets are split into two tiers – smartphones and feature phones
- Smartphone penetration rate across 5 key markets should be assumed to be 35%

Suggested approach:

- 1 Assess the size of market in five key countries by volume and value
- 2 Assess what MPC needs to achieve to reach its goal by volume and value
- 3 Discuss the key challenges that ABC needs to overcome

Step 1: Size of the market

Start with confirming the expectations on splitting the market – i.e. 5 key markets (e.g. UK, France, Germany, Spain and Italy), expectations of assumptions between different markets, only two tiers of handset types: standard handsets and smartphones.

Interviewer: From the population across the five key markets – expect the candidate to do this on an aggregated basis, but if they start doing it for each of the five markets then let them continue.

Develop first key assumption of the mobile penetration rate. The candidate should come up with one rate across Europe for calculation purposes but should discuss that this would not be the case in reality (the candidate might wish to give some indication of how they think this might differ by market).

Calculation – candidate should apply mobile penetration rate to the market populations to give the number of handsets in circulation.

At this point the candidate should bring in the smartphone penetration and calculate that number of smartphones vs. feature phones in circulation.

Key step – candidate should discuss the rate at which handsets in circulation will be replaced by consumers. They should quickly identify that the replacement rate for smartphones and feature phones are different. From this, the candidate should develop assumptions for the two replacement rates.

Calculation – candidate should use the replacement assumptions to calculate the number of smartphones and feature phones sold in one year (market volume) and follow this on with an assumption on the value per unit (smartphone and feature phone) to give the market value.

Step 2: MPC ambitions

This is a relatively simple calculation to assess what MPC's market ambitions translate to in terms of value and volume from 1% to 20% market share.

The main task will come in the next section where the candidate will need to demonstrate the ability to rationalise what this ambition means for MPC.

Example calculation:

	UK	Ger	Fr	Sp	It	Total T5	
Population	60	80	65	40	60	305	Data provided
Ratio of Mobile penetration	1.25	1.25	1.25	1.25	1.25		Assumptions from candidate
Mobiles in circulation	75	100	81	50	75	381	Calculation required
Smartphone %	35%	35%	35%	35%	35%		Data provided
Smartphone [mn phones]	26	35	28	18	26	133	Calculation required
Feature phones [mn phones]	49	65	53	33	49	248	Calculation required
Smartphones replacement rate [yrs]	2	2	2	2	2		Assumptions from candidate
Feature phone replacement rate [yrs]	3	3	3	3	3		Assumptions from candidate
Smartphones sold in a year [mn phones]	13	18	14	9	13	67	Calculation required
Feature phones sold in a year [mn phones]	16	22	18	11	16	83	Calculation required
Value of average smartphone [EUR]	300	300	300	300	300		Assumptions from candidate
Value of average feature phone [EUR]	100	100	100	100	100		Assumptions from candidate
Market value [EUR bn]	5.6	7.4	6	3.7	5.6	28.3	
MPC current market share [value EUR bn]	0.1	0.1	0.1	0	0.1	0.3	
Assume split of MPC phones (smartphone vs feature)	35%	35%	35%	35%	35%		Assumptions from candidate
in smartphones [mn phones]	0.05	0.06	0.05	0.03	0.05	0.23	Calculation required
in feature phones [mn phones]	0.06	0.08	0.06	0.04	0.06	0.29	Calculation required
MPC market share ambition [value EUR bn]	1.1	1.5	1.2	0.7	1.1	5.7	
Assume split of MPC phones (smartphone vs feature)	35%	35%	35%	35%	35%		Assumptions from candidate
in smartphones [mn phones]	0.92	1.23	1	0.61	0.92	4.67	Calculation required
in feature phones [mn phones]	1.14	1.52	1.23	0.76	1.14	5.78	Calculation required

Step 3: Key challenges

The candidate should be able to identify that MPC is not Apple or Samsung and be able to straight away determine that to reach its ambitions it will have to overcome significant challenges. The candidate should group these into some of the following areas:

- Consumer trends
- Product capabilities
- Marketing spend vs. brand value
- Competitor positioning
- Relationships with key operators
- Large and diversified markets
- Global hardware solution for localised markets

Creative viewpoints – additional points for discussion

- Candidate should discuss the time frame for such ambitions and conclude that such ambitions in the short to medium term could be too challenging
- MPC should have more realistic goals in the short to medium term to ensure operationally it is focused in the right areas but can still keep a stretch target for the future
- Keeping employees incentivised to realistic targets will help to maintain staff moral
- In such a fast changing environment the right product with the right support and market execution will always do well
- Quick assessment of what the candidate thinks have been Apple's and Samsung's recipe for their recent successes and what learning MPC could take away for themselves

Private Jet Co (PJC) – Fleet Renewal


 PROFIT

Case Background

A private jet charter company, PJC, has 5 aircraft, Lear Jets which are used by businessmen, heads of state and high net worth individuals. The jets are now 8 years old and while recent performance has been very good, there are some individuals in the company who think it is time to replace the fleet as it is looking a little tired. In fact, customers are beginning to say that they prefer competitors' planes because they are new, but this might be just because the cabins are more up to date. The market is growing and PJC remains the market's leading prestige brand. If the aircraft fulfil the customers' criteria, there is enough demand to go round.

Question

Should Private Jet Co replace its fleet?

Information to be provided as a response to candidate questions:

Aircraft Utilisation

- Aircraft utilisation is measured in Block Hours – 500 hours is considered excellent
- Older aircraft are less popular – in another 5 years, utilisation will halve
- Utilisation is driven more by facilities (e.g. cabin, seats, in-flight movies) than aircraft age

Pricing

- The price to charter a Lear Jet is USD 3,000 per BH

Costs

- Assume all fixed costs will remain the same; they can be ignored in this case
- Old aircraft will get increasingly expensive to operate (fuel efficiency, maintenance) - assume USD 1,500 per BH for an 8-year-old plane, rising to USD 2,000 per BH in another 5 years
- Cost of a new aircraft is USD 6m
- Cost of refurbishing an aircraft is USD 1m (inc. new cabin, in-flight entertainment, GSM etc)
- Engines require full overhaul after 4,500 hours; cost of USD 0.5m (per engine)
- Cost of capital available to PJC can be assumed to be 10%

Suggested approach:

- 1 Establish that the options are:
 - a do nothing, continue with the existing fleet
 - b replace the fleet with new aircraft
 - c refurbish the existing fleet

Start with asking the interviewer questions about the business model and various dynamics. Identify the revenue and variable cost components of PJC's business and demonstrate clear thinking about the dynamics that affect each.

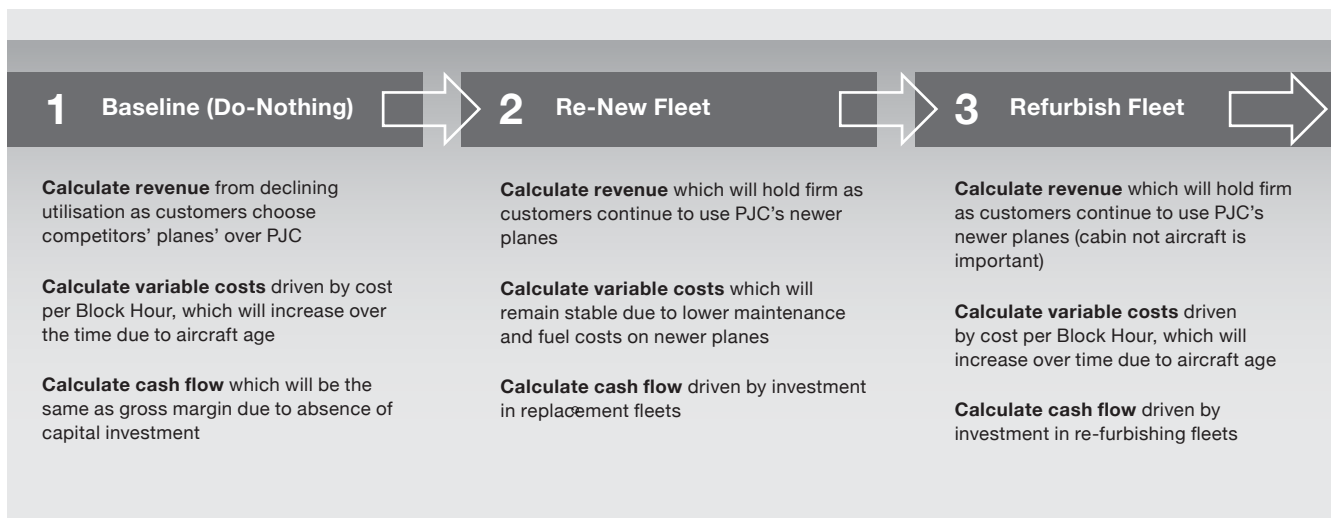
- 2 Evaluate each option. A good answer considers the revenue and cost implications of each option and looks to build a simple, top down business case. Creative candidates will be able to identify more cost and revenue dynamics but the successful answer will be able to keep one eye on the scope and time available in the case.
- 3 Draw conclusions about the best investment case. This is about more than the numbers; we want to see candidates who can interpret the analysis into actionable recommendations.

Step 1: Identify the evaluation structure

A simple evaluation model can be used to generate three NPV cases. The key point here is to first create a baseline case in which the cash flow of a do-nothing approach is calculated. Once this has been achieved, the same calculations can be re-run for the other investment scenarios.

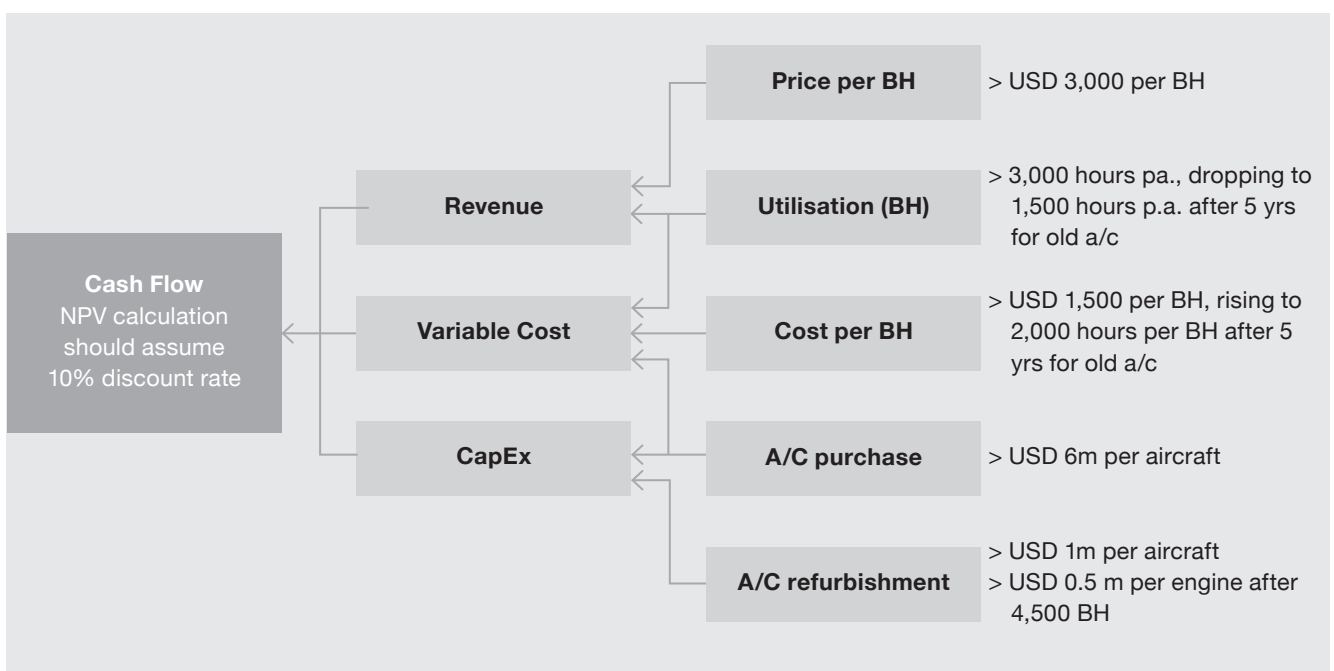
The key differentiator here is recognising that there is a third way – refurbishment. This is hinted at in the question and will be made available in the information above should the candidate ask the right questions. The aircraft age is a key driver of costs but the customer is driven by a range of

criteria including cost, safety, prestige, comfort and the latest facilities (e.g. being able to connect phones and laptops while in flight).



Step 2: Evaluate each investment option

The second thing to get right is the structure of the calculation itself. The important thing here is to concentrate on answering the question and avoid getting trapped in the detail or going off on tangents. A tree structure will help and, indeed, shows the interviewer that you understand the big picture.



Roland Berger Strategy Consultants

Private Jet Co (PJC) – Fleet Renewal

Developing a top-down revenue and cost model over 5 years will enable the candidate to build a cashflow and NPV. For the baseline case, revenues will decline over time as the aircraft interiors look increasingly old compared to newer aircraft owned by the competitors. In 5 years' time, as many as half of all bookings are going to competitors.

In addition, variable costs (fixed costs can be ignored in this comparison) are rising as the aircraft spends more time on the ground being fixed, fuel costs increase. By 2013, the engines will have completed the maximum 4,500 hours and will require an overhaul costing USD 1 million for two engines.

The resultant cash flow will be positive but the candidate should recognise

that the company is no longer growing; a lack of investment leads to stagnation and eventual decline.

The comparison only needs to be completed for a single aircraft but it is important that the candidate clearly states this assumption.

Baseline	2012	2013	2014	2015	2016	2017
Block Hours	500	450	400	350	300	250
Price per BH (USD)	3,000	3,000	3,000	3,000	3,000	3,000
Revenue	1,500,000	1,350,000	1,200,000	1,050,000	900,000	750,000
Var. cost per BH	1,500	1,600	1,700	1,800	1,900	2,000
Total OpEx	750,000	720,000	680,000	630,000	570,000	500,000
Gross Profit	750,000	630,000	520,000	420,000	330,000	250,000
CapEx		1,000,000				
FCF	750,000	(370,000)	520,000	420,000	330,000	250,000
NPV	1,399,605	10% discount rate				

For re-fleeting, PJC needs to spend USD 6 million on a new plane in 2012 but no longer needs to overhaul the engines. The new plane will enable full utilisation of 500 block hours per aircraft and will stop costs from rising so fast in the future (at least for the time being).

Re-New Fleet	2012	2013	2014	2015	2016	2017
Block Hours	500	500	500	500	500	500
Price per BH (USD)	3,000	3,000	3,000	3,000	3,000	3,000
Revenue	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Var. cost per BH	1,500	1,500	1,500	1,500	1,500	1,500
Total OpEx	750,000	750,000	750,000	750,000	750,000	750,000
Gross Profit	750,000	750,000	750,000	750,000	750,000	750,000
CapEx	6,000,000					
FCF	(5,250,000)	750,000	750,000	750,000	750,000	750,000
NPV	(2,188,100)	10% discount rate				

For re-furbishing the planes, PJC incurs much lower capital expenses - USD 1 m per aircraft in 2012 and USD 1 m per aircraft in 2013 (remember the engines will still need overhauling!). The costs will continue to rise as the aircraft maintenance bills will still be higher – although fuel costs may be improved due to the overhaul. Most importantly, PJC will maintain full utilisation on the aircraft without needing to tie up USD 6 million in capital.

Refurbish Fleet	2012	2013	2014	2015	2016	2017
Block Hours	500	500	500	500	500	500
Price per BH (USD)	3,000	3,000	3,000	3,000	3,000	3,000
Revenue	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Var. cost per BH	1,500	1,600	1,700	1,800	1,900	2,000
Total OpeEx	750,000	800,000	850,000	900,000	950,000	1,000,000
Gross Profit	750,000	700,000	650,000	600,000	550,000	500,000
CapEx	1,000,000	1,000,000				
FCF	(250,000)	(300,000)	650,000	600,000	550,000	500,000
NPV	1,046,700	10% discount rate				

Replacing a single aircraft will generate a negative NPV of over USD 2 million using the above assumptions.

Simply re-furbishing the aircraft will generate a positive NPV of over USD 1 million if the numbers provided here are applied.

Step 3: Make a recommendation

The candidate needs to interpret the figures to make a clear recommendation. Comparing NPV over 5 years' values would dictate that PJC is best placed if it does nothing but candidates are encouraged to demonstrate an understanding of the limitations of the NPV calculation.

A good answer would be:

- Doing nothing gives the best NPV over 5 years but is likely to lead to stagnation or decline in the long term as PJC fails to generate top-line growth
- Private Jet Co should invest for future growth
- It seems too early to replace a fleet of only 8 years old. Learjets are designed to last far longer than that as long as their engines are maintained
- Business jet charter customers are looking for prestige and this is often cosmetic; the experience needs to be luxury
- PJC should refurbish what remains a relatively young fleet and should sweat their asset base

Creative viewpoints – additional points for discussion

- A longer term view on NPV is important; 5 years is not enough for an asset with such a long lifetime
- A further alternative would be to lease newer planes
- Aircraft management services would give cheap access to newer planes
- PJC should consider market signalling to show that year of manufacture is not important - it's all about cabin luxury, safety records etc. distract from the competition
- Rolling replacements would help to reduce NPV impacts

Solon Management Consulting

Free to Air TV Network

solon

PROFIT

Case Question

A free-to-air TV network is experiencing stagnating revenues. At the moment, a major shareholder is seeking to exit and is expecting management to create and deliver on a growth strategy for the group. You are supposed to support management in finding ways to grow revenues through diversification.

Intro Facts (tell the candidate if asked)

Q: What are the client's current revenue streams?

A: More than 90% of revenues stem from TV advertising

Q: How is the TV advertising market developing?

A: In general, it follows the economy, but the share of TV in overall ad spending is stagnating / declining

Key Insights (do not share with the candidate)

- The core business, TV advertising, is stagnating. Additionally, winning market share from other free-to-air TV broadcasters is hard to achieve
- Client's main assets are promotional power, brand, and content
- These assets can be leveraged through platform variety, product variety, and innovative strength

Case at a glance (for the interviewer only)

Part A

Understanding the problem

- The TV advertising market is stagnating
- Advertising budgets are being shifted to online
- Digitization has led to various new TV stations and increasing client's share of the advertising market is very hard to achieve

Part B

Structuring the solution

- Ideas to leverage content
- Ideas to leverage brand
- Ideas to leverage promotional reach

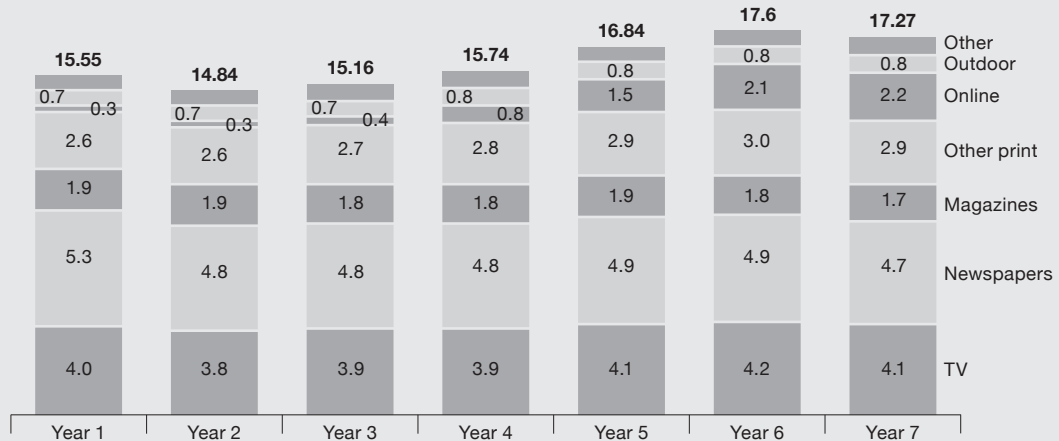
Part C

Quantifying one of the ideas

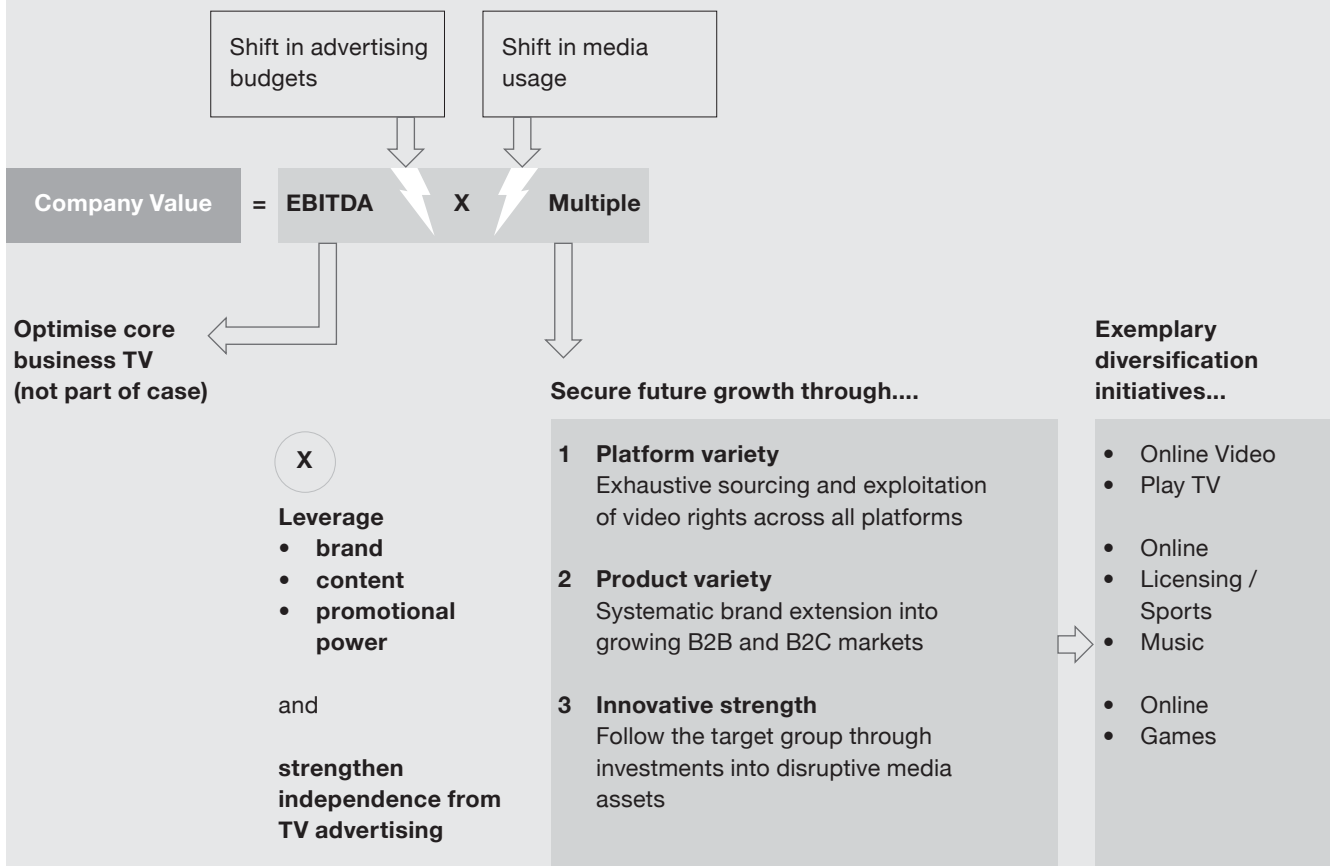
- Structure depending on the idea
- Expectations:
 - Structured approach, driven by volumes and prices
 - Business sense: What assumptions are reasonable / achievable?

Exhibit: Net advertising spending by media type

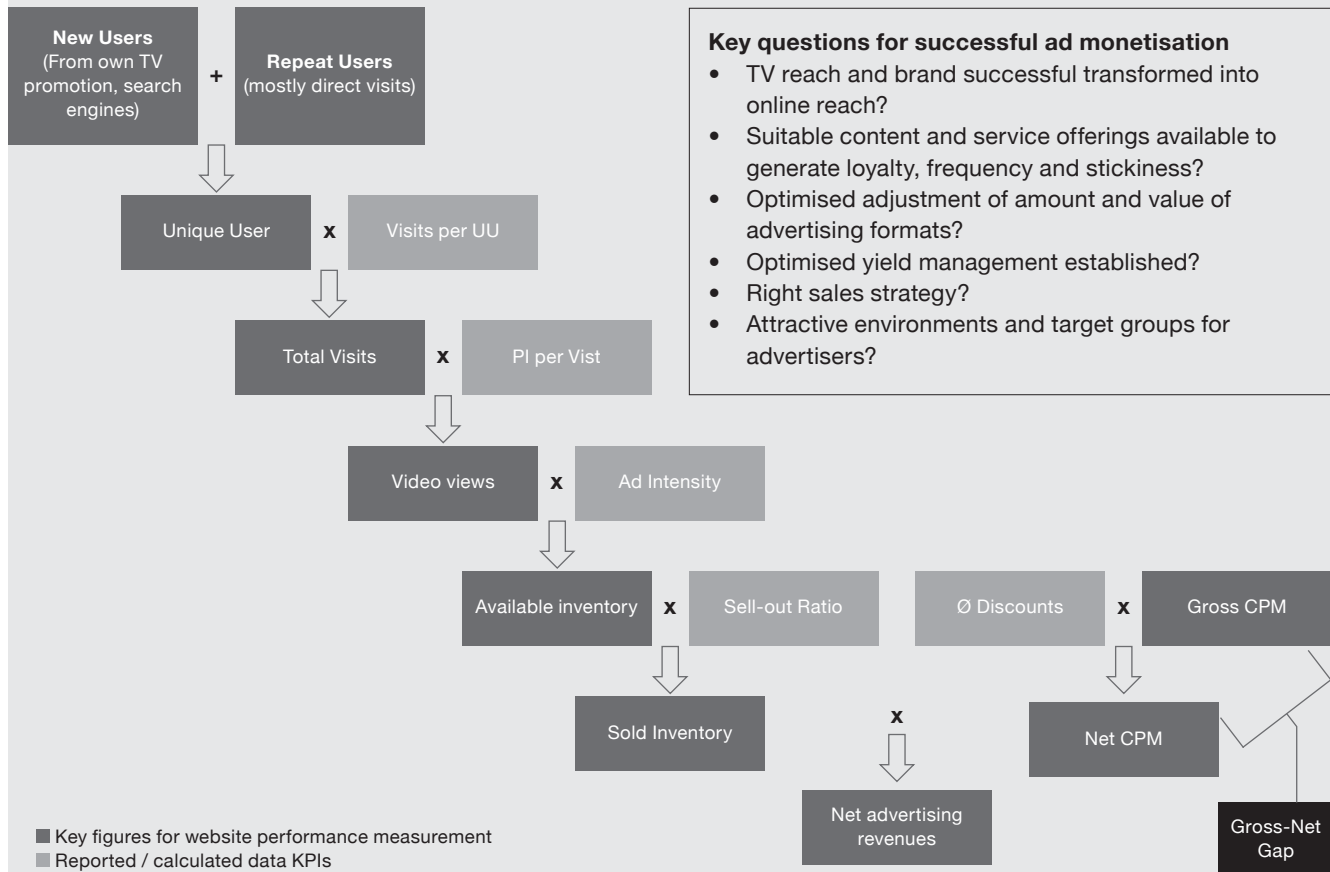
Media split of net advertising spending €bn



Example for structuring the problem



Possible structure for calculating the monetization potential of online videos



Solon Management Consulting

Rural Broadband

North America

INVESTMENT

Case Question (for the interviewer)

1) Ask the candidate to read the attached article from the FT. Ask them what the story is about and whether the proposed business venture is a good one 2) Ask the candidate to size the market for satellite broadband 3) Ask the candidate how to structure the product to improve its appeal beyond the target segment

Intro Facts (tell the candidate if asked)

All of the required facts are in the article

Further assumptions to be provided by the interviewer

Key Insights (do not tell the candidate)

- The company invested \$400m in launching a satellite
- Theoretically the best way to assess whether this is a good business is to perform an NPV analysis. But that is too complicated for mental maths
- Main driver of NPV other than WACC will be addressable market and market share
- Addressable market is rural broadband which doesn't have access to DSL (as product is more expensive than DSL)
- May be possible to adapt product to compete with DSL by using direct marketing to adjust prices down in DSL capable areas

Case at a glance (for the interviewer only)

Is this a good business?	Market sizing	Product marketing
Identify the rural broadband market as the target segment (ok to identify other segments, eg. Air transport as upside)	Start with US population Convert to households	Product is aimed at very specific segment, which is probably too small to sustain it
Candidate should suggest calculating an NPV and explain how this shows that this is a good business	Make estimate about urban/rural split Make further assumption about how much of this is already served by DSL	Ask candidate what could be changed to widen appeal of product. Key insight here is that the company should look for ways to market the product more widely without destroying the price premium it enjoys in its target markets
Candidate should notice that the product cannot compete against other technologies because of price	Identify that some households will never be addressable Remainder = addressable market	

ViaSat launch targets rural US web demand (FT.com)

By David Gelles in New York

A newly launched \$250m satellite will soon start transmitting broadband internet to rural US consumers the latest effort by telecommunications groups to satisfy skyrocketing demand for high speed residential data services.

The new satellite from ViaSat will give the Nasdaq-listed company, based in California, the ability to effectively compete with other non premium internet providers, which still are the only options for millions of US consumers.

Its bandwidth will also be used to power the in-flight wireless internet service for JetBlue, the US carrier.

The ViaSat launch is likely to be welcomed by the Federal Communications Commission, which is pushing for solutions to the digital divide, especially in rural areas. "If we have a really good service at a reasonable price, we can keep expanding the market," said Mark

Dankberg, ViaSat's chief executive. "Satellite will be better for a lot of people than DSL, 3G or 4G."

While most satellites are primarily used for one-way broadcasting, ViaSat-1 will be able to handle the two-way transmission of data at 140 gigabytes per second. That is more bandwidth than the combined capacity of Intelsat and SES, ViaSat's two largest peers, Mr Dankberg said.

Intelsat, the worlds largest provider of fixed satellite services, recently outlined plans to invest \$1.3bn in four new satellite launches by the end of 2012. ViaSat, in October successfully launched its new ViaSat-1, one of the highest capacity data satellites in the world. Launched with a Proton rocket in Kazakhstan, the satellite is now in geosynchronous orbit 22,500 miles above the earth. It is powered by 100 meter wide solar panels. Including launch costs and insurance, the satellite cost ViaSat \$400m.

Mr Dankberg conceded that his industry faces an uphill battle. "Satellite doesn't have a good reputation for broadband service," he said. Moreover, WildBlue, the consumer facing service ViaSat acquired in 2009, has not upgraded its service, even as the use of data

intensive services such as Netflix and Hulu has increased. "Wild Blue hasn't changed its service for six years," he said. "That isn't considered a good value anymore." ViaSat had revenues of \$223m in the most recent quarter with net income of just \$8m.

Shares in the company are up 16 per cent over the past month to about \$47, giving it a market capitalisation of \$2bn. Its Wild Blue service has about 400,000 customers in the US paying about \$50 per month for satellite internet services. Mr Dankberg hopes to treble the number of subscribers in the coming year with capacity from the new satellite. The company also makes money by supplying components to other satellite makers, and selling services to companies and the US government.

One of ViaSat's customers is Dish Networks, the satellite TV provider, which resells its service to US consumers. Earlier this year Dish's parent company, EchoStar, acquired Hughes Communications, a ViaSat rival, a move that could see Dish drop ViaSat as a supplier.

Differentiation between poor, average and superior performance (for review after the case interview)

	Poor Performance	Average Performance	Superior Performance
Framing problem / prioritising issues	Fails to identify the target market as being the rural market	Identifies rural market as target but fails to see service from consumer point of view	Correctly identifies rural market. Understands nature of consumer choice in this market and understands how central this is to proposition
Identifying relevant information	Does not correctly identify sum invested (which is written into the story). Fails to understand importance of rural target market for the product	Identifies, amount invested and attempts to drill down into definition of rural, but stops short of a convincing reason why rural market is an important definition	Understands that consumer choice in rural markets very different to other markets. Eg. No 3G & unlikely to be cable internet. Only choice is DSL. Probes to find out about DSL distance limits
Running calculations / drawing conclusions from facts	Does not size the market correctly – ie. does not use estimates to drill down from US population to rural population. Sizes market on people not households	Is able to correctly size the market using appropriate assumptions/guided by the interviewer	Sizes the market and is able to relate size of market to likely market revenue using ARPU assumptions. Candidate then attempts to compare EBITDA potential against investment cost
Identifying key implications and next steps; demonstrates creativity	Does not realize how small the target market is compared to the investment cost	Sizes the market correctly and is able to identify requirement for further upside (non rural markets, airline market) to justify investment cost	Sizes the market and proposes creative ways to expand the appeal of the product without compromising the price premium the product can command in its main market

Johnson and Johnson

EMEA Trocar Business Case

Europe, Middle East and Africa

DSL# 11-692



PROFIT

Case Background

It was the end of the week; Paul Marcun was shutting down for the day, no closer to resolving his dilemma. As Vice President for Ethicon Endo Surgery (EES) in EMEA, he had been working on the business plan for the next financial year when his attention was drawn to the data on the trocar business. It was clear that something was going on in the market and that he needed to quickly get to the bottom of it.

EES is one of the Johnson & Johnson's medical devices businesses, specialising in products used for open and minimal access surgery as well as advanced energy devices. The business has grown from start-up in 1992 to a \$4.7B¹ global business. With headquarters in Cincinnati Ohio, its business extends across all regions.

surgery globally through innovation in product design, high quality products, professional education and excellent support teams across the world. This contributed to the increase in lap surgery adoption from inception in 1990 to estimated 40% in 2010.

The EES product range for laparoscopic surgery includes access devices (trocars), stapling devices, ligating devices, surgical instruments and advanced energy devices.

EES led the adoption of laparoscopic

A new way of performing surgery²

In 1988, Dr. J. Barry McKernan, after making only a 10mm incision, inserted a laparoscope (or miniature camera) into a patient's abdomen and removed a gall bladder. The patient recovered in days, rather than weeks or months. This was the first laparoscopic cholecystectomy performed in the U.S. and the beginning of the minimally invasive movement in surgery.

Since then, minimally invasive procedures have been changing the way people think about surgery. Patients who choose these innovative procedures over conventional surgery usually have shorter hospital stays and quicker recovery. This means getting back sooner to the things that are important in life.

How Minimally Invasive Procedures work

Minimally Invasive Procedures (MIP), which include laparoscopic surgery, use state-of-the-art technology to reduce the trauma to human tissue when performing surgery. For example, in most procedures, a surgeon makes several small $\frac{3}{4}$ inch incisions and inserts thin tubes called trocars. Carbon dioxide gas may be used to inflate the area, creating a space between the internal organs and the skin. Then a miniature camera (usually a laparoscope or endoscope) is placed through one of the trocars so the surgical team can view the procedure as a magnified image on video monitors in the operating room. Then, specialized instruments are placed through the other trocars to perform the procedures. In some cases, such as minimally invasive colon surgery, a slightly larger incision may be needed.

Benefits of minimally invasive procedures

Not only do these procedures usually provide equivalent outcomes to traditional "open" surgery (which sometimes require a large incision), but minimally invasive procedures (using small incisions) may offer significant benefits as well:

Quicker recovery – Since a minimally invasive procedure requires smaller incisions than conventional surgery, the body may heal much faster.

Shorter hospital stays – Minimally invasive procedures help get patients out of the hospital and back to life sooner than conventional surgery.

Less pain – Because these procedures are less invasive than conventional surgery, there is typically less pain involved.

Less scarring – Most incisions are so small that it's hard to even notice them after the incisions have healed.

¹ J&J 2010 Annual Report

² Information about laparoscopic surgery - <http://www.smarterpatient.com/patient/learnmore/minimallyinvasivesurgery>

Johnson and Johnson

EMEA Trocar Business Case

Two categories of laparoscopic surgical procedures

Basic laparoscopy – these are broadly basic procedures that require basic to intermediate laparoscopic skill levels. These include cholecystectomy (gall bladder removal), appendectomy (appendix removal) and a number of basic gynaecological procedures. These procedures are usually completed in less than an hour with relatively few instrument exchanges and often non-cancer cases.

Advanced laparoscopy – these comprise more advanced procedures requiring advanced laparoscopic surgery skills. These include colorectal (removal of large intestine segments), bariatrics (obesity surgery), thoracic (removal of lung tissue) and advanced gynaecology procedures. These are often cancer related procedures that require longer than one hour to complete and involve relatively larger numbers of instrument exchanges³.

The trocar market overview

Trocars are placed through abdominal incisions to allow laparoscopes and other instruments to enter a patient's body. Because they are used in all laparoscopic procedures, trocar unit (or volume) sale growth will closely correlate to surgical procedure volume growth.

Trocars are available in EMEA in either disposable or reusable versions:

Disposable trocars – consisting of bladeless, bladed, and blunt-tip trocars, will continue to represent the majority of the revenues earned in the trocar market over the next several years. These devices are generally seen as more convenient and safer than reusable devices because they do not carry a risk of biological cross-contamination. Because these devices can only be used once, they generate higher revenues per procedure, which supports market revenues.

Reusable trocars – cost-conscious hospitals continue to show a preference for reusable trocars, which offer a lower cost per procedure despite a higher upfront price and can be used many times before damage. The preference for reusable trocars is particularly strong in Germany, which typically has a high reuse rate for many medical devices for developed markets, and is also evident in the emerging markets. Manufacturers of disposable devices, however, are responding to this tendency by aggressively marketing the advantages of disposable products. On average, the basic laparoscopic procedures use 3 trocars per case whereas advanced laparoscopic procedures use 5 – 6 trocars per procedure.

The EMEA trocar market, comprising reusable and disposable devices generated revenues of over \$452 million in 2010. The continued increase in laparoscopic procedures will lead to steady growth through 2018 (table 1). Furthermore, as a result of sterilization concerns, there is a strong preference for disposable trocars, which generate higher per-procedure revenues and contribute to greater market growth. By 2018, the EMEA trocar market will be valued at over \$575 million, representing a CAGR of approximately 2.98%.

EES and the other leading players in the trocar market are primarily in the disposable market. This market at \$335 million in 2010 is growing at 3.65% compared to 0.9% growth in the reusable market.

There are however significant variations in the market between the developed and emerging markets as shown in table 1.1 & table 1.2.

³ This means that the procedure requires more instances of passing instruments through the trocars and thus the quality of the trocar can have a direct impact on procedure duration.

Competitive landscape⁴

In 2010, Ethicon Endo-Surgery led the European market for trocars with the ENDOPATH XCEL trocar range, followed closely by Covidien. ENDOPATH XCEL is seen as the premium top performing trocar in the market. Both of these firms were successful by holding strong positions in the disposable segment, which generates about 3 times the revenue of the reusable segment (about 5 times in developed markets). Furthermore, both of these companies are well-known international firms with high-quality devices and wide product ranges.

Both of these companies are well positioned to remain leaders in the trocar market through 2015.

Applied Medical held the third-leading position in the disposable trocar market in 2010, and has been rapidly gaining market share in Europe over the last few years, particularly in the UK, Germany, and France. Applied Medical competes in this market by offering its products at a much lower price than Ethicon Endo-Surgery and Covidien, which allows it to secure contracts among cost-conscious hospitals. Applied Medical is also expanding its reach into the emerging markets of EMEA with its low cost offering being very attractive to those markets.

Hospitals in developed markets will typically sign an annual supply contract with a trocar manufacturer so that switching between suppliers during a year is uncommon. However, emerging markets are often tender driven for quarterly purchases.

In the much smaller reusable trocar segment, KARL STORZ is the market leader, followed by Olympus. A few other competitors were also active in the European trocar market, including Richard Wolf, Aesculap (a B. Braun company), and CONMED. See table 2 for market share estimates. Also see table 3 for estimated relative pricing.

Significant trends

Reports from the market have highlighted the following key trends in the markets:

Growing Minimal Invasive Procedure Adoption – countries all across the EMEA region are increasingly adopting laparoscopy with MIP penetration rate of 37% overall. For basic procedures in developed markets, the penetration rates are over 70% while emerging countries are still below 50%. The MIP penetration rates are expected to increase into 2018, mostly in the advanced laparoscopy segment aided by improved physician skills and acceptance by health technology assessment bodies of laparoscopy as recommended over open procedures⁵. See table 4 for procedure volume forecasts into 2018.

Global economic performance – the recent recession and current sovereign debt crisis across much of Europe has led to cuts in government spending across the region. In developed markets, government healthcare spending is declining by up to 10%

in some countries. In emerging markets, the reverse has occurred where countries are posting good GDP growth and increasing healthcare spend.

Increasing power of non-clinical stakeholders – the role of the physicians as the primary decision maker in the selection of medical consumables has been changing over several years to a point where hospital administration staff now have equal or greater roles in product selection. This has increased the role of price in purchase decisions for hospitals across the region.

Growth of low cost competitors – there are increasing numbers of low cost manufacturers entering the trocar market, targeting customers in both the developed and emerging markets. Whereas the quality and performance of the low cost competitor products are usually 30% – 50% below the levels for the premium products⁶, the quality is perceived to be improving especially for basic laparoscopic procedures.

Reuse of trocars – disposable trocars are often re-sterilised and reused in the emerging markets of the region. Given infection risks, the trend is not observed in the developed markets but it is estimated that trocars are used approximately 1.8 times in the emerging markets. The main identified motivation for reuse is cost reduction as the price of a trocar is spread across multiple uses. However improving patient awareness and regulatory environment in the emerging markets may reduce level of reuse.

Single port laparoscopy – In Europe, there is considerable interest in the use of single-port laparoscopy devices, which are generally priced at a premium. Whereas adoption rates are still very low (less than 1% of laparoscopic procedures), industry sources expect that the use of these devices will increase over the forecast period, driven by improved physician training, favourable results from clinical studies, and patient demand for the single-port technique⁷. EES piloted a Single Site Laparoscopy (SSL) port in 2009 but has not executed a full launch.

4 Source – Millennium Research Group

5 See <http://www.nice.org.uk/nicemedia/live/11840/53844/53844.pdf> for a recent National Institute for Health and Clinical Excellence review of laparoscopic colorectal surgery

6 This is an internal estimate based on comparative performance in ease of entry, maintenance of gas pressure and trocar retention

7 http://en.wikipedia.org/wiki/Single_port_laparoscopy

Johnson and Johnson

EMEA Trocar Business Case

Paul's dilemma

The data from the field was showing increasing price pressure in the trocar business with more customers considering the lower cost trocars as a way to reduce procedure input costs. It increasingly looks like the ENDOPATH XCEL will struggle to maintain its market share at the current price point. A number of marketing teams from countries in the region are considering price changes to respond to the growing low cost competition. This will have significant implications on the business plan numbers for next year and into the strategic planning horizon. He also has two projects to consider in deciding a plan for the trocar business.

ENDOPATH XCEL trocar upgrade

There has been very limited innovation in the trocar product space. The product technology has largely remained the same over the last 20 years with only limited enhancements made by the leading competitors. However, EES has been working on some significant enhancements to the ENDOPATH XCEL range which would significantly improve its performance by addressing some of the key concerns reported by physicians in performing laparoscopic surgery.

The BASX project

EES has developed a new range of trocars called BASX. These trocars are suitable for basic laparoscopic procedures but not considered ideal for advanced procedures⁸. There is the possibility to launch this product. The manufacturing and distribution costs of the BASX will be similar to the ENDOPATH XCEL so that there will be gross margin variation with ENDOPATH XCEL based on the relative price decided.

Your challenge

Paul needs to make some decisions and has scheduled a meeting with EES President to discuss his plans and requires your advice.

Questions to answer:

- 1 As Paul, would you recommend the launch of BASX and at what segment / market should it be positioned? If decided to launch, at what price relative to the ENDOPATH XCEL range?
- 2 What change (if any) would you make to the positioning of the XCEL trocars range? What will be the revenue impact?
- 3 What (if any) wider strategic recommendation would you make to the Company President regarding the trocar portfolio in EMEA?
- 4 What steps and/or other considerations would you propose for implementing your recommendations?

Case Competition: Winning Presentations

The Johnson & Johnson 2011 Business Case Competition was open to students from London Business School, ESADE and INSEAD and was won by London Business School. The links to the winning presentations are hosted on Career Services' Portal. London Business School students and alumni can access them by scanning the mobile barcode below via their Smartphones.



⁸ The BASX performance is estimated at 30% - 40% below XCEL performance

Johnson and Johnson

EMEA Trocar Business Case

Exhibits

Table 1 – EMEA Trocar Market Estimates

Value Market in MUS\$		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CAGR
Total market (reusable & disposable)	\$ ' M	\$414.46	\$434.72	\$454.82	\$467.16	\$477.61	\$491.40	\$505.63	\$520.78	\$537.09	\$555.71	\$575.11	3.01%
reusable market	\$ ' M	\$109.38	\$114.61	\$119.05	\$119.56	\$120.04	\$120.83	\$121.74	\$122.70	\$124.15	\$126.06	\$127.89	0.97%
Disposable new market	\$ ' M	\$305.08	\$320.11	\$335.77	\$347.60	\$357.57	\$370.56	\$383.88	\$398.08	\$412.94	\$429.66	\$447.23	3.67%
EES Sales	\$ ' M	\$176.12	\$187.48	\$202.54	\$212.26	\$220.05	\$229.13	\$238.86	\$249.12	\$260.03	\$272.12	\$284.80	4.29%
Non-EES Sales	\$ ' M	\$128.96	\$132.64	\$133.22	\$135.35	\$137.53	\$141.43	\$145.03	\$148.96	\$152.90	\$157.54	\$162.43	2.64%
Total market growth rate			4.89%	4.62%	2.71%	2.24%	2.89%	2.90%	3.00%	3.13%	3.47%	3.49%	

Source: Internal Estimates

Table 1.1 – Developed Market Trocar Market Estimates

Value Market in MUS\$		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CAGR
Total market (reusable & disposable)	\$ ' M	\$324.09	\$334.59	\$349.60	\$358.01	\$364.52	\$373.51	\$382.59	\$391.85	\$401.98	\$412.80	\$423.51	2.43%
reusable market	\$ ' M	\$58.32	\$60.13	\$62.93	\$63.53	\$64.12	\$64.84	\$65.61	\$66.30	\$67.28	\$68.21	\$69.18	1.23%
Disposable new market	\$ ' M	\$265.77	\$274.46	\$286.67	\$294.49	\$300.40	\$308.66	\$316.98	\$325.55	\$334.70	\$344.58	\$354.33	2.68%
EES Sales	\$ ' M	\$158.16	\$166.09	\$178.95	\$186.21	\$191.42	\$197.42	\$203.77	\$210.16	\$217.08	\$224.27	\$231.49	3.16%
Non-EES Sales	\$ ' M	\$107.61	\$108.37	\$107.72	\$108.27	\$108.98	\$111.25	\$113.21	\$115.39	\$117.63	\$120.31	\$122.84	1.82%
Total market growth rate			3.24%	4.49%	2.41%	1.82%	2.47%	2.43%	2.42%	2.59%	2.69%	2.59%	

Source: Internal Estimates

Table 1.2 – Emerging Market Trocar Market Estimates

Value Market in MUS\$		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CAGR
Total market (reusable & disposable)	\$ ' M	\$90.37	\$100.14	\$105.21	\$109.15	\$113.09	\$117.89	\$123.04	\$128.94	\$135.11	\$142.92	\$151.61	4.81%
reusable market	\$ ' M	\$51.06	\$54.48	\$56.12	\$56.04	\$55.92	\$55.99	\$56.13	\$56.41	\$56.87	\$57.84	\$58.71	0.67%
Disposable new market	\$ ' M	\$39.32	\$45.65	\$49.10	\$53.11	\$57.18	\$61.90	\$66.91	\$72.53	\$78.23	\$85.08	\$92.90	8.31%
EES Sales	\$ ' M	\$17.96	\$21.39	\$23.59	\$26.04	\$28.63	\$31.72	\$35.08	\$38.96	\$42.96	\$47.85	\$53.31	10.78%
Non-EES Sales	\$ ' M	\$21.35	\$24.27	\$25.51	\$27.07	\$28.55	\$30.18	\$31.82	\$33.57	\$35.27	\$37.23	\$39.59	5.58%
Total market growth rate			10.80%	5.07%	3.74%	3.61%	4.24%	4.37%	4.79%	4.78%	5.78%	6.08%	

Source: Internal Estimates

Table 2 – 2010 Trocar Market Share Estimates

	Disposable	Reusable
EES	43.4%	
Covidien	42.3%	
Applied Medical	13.2%	
KARL STORZ		40.6%
Richard Wolf		20.1%
Olyreusables/Gyrus/ACMI		19.8%
Aesculap (a B. Braun company)		7.3%
Other	1.1%	12.2%
	100.0%	100.0%

Source: Internal Estimates

Table 3 - 2010 Disposable Trocar Relative Prices

EES	100
Covidien	70
Applied Medical	50

Source: Internal Estimates

Table 4 – EMEA Procedure Volume Estimates

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CAGR
Basic Procedures (Colecystectomy/Appendectomy)	All	2,282,935	2,303,834	2,326,732	2,352,441	2,378,569	2,406,448	2,437,089	2,468,000	2,501,276	2,537,792	2,572,539	1.3%
Advanced (C/R, Upper GI Bariatrics, Thoracic, GYN)	All	4,135,559	4,185,850	4,244,855	4,311,092	4,382,959	4,460,659	4,545,794	4,638,349	4,738,215	4,846,028	4,962,955	2.0%
Total	All	6,418,494	6,489,684	6,571,588	6,663,533	6,761,528	6,867,106	6,982,883	7,106,349	7,239,491	7,383,821	7,535,494	1.8%
Basic Procedures (Colecystectomy/Appendectomy)	MIP	1,246,869	1,280,670	1,316,508	1,350,742	1,384,296	1,421,170	1,458,320	1,498,339	1,538,319	1,580,051	1,619,553	2.6%
Advanced (C/R, Upper GI Bariatrics, Thoracic, GYN)	MIP	1,007,550	1,055,464	1,112,072	1,170,441	1,230,685	1,296,067	1,368,130	1,446,420	1,533,931	1,631,512	1,730,457	5.7%
Total	MIP	2,254,419	2,336,134	2,428,580	2,521,183	2,614,981	2,717,237	2,826,450	2,944,759	3,072,250	3,211,563	3,350,010	4.1%
Basic Procedures (Colecystectomy/Appendectomy)	Open	1,036,066	1,023,164	1,010,225	1,001,698	994,273	985,278	978,769	969,661	962,957	957,742	952,986	-0.7%
Advanced (C/R, Upper GI Bariatrics, Thoracic, GYN)	Open	3,128,009	3,130,387	3,132,783	3,140,652	3,152,274	3,164,592	3,177,665	3,191,929	3,204,284	3,214,516	3,232,499	0.4%
Total	Open	4,164,075	4,153,550	4,143,008	4,142,350	4,146,547	4,149,870	4,156,434	4,161,590	4,167,241	4,172,257	4,185,485	0.1%
MIP adoption rate	All	35.1%	36.0%	37.0%	37.8%	38.7%	39.6%	40.5%	41.4%	42.4%	43.5%	44.5%	
MIP adoption rate	Basic	54.6%	55.6%	56.6%	57.4%	58.2%	59.1%	59.8%	60.7%	61.5%	62.3%	63.0%	
MIP adoption rate	Advanced	24.4%	25.2%	26.2%	27.1%	28.1%	29.1%	30.1%	31.2%	32.4%	33.7%	34.9%	

Source: Internal Estimates

Johnson and Johnson

EMEA Trocar Business Case

Table 4.1 – Developed Market Procedure Volume Estimates

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CAGR
Basic Procedures (Colecystectomy/Appendectomy)	All	1,209,328	1,212,049	1,214,937	1,217,996	1,221,216	1,224,605	1,228,157	1,231,872	1,235,756	1,239,807	1,244,000	0.3%
Advanced (C/R, Upper GI Bariatrics, Thoracic, GYN)	All	1,996,229	2,023,605	2,054,721	2,089,054	2,126,429	2,167,315	2,212,570	2,261,866	2,315,776	2,374,163	2,437,496	2.2%
Total	All	3,205,558	3,235,654	3,269,658	3,307,050	3,347,645	3,391,920	3,440,727	3,493,738	3,551,533	3,613,971	3,681,496	1.5%
Basic Procedures (Colecystectomy/Appendectomy)	MIP	828,433	847,506	865,529	880,659	895,404	910,254	925,320	940,611	956,129	969,854	982,406	1.6%
Advanced (C/R, Upper GI Bariatrics, Thoracic, GYN)	MIP	661,447	698,497	740,114	783,019	825,315	871,344	921,507	974,670	1,033,657	1,096,465	1,158,590	5.8%
Total	MIP	1,489,880	1,546,003	1,605,643	1,663,678	1,720,719	1,781,598	1,846,827	1,915,282	1,989,786	2,066,318	2,140,997	3.7%
Basic Procedures (Colecystectomy/Appendectomy)	Open	380,895	364,543	349,407	337,337	325,812	314,351	302,838	291,260	279,628	269,954	261,593	-3.6%
Advanced (C/R, Upper GI Bariatrics, Thoracic, GYN)	Open	1,334,783	1,325,108	1,314,608	1,306,034	1,301,114	1,295,970	1,291,063	1,287,196	1,282,119	1,277,698	1,278,906	-0.3%
Total	Open	1,715,678	1,689,651	1,664,015	1,643,372	1,626,926	1,610,321	1,593,900	1,578,456	1,561,747	1,547,652	1,540,499	-0.9%
MIP adoption rate	All	46.5%	47.8%	49.1%	50.3%	51.4%	52.5%	53.7%	54.8%	56.0%	57.2%	58.2%	
MIP adoption rate	Basic	68.5%	69.9%	71.2%	72.3%	73.3%	74.3%	75.3%	76.4%	77.4%	78.2%	79.0%	
MIP adoption rate	Advanced	33.1%	34.5%	36.0%	37.5%	38.8%	40.2%	41.6%	43.1%	44.6%	46.2%	47.5%	

Source: Internal Estimates

Table 4.2 – Emerging Market Procedure Volume Estimates

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CAGR
Basic Procedures (Colecystectomy/Appendectomy)	All	1,073,606	1,091,785	1,111,796	1,134,445	1,157,353	1,181,842	1,208,932	1,236,128	1,265,520	1,297,985	1,328,539	2.3%
Advanced (C/R, Upper GI Bariatrics, Thoracic, GYN)	All	2,139,330	2,162,245	2,190,134	2,222,039	2,256,530	2,293,344	2,333,225	2,376,483	2,422,439	2,471,865	2,525,459	1.8%
Total	All	3,212,936	3,254,030	3,301,930	3,356,484	3,413,883	3,475,186	3,542,156	3,612,611	3,687,958	3,769,850	3,853,999	2.0%
Basic Procedures (Colecystectomy/Appendectomy)	MIP	418,435	433,164	450,978	470,083	488,892	510,915	533,000	557,728	582,190	610,197	637,147	4.4%
Advanced (C/R, Upper GI Bariatrics, Thoracic, GYN)	MIP	346,103	356,967	371,958	387,422	405,370	424,723	446,623	471,749	500,274	535,048	571,866	5.7%
Total	MIP	764,539	790,131	822,936	857,505	894,262	935,638	979,623	1,029,477	1,082,464	1,145,245	1,209,013	5.0%
Basic Procedures (Colecystectomy/Appendectomy)	Open	655,171	658,621	660,818	664,361	668,461	670,927	675,931	678,400	683,329	687,788	691,392	0.6%
Advanced (C/R, Upper GI Bariatrics, Thoracic, GYN)	Open	1,793,226	1,805,279	1,818,176	1,834,617	1,851,160	1,868,621	1,886,602	1,904,733	1,922,165	1,936,817	1,953,593	0.9%
Total	Open	2,448,397	2,463,899	2,478,993	2,498,979	2,519,621	2,539,548	2,562,533	2,583,134	2,605,494	2,624,605	2,644,985	0.8%
MIP adoption rate	All	23.8%	24.3%	24.9%	25.5%	26.2%	26.9%	27.7%	28.5%	29.4%	30.4%	31.4%	
MIP adoption rate	Basic	39.0%	39.7%	40.6%	41.4%	42.2%	43.2%	44.1%	45.1%	46.0%	47.0%	48.0%	
MIP adoption rate	Advanced	16.2%	16.5%	17.0%	17.4%	18.0%	18.5%	19.1%	19.9%	20.7%	21.6%	22.6%	

Source: Internal Estimates