# MasterTheCase.com

Top Consulting Interview Prep

London Business School

Consulting Club & Consulting Careers Team

Consulting Interview

# Case Book

A Practical Guide on How to Crack Case Interviews

2010/2011

## Inside

## Consulting Interview Process

Overview of process
What recruiters are looking for
Tips for success
Types of cases
Guide to fit interviews
Resources for further study

## Case Examples

12 cases for practice including 7 new examples
Wide range of industries
Fully worked answers
Written by professional interviewers

Including contributions from:

# New Cases for Practice

## Booz & Company

## Oil tanker case

### Step 1: Background and question

My grandfather has just died and left me an oil tanker. I need a valuation for tax purposes, and I have hired you to tell me what it is worth. For your information, there are 3 types of tankers in the world: small, medium, and large. Within these three classes, each tanker is identical to every other. I have just inherited a medium tanker

### Step 2: To be given as a response to student inquiries:

**Supply-side information**

| | Small | Medium | Large |
|---|---|---|---|
| Number | 100 | 100 | 100 |
| Capacity | 1 unit | 2 units | 4 units |
| Number of trips per year | 1 | 1 | 1 |
| Operating cost | $50,000/trip | $75,000/trip | $100,000/trip |

**Demand-side information**

Scenario I: fixed demand for 500 units of capacity per year (transport costs are a negligible part of total oil-cost structure, and demand is completely inelastic for purposes of this analysis).

Scenario II: fixed demand for 650 units of capacity per year (note: change demand-side scenario to this only if student correctly determines value of tanker under first scenario and if time permits).

The market is highly fragmented and therefore competitive. The discount rate is 10%.

### Step 3: Solution

Because the market is competitive, the market price will be the lowest price sufficient to cause enough capacity to enter the industry to serve the fixed demand, and the marginal unit will earn revenue just sufficient to cover its costs.

Clearly, the large tankers have the lowest cost structure, followed by the medium tankers and finally the small tankers. The large tankers can supply 400 units of oil transportation services, the medium tankers 200 units, and the small tankers 100 units.

If demand is fixed at 500 units, then medium tankers will be the marginal capacity, and we can say directly that the market-clearing price will be just sufficient to cover the costs of operating such tankers. So my tanker has no value (or, alternatively, scrap value only).

For completeness, the market-clearing price will be $37,500 per unit. Large tankers, all of which will be employed, will earn profits of $50,000 per year and be worth $500,000. Half of medium tankers will be employed at rates that just cover their costs, while the other half sit idle. Finally, small tankers will not have costs low enough to enter the market and will also be worth zero or scrap value only.

If demand is instead fixed at 650 units, the small tankers will be the marginal capacity and medium tankers will earn profits and have positive value. The equilibrium price will now rise to $50,000 per unit. Medium tankers will earn $25,000 per year and be worth $250,000; large tankers will earn $100,000 per year and be worth $1,000,000.

### Step 4: Discussion

This case is a business problem that at its core is a relatively simple problem in microeconomics.

Students need not get all the way to a numerical answer for the value of the tanker, and few should be expected to give both answers depending on demand assumptions. Nevertheless, students should first demonstrate a good conceptual framework for determining the tanker's value, and be reasonably creative about asking for the right kind of data to get at least part way to the solution.

Note that both the revenue and cost side of the problem need to be understood in order to reach a valuation.

## Video game case

### Step 1: Background

The CEO of a large, diversified entertainment corporation has asked a team to examine the operations of a subsidiary of his corporation that manufactures video games. Specifically, he needs to know if he should approve a $200 million capital request for tripling the division's capacity.

### Step 2: Question

You are a member of the team assigned to this project. Assume you and I are at the first team meeting. What are the critical issues we should plan to examine to determine if the industry is an attractive one for the CEO to continue to invest and why?

### Step 3: To be given as a response to student inquiries

The following information may be given if requested by the candidates, though the candidate should focus on identifying issues, not on obtaining more information.

**Market share**

- Division is 3rd largest manufacturer of hardware in industry (10 percent market share)
- Top two producers have 40 and 35 percent market share
- Remainder is divided by small producers
- Division sell to broad range of consumers

**Sales**

- Division sales have increased rapidly over last year from a relatively small base
- Current estimate is annual sales of 500,000 units
- Current estimate of industry hardware sales is 5,000,000 units annually

- Industry growth has been strong though over last few months
- Sales growth has slowed
- Divisions current sales price for the basic unit is $45 per unit
- Division remains less than 20 percent company sales
- Top two competitors also develop, manufacture and sell software/games though division sells only licensed software
- Industry growth of software continues to increase

**Cost**
- Division estimates current cost is $30 fully loaded. Requested expansion should reduce the cost by 5 to 7 percent and triple production of the hardware unit
- Top two competitors are estimated to have a 10 to 15 percent cost advantage currently
- Main costs are assembly components and labor

**Current**
- Division estimates much of initial target market (young families) has now purchased the video game hardware
- No large new user segments have been identified

**Distribution**
- Primarily outlets of distribution are top and electronics stores

**Profitability**
- Division currently exceeds corporate return requirements, however, margins have recently been falling

**Product**
- Hardware standards have been established by the industry leaders
- Product features are constantly developed (e.g., new type of remote joy stick), to appeal to segments of the market

## Step 4: Solution

**Minimum Requirements:** the following issues would need to be covered for candidate to have done an acceptable job:

1) What is future market potential?
   The candidate needs to question the continuation of overall industry growth. She/he might ask about the saturation of markets, competitive products (home computers), and declining “per capita” usage.
2) What is the competitive outlook?
   The candidate should at least recognize the need to examine competitive dynamics. Issue areas might include: concentration of market shares; control of retail channels; and R&D capabilities (rate of new product introductions, etc.).
3) What will be the price/volume relationships in the future?
   Issues of prices need to be considered.

**Better/Outstanding Answers:** no bounds on creativity, but better answers would address:

**Market Potential**
- Recognize that there is a relationship between market penetration and growth in new users which, when combined, yields an industry volume estimate
- Address the shifting mix of product purchases, in this case from hardware (player unit) to software
- Seek to look at buyer behavior in key buyer segments, i.e., “fad” potential of product

**Software**
- Recognize technology standards are set by industry leaders. In this situation, the division as a secondary player will have to follow these standards
- Recognize that different distribution needs may exist for different products (in this case, hardware versus software)

**Price/Volume Relationships**
- Discuss the effect capacity additions can have on overall industry price/volume relationships and on industry price levels

**Company Ability to Compete**
- Should ask what the capacity expansion is designed to do
- Explore the cost position of the client division relative to that of other competitors
- Seek to understand reasons for poor profit performance of division

## Step 5: Discussion

The primary issue of the case is to determine if the industry is attractive and, especially, if our client’s position in that industry is sustainable. The candidate should identify issues which are necessary for assessing both the industry and our client’s position, but should not be expected to solve the problem.

If the candidate begins to discuss too deeply a specific issue, before having covered the key issues overall, he/she will probably be brought back to discuss the industry more broadly by questions such as “what other issues must be examined?”

If the candidate is discussing issues which seem irrelevant to the attractiveness of the industry, he/she may be asked “how will that analysis help to assess the attractiveness of the industry or our client’s position?”

# Pen manufacturer case

## Step 1: Background

Penco is a global leading manufacturer of writing products, with divisions in North-America, Europe and South-East Asia. Penco's global sales equal € 50 million whereas its profit amounts to € 25 million. The mayor activities of Penco's European division are within the manufacturing and sales of disposable pens.

## Step 2: Question

Within the European region, sales are flattening and profit is decreasing. Penco's CEO has asked you to determine the cause of the decreasing profit in the European pen division, and to come forward with suggestions to bring it back up.

## Step 3: Set out the broader structure

First, discuss the major aspects you would like to study in order to understand the decrease in profit.

[In a case interview, this step is crucial. Verify whether you understood the objective of the case and write down the main question. During the interview, take the time to determine your structure and make sure to communicate your plan clearly]

**Suggested answer**
Profit is defined by sales minus costs. Penco's decreasing profit within the European pen division is caused by flattening sales on one hand, and this could be accumulated by increasing costs on the other.

**Possible causes for flattening sales**
- The number of pens sold is decreasing
- The price per pen is decreasing
- An unfavorable shift is taking place within the product mix

**Possible causes for increasing costs**
- Increasing direct costs
  - Material costs
  - Direct wages
- Increasing indirect costs
  - Production costs
  - Transportation costs
  - Indirect wages
  - Marketing & Sales costs
  - Overhead costs

**Excellent addition remark**
Within the cost-price of a pen, the share of indirect costs is substantial. For a great part, these indirect costs are determined by the utilization of the production capacity. When production utilization increases, the indirect costs can be distributed over a greater number of products, such that the costs per product diminish. Therefore, we should test the hypothesis that utilization of the production capacity could be increased.

## Step 4: Study the means to increase sales in further detail

Before looking into possibilities of reducing costs, let's first study the opportunities on the sales side a little more.

[In an interview, if you think you need more information, do not hesitate to ask for it. However, make sure you are asking for a specific answer. For example: "Would you want me to look at the sales of pens or would you also be interested in sales of other writing products?" The answer in this case is: "We are only interested in the sales of various kinds of pens".]

**In order to provide a delicate answer to the question, the candidate could request the following information**
- What are the segments in which Penco is operational?
- How aggressive is the competition within these segments?
- What is the current stage of the pen market?

**Suggested answer**
I would like to identify a few possible means to increase sales:
- Increase sales to existing customers: for example, attach sales of accessories *or fillings* to pen sales
- Initiate sales to new customers: for example by increasing the number of distribution channels and/or intensifying marketing
- Selectively increase the prices
- Launch new products: for example, premium pens
- Get rid of unprofitable pens within the existing product mix, such that sales will shift from unprofitable pens towards more profitable pens
- Cut a deal with retailers: for example, attach a pen to a specific notebook within their assortment

**Excellent addition remark**
The pen market is highly competitive, especially within the segment of disposable pens – in which Penco is operational. Therefore, to Penco, price is extremely important. This makes the sales increase by means of an increase in prices fairly unrealistic. If we would have been looking at premium products (i.e., products with added value which customers are willing to pay for) price would be of minor importance.

## Study the launch of new products in order to increase sales in further detail

There seem to be opportunities within the market of premium pens. In this example, we will assume fountain-pens which are produced in vast volumes, with minimum selling price € 10. Penco does not yet operate within this segment. Let's look into this in some further detail.

## 1. Estimate the market for premium pens in Europe

This means: Provide an estimate of the number of premium pens sold per annum within Europe

Be prepared to be solving mathematical problems during the case. It is expected that you will do calculations without the use of a calculator. In client situations, there will often not be a calculator either. Make assumptions and round numbers such that multiplying and dividing is easier. Also, make sure to perform a sanity check after deriving an answer

**Suggested answer**
I will start with some assumptions, and then calculate the estimated number of premium pens sold per annum within Europe:

- The number of inhabitants of Europe is 400 million
- Persons below the age of 12 do not possess premium pens
- This category represents about 15% of the European population (12/80≈15%)
- On average, 1 out of 4 persons possesses a premium pen
- On average, a premium pen is utilized over a period of 5 years

Over a period of 5 years, the number of premium pens sold in Europe is:
400 million * (100% – 15%) persons * 0.25 pens = 85 million premium pens.
This corresponds to a market of 85 million pens over 5 years = 17 million pens per annum. Let's assume the total market of premium pens within Europe equals 15 million pens. We round down because the assumed average of 1 out of 4 persons possessing a premium pen seems a bit high.

**Excellent addition remark**
Besides the direct sales of premium pens, the sales of accessories and fillings encompass essential elements of the total size of the market.

## 2. Consider entry barriers for Penco

As Penco is not yet operational within the premium pen segment, Penco will have to enter this market as a new player. In order to determine whether launching premium pens is a successful strategy, we first have to consider the barriers to entry.

**Suggested answer**
There are a few considerations regarding barriers to entry:

- **Access to distribution channels**
  - Penco holds a distribution network for the current assortment. However, in addition to these channels, premium pens are sold through distribution channels Penco does not yet have access to, such as specialty stores. Therefore, Penco will need to invest in these distribution channels.
- **Market consolidation in the segment of premium pens**
  - The size of the market for premium pens is relatively small and highly consolidated by established strong brand names, such as Waterman, Mont Blanc, Cartier and Dunhill. A successful launch of a new premium brand name seems impossible unless great risks are taken by mayor investments in marketing and sales.
- **Access to resources**
  - Penco is a global leading company, such that access to resources is not expected to be a problem
- **Image/reputation of the brand 'Penco'**
  - The main obstacle for Penco is the image it has as manufacturer of disposable pens. This existing image makes it extremely difficult to position itself within the market of premium pens.

In conclusion, it is difficult for Penco to launch premium pens because the market seems consolidated and dominated by strong brand names.

## 3. Consider the financial attractiveness of entering the market

As a consultant, it is important to support the advice you deliver by analyses. From the previous answers, it became clear that launching premium pens is difficult, but it could still be profitable. Would you advise the client to extend the assortment with premium pens?

**Suggested answer**
In order to derive a conclusion on the financial attractiveness of entering the market of premium pens, I will estimate Penco's possible market share, its corresponding sales and the resulting profit within premium pens:

- **Penco's market share within premium pens**
  - Assume the strong brand names cover a consolidated market share of 80%
  - Assume Penco would indeed be able to position itself and capture a 2% market share
- **Penco's sales in premium pens**
  - With its 2% market share and a market size of 15 million pens, Penco could sell 300.000 pens. With an assumed average selling price of € 20, this results in € 6 million sales.
- **Penco's profit in premium pens**
  - The reason people are willing to pay more for premium pens, is the added value of a special design or a brand name.
  - Premium products usually have a gross profit margin of over 25% (this is the difference between the sales and fixed and variable production costs).
  - The costs of premium pens are mainly determined by the marketing and sales of the product, instead of the manufacturing. Penco will need to make major

marketing & sales expenses in order to gain market share. Assuming the profit margin after the marketing & sales expenses to be about 5% results in € 300.000 annual profit.
- Compared to the € 25 million total profit, this is extremely small.

In conclusion, launching premium pens is financially not attractive. It seems sensible to study further other possibilities for increasing the sales, or look into the possible means of reducing the costs.

## Step 5: Study the means to decrease costs in further detail

In order to resolve Penco's main problem – that is, its decrease in profit – in the beginning we concluded that there are two sub problems we need to analyze. On one hand, it involves increasing the sales; on the other it enhances reducing the costs. In the previous analysis, we looked into the optimization of sales. We would now like to proceed and question whether we could realize a cost reduction.

**Suggested answer**
I will first create a cost breakdown, and then discuss the possible means to decrease those costs

**Penco's main costs.**
- **Direct costs**
  - Material costs (both for the pens and packaging)
  - Direct wages (wages of e.g. temporary employees)
- **Indirect costs**
  - Production costs (machinery, buildings, maintenance of production lines)
  - Transportation costs (both inbound and outbound)
  - Indirect wages (supervision, administration)
  - Marketing & Sales costs
  - Overhead costs

**Possible means to decrease costs**
- **Reduce material costs**
  - Use economies of scale
  - Purchase in low-wage country such as China
  - Use cheaper material for e.g. packaging
  - Rationalize the product / packaging design
  - Reduce the complexity of products
- **Reduce wages**
  - Make use of wage differences among varying groups of employees more efficiently (replace temporary employees by contracted employees, use skilled persons only where necessary)
  - Move production process to low-wage country
- **Reorganize the production process**
  - Consolidate factories
  - Move production process to low-wage country
  - Computerize parts of the production process
- **Reduce transportation, Marketing & Sales and Overhead costs**
  - Increase efficiency
  - Make use of wage differences among varying groups of employees more efficiently
  - Move production process to low-wage country

## Study the move to low-wage countries in order to reduce costs in further detail

What will be the cost reduction when moving the production process to China?

**Suggested answer**
First, I will assume a cost structure, followed by an assumption on the incorporated differences when moving to China. Next I will use these assumptions to discuss the impact of moving to China.

I assume the following cost structure:
[This could be created with the help of the interviewer]
- **Direct costs**
  - Material costs: 50%
  - Direct wages: 20%
- **Indirect costs**
  - Production costs: 20%
  - Transportation costs: 5%
  - Indirect wages,
    Marketing & Sales costs,
    Overhead costs: 5%

I assume wages in China are about 10% of the wages in Europe
[This could be created with the help of the interviewer]

The resulting impact of moving to China is as follows:
- Impact on wages
  The costs per pen attributable to direct wages will decrease by 18% (20% – 10%*20%). A decrease in indirect wages will imply an additional cost reduction
- Further impact
  - Reduction in costs could be obtained by the local purchase of materials.
  - In addition, the change could be used as an opportunity to consolidate factories and better utilize production capacity. This will imply a decrease in production costs, resulting in a smaller amount of indirect costs per product and an increasing profit margin.
  - A disadvantage is the increase in costs due to increasing distribution costs.

It will be necessary to further investigate whether the cost reductions above offset the increase in distribution costs

## Step 6: Summarize and make recommendations

What is your advice to Penco's CEO?
[At the end of the interview, clearly summarize your findings and test whether the outcome answers the initial question. Never forget the main question of the case]

**Suggested answer**
The goal of the client was to improve the financial performance of the European pen division. The main aspects we investigated are possibilities for an increase in sales and a decrease in costs. A major opportunity to reduce costs is to move the production process to a low-wage country such as China – this needs to be investigated further.

**1. Possible means to increase sales:**

- **Price optimalization seems impossible**
  - The pen market is highly competitive. Especially in the disposable pens' segment, price is extremely important. Therefore, it is incredible that an increase in sales could be obtained by a price increase
- **Launch of premium pens seems not worth the effort**
  - We studied the possibilities to broaden the Penco's product portfolio by the launch of premium pens. It appeared not to be sensible to enter the market of premium pens, as the market seems consolidated and dominated by strong brand names.
- **Other means of increasing sales need further investigation**
  - Increase sales to existing customers: for example, attach sales of accessories *or fillings* to pen sales
  - Initiate sales to new customers: for example by increasing the number of distribution channels and/or intensifying marketing
  - Launch other new products
  - Get rid of unprofitable pens within the existing product mix, such that sales will shift from unprofitable pens towards more profitable pens

**2. Possible means to decrease costs:**

- Move production process to a low-wage country such as China captures opportunities
  - With wages 10 times lower than in Europe, at least 18% of the product costs can be saved
  - Moreover, further reduction in costs could be obtained by the local purchase of materials
- Other means of decreasing costs need further investigation
  - Use economies of scale
  - Rationalize products
  - Consolidate factories

# L.E.K. Consulting

## UK's leading "fast fit" automotive retailer

### Introduction

**The client is the UK's leading "fast-fit" automotive retailer, a business that provides a range of services to motorists but principally tyre changes, exhaust repairs and replacements and other relatively straightforward "fast-fit" services (e.g., brake replacements, oil change).**

**The business has been growing revenue steadily, through the opening of new outlets (some through acquisition, but mostly through greenfield roll-outs); the network now consist of c.900 outlets mainly under the core brand, but around 1/3rd of outlets being acquired retaining their original brand identity.**

**Worryingly, the headline (positive) growth trend had masked a decline in like-for-like revenues and a new CEO from outside the industry had been appointed to shake up the business. His headline question to the consultants that he brought in was "what should the size and shape of the network look like?"**

Clearly this question needs to be broken down into "bite sized" chunks, but where best to start?

### Question 1: Is the issue that the network is too big or too small?

It is important first of all to quickly establish the nature of the problem at a high level. Some straightforward analysis can point to the answer here and a number of strands can be assessed in parallel.

- Compare client network to competitors at an overall level and at a revenue per outlet level to benchmark performance
- Undertake like-for-like revenue analysis, stripping out the impact of outlet acquisitions and roll-outs to establish the true underlying revenue performance of the business
- Assess, through outlet manager interviews and data capture what their local market catchment area is (e.g., 20 minute drive times) and who are the key competitors.

These analyses showed that the business had by far the largest number of outlets (including core and other brands), its revenue per store was no better than industry average and that its like-for-like revenues had been declining for some years. Importantly, catchment analysis highlighted a high degree of client outlet overlap and, tellingly, a survey of the outlet managers stated that their key competitors included a large number of own outlets (either core brand or acquired legacy brands).

From this high level approach, it can be reasonably judged that, at an overall level, the network was too large with a substantial overlap and that the bulk of the effort is likely to be in addressing which sites should be removed. However, the issue still remains as to what is the logical approach to addressing this outlet reduction issue.

### Question 2: How should the network reduction be addressed?

As always, this question needs to be broken down into logical steps. In addition, it is critical to remember what the central strategy question is; how do we structurally improve the profitability of the business?

### What is the first step?

With the issue of profitability in mind, it is logical to look at each outlet and analyse historical (long run, say five year) profitability and assess each outlet's profitability. If fully costed, outlet ROIC is negative over this period, why wouldn't you close it, unless there were significant reasons not to (e.g., outlet lease structure)? We assessed that almost 100 outlets fell into this category and following discussions with management and an evaluation of closure costs, a closure plan was developed.

**But is that the answer?** Clearly not. More detailed evaluation is required to assess whether the business could be more profitable by closing further outlets *even though they are profitable.*

The relevant strategic segment for the fast-fit sector is geographic market and the local (20 minute drive time) catchment area. The central question is how can the business serve this catchment with the "optimum" number of outlets. Specifically, what level of sales (and therefore profit) does the business need to retain in the catchment to enhance profitability on the closure of any site within that catchment. What is an appropriate methodology to address this issue? This question around the economics of the business model and individual outlets is key. Closing any outlet means that the fixed costs of that outlet are saved. What is critical to establish is the minimum revenue (and profit after variable costs) *retained in the remaining outlet network* for that closure decision to be economically rational.

It is straightforward to assess the proportion of revenue needed to be retained in the network, and it depends on outlet profitability. The higher the profitability (on a margin basis) the more of that outlet revenue needs to be retained (if an outlet is effectively breakeven, we are ambivalent in retaining the revenue as it is barely profitable). Some complex modelling, in practice but not strategically, can help assess the likelihood of retaining those sales by understanding the *competitive positions of the remaining network outlets* and their likelihood of picking up sales on closure of neighbouring sites. The three key factors in establishing competitive position was brand strength, outlet drive time within the catchment are and other specific outlet factors such as specific location and strength of the manger, all of which could be researched and analysed.

Based on this analysis, one can optimise the catchment profitability and indeed retain even greater proportion of revenues (than required for the decision to close to be economically rational) within the catchment on closure of certain sites by targeting those customers who use those sites and actively recruit them to their next best alternative client outlet rather than let them go top a competing outlet the next time they need a tyre change and they find their usual outlet closed.

Around a further 200 sites fell into this category.

**But is this the final answer?**

No. It is unlikely that this network is optimal and we should ask ourselves the question “are there any obvious gaps in the network?” Whilst it was obvious that there were too many sites overall, we should check whether there are opportunities for new sites.

Helpfully (and luckily), the approach to site closure and an understanding of what drives competitive position works when assessing new greenfield outlet opportunities. By putting a site (with a known brand strength) in a particular location one can model the likely revenues that you could gain from the local catchment and existing competitors in order to understand the likely level of profitability of that site. Around 50 such new site opportunities were found. You may then think that you have arrived at the answer, but the question was “what should the size *and shape* of the network look like?”

### Question 3: What other activities could the business perform in optimising its network profitability now that it has the right size?

How to think about this one? Clearly one way is to look and see what competing outlets do and what requirements these activities have in terms of outlet characteristics and labour skills. Research will identify the fact that some competitors (namely independent garages) provide a broader range of services than “fast-fit” such as MOTs, servicing and mechanical repair work.

But there are a number of areas that need assessment before deciding what other activities could be performed

- Capacity requirements for other services and availability of suitable sized outlets and measure of spare capacity
- The type of services that the fast-fit client would have customer “permission” to provide and that its brand image would support (fast-fit image does not necessarily provide support in customers eyes for complex mechanical repairs)
- Labour skills required (servicing of electronic engine systems would require much greater skilled labour than tyre changing) and number of people

Assessment of these factors highlight that there are certain services that are “natural” extensions. For example, MOTs are relatively straightforward and fit the client image and capability and tyre and exhaust problems are frequent reasons for cars failing MOTs. Basic “menu based” servicing for older cars (not 3-4yr old cars under warranty) are also a plausible brand and capability extension. Some of the larger outlets were capable of “separating” the fast-fit activities from the new (different skills and logistics require) and a broader offer and business model constructed to optimise the larger outlets capacity and enhance profitability.

# UK Premium Confectionary Manufacturer

### Introduction

**You have been hired by a small confectionary manufacturer that is in financial trouble. They are based in the UK, where they have a single manufacturing facility that serves the UK market. The company has consistently been operating at a loss for the last 5 years.**

**They have asked you to investigate the reasons for this, and make recommendations to address the situation.**

### Question 1: What is the current profit / loss position of the manufacturer?

You are provided with the following information:

The plant sells 0.5m units of its specialty chocolate product per annum, and achieves an average price per unit of 50p.

Further information will be provided if requested across the following areas of cost:

*Per unit costs:*
Raw materials: 24p
Packaging and distribution: 3p
Energy costs: 3p
Labour costs: 5p

*Overhead costs:*
In total overhead costs amount to £100,000 per annum. No breakdown is provided (or needed for this question).

Having identified the various categories of cost, the net profit can be simply derived as follows:

Net profit = (volume x unit price) – (volume x variable cost) – fixed cost
= (0.5m x £0.50) – (0.5m x £0.35) – £100,000
= loss of £25,000

## Question 2: Can this current loss-making be rectified?

This answer can be broken down into a consideration of each of the following areas in turn:

- Scope to increase the unit price of the product
- Scope to achieve reductions in the quantum of variable costs or fixed overheads
- Scope to increase volume sales, and hence reduce the per unit fixed cost

*Price increase*
[Interviewer provides the following information – the confectionary manufacturer is a relatively small player that has a distinctive niche in the chocolate market. It already achieves something of a premium for its product relative to the competition, and management strongly believes that any further premium would have a severely detrimental impact on its sales volumes.]

*Scope to achieve reductions in costs*
[Supplementary question – which areas of cost are most likely to offer scope for achieving reductions]

This question is open-ended and looking to test commercial reasoning / judgement. Examples of points to make:

Starting with the variable costs, raw materials are a large element of the total cost, and would be worth looking at for that reason. However, it may not offer much scope for reduction since a number of the key inputs into chocolate (e.g. cocoa beans, sugar) are commodities. There may of course be some scope to achieve better terms for increased volumes, which we consider later.

Packaging and distribution is also likely to be a relatively commoditised area, although given the niche premium positioning of the product, it is possible that the packaging costs are high relative to the industry. This might therefore be an area worth exploring further.

**Energy:** The UK market is competitive and unlikely to offer scope for reduction, although the terms of current contract would need to be investigated.

**Labour:** Workforce is unlikely to be highly skilled in this sector, with minimum wage levels setting a potential floor on any scope for reductions. Level of unionisation could also be a consideration, but unlikely to be an issue for a small-scale manufacturer

**Overhead costs –** these costs are likely to relate to premise lease costs, depreciation of plant and machinery, and managerial labour overhead. Depending on utilisation of the premises, relocation to a cheaper location could be considered. Sales of plant and machinery could reduce the depreciation charge, but may not be feasible whilst maintaining a viable production facility. Overhead labour could also be examined further, but given the total quantum of overhead may not be significant.

[Further guidance is provided that a working assumption should be made that costs cannot be reduced in any category]

*Scope to increase volume sales*
[Supplementary question – By how much would sales need to be increased in order to achieve break-even?]
Break-even can be calculated using the following formula:

Break-even sales = Fixed costs / Gross profit
= £100,000 / £0.15
= 666,667 units

Given current unit sales of 0.5m, breakeven requires an increase of sales of 33%.

[Supplementary question – what factors would you want to consider in assessing the potential for an increase in volumes]

Firstly, the capacity of the company would need to be investigated. Guidance is provided that for the given cost structure of the facility, volumes could be increased to up to 1m per annum, which exceeds the break-even level.

Secondly, demand conditions would need to be considered e.g. scope for increase penetration of the current product into the market. [Guidance is provided that the product is relatively niche, and in its current form is unlikely to find much in the way of additional untapped demand to be exploited].

White-labelling of the product could also be considered e.g. selling in volume to an up-market supermarket chain to be own-labelled [Guidance is provided that currently no retailer is prepared to offer terms to the manufacturer that allow it to realise its variable costs]

It might also be worth investigating whether other confectionary products could be produced utilising the existing asset base of the company e.g. alternative chocolate formulations, different-sized bars.

[Supplementary question – the company has identified a potential new confectionary product that it could produce using existing machinery that would allow it to increase sales by 50% (assume the new product has the same unit price and cost structure as the current product). However, some re-tooling of the plant capacity would be required to provide the required production flexibility, and this would cost £150,000. Would you recommend that the company proceed with this additional investment?]

The impact of the £150,000 investment can be evaluated as follows:

Profit impact of retooling = incremental sales x gross profit
= 0.5m x 50% = 250k x £0.15
= £37.5k per annum

The investment therefore offers a 4 year pay-back.

Whether the company should proceed with this investment depends on the company cost of capital. However, at this level of return, it is likely to be a sensible investment.

# Roland Berger

Roland Berger
Strategy Consultants

## Case 1 – Business Aircraft: Maintenance, Repair and Overhaul

NOTE: Text in this typeface represents the interviewer's questions/comments and plain text represents the interviewee's responses.

### Introduction

You are working on a project for a European flagship carrier in the aviation sector, EuroCarrier. Their current business model is purely focused on passengers, offering Economy, Business and First class travel. They have been relatively successful in recent years and have funds available to invest. The company's CEO has asked you to investigate entering the global MRO (Maintenance, Repair and Overhaul) market for business aircraft.

### Question 1 – How would you go about structuring your analysis to this question?

First, I would need to understand what the MRO business is about and establish the size of the market and its potential growth. To do this, I would a) identify the different segments within the market, and b) use price/volume analysis to determine their relative size. Then, knowing the dominant segment, or segments, I would investigate what the market growth drivers are.

Second, I would want to investigate the intensity of competition in the market as this would indicate what the likely market shares and margins for EuroCarrier would be. From this, I would also get a good understanding of some of the potential risks.

Analysis of market size, growth and competitiveness will help me assess the attractiveness of the market. If it is an attractive market, then I would need to think of potential means to enter the market. If the market is not attractive, I would want to offer the CEO some alternative options for consideration.

Okay, this structure makes sense. What kind of products do you imagine are offered in the MRO segment?

Well, in terms of maintenance, I imagine they have to do an inspection of the plane before each flight, to check everything is okay. They would then have some kind of planned maintenance checks where they do a more detailed inspection. On the inside, they must maintain the seats and carpets pretty regularly. That's the "M" covered. "R" for repairs would be when the plane has been damaged or has suffered wear and tear and needs fixing, and I guess "O" for overhaul has something to do with a complete refit of the aircraft.

Yes, that's most of the services offered. In industry terminology, there are three types of maintenance.

a) Line maintenance, which involves pre-flight checks
b) Light checks, which are inspections of major components every 4 months and
c) Heavy checks, in-depth inspections of all components and systems, which happen every three years

The next major revenue stream within maintenance is called interiors. One product is deep-cleans, which is cleaning and repair of carpets, seats and so on. The second product is similar to what you described as overhaul, which involves reconfiguring the interior layout of the aircraft. How frequently do you think they would do these interiors operations?

I imagine a good proxy to use is that they would conduct a deep clean whenever a plane undergoes a light check, and likewise they would undertake a modification while the plane was having a heavy check. Since they would have to take the plane out of service to conduct these checks, they would want to do as much as possible concurrently, to minimise overall down-time.

That's a sensible assumption.

The next thing to consider is the different market segments. The size of the aircraft would be the major driver in determining the price of these services. So I would use three segments: large, medium and small.

The large and medium aircraft are called widebody and narrowbody business liners respectively, while the small aircraft are called business jets. This table summarises the current numbers of these aircraft flying, together with the manufacturer (A, B, C...):

| Number of aircraft in service | A | B | C | D | E | F | Total |
|---|---|---|---|---|---|---|---|
| Business Liner - Widebody | 9 | 47 | 0 | 0 | 0 | 0 | 56 |
| Business Liner - Narrowbody | 23 | 171 | 0 | 0 | 0 | 0 | 194 |
| Business Jet | 0 | 0 | 1,548 | 1,124 | 96 | 1,174 | 3,942 |
| Total | 32 | 218 | 1,548 | 1,124 | 96 | 1,174 | 4,192 |

The first thing that strikes me here is how numerically dominant the business jet is compared with the business liners. Assuming that you get four times as much revenue from the larger business liners, 80% of the market will still be from business jets. For that reason, I am going to focus on sizing the market for business jets.

Considering the maintenance and interiors services we discussed earlier, there are two drivers that I can think of. One is the labour charge and the second is the cost of materials. Are there any others?

**Well, there are obviously overhead costs to consider, but generally the client is billed for materials and labour, so these are good revenue drivers to assume. Before going further, let's just consider line maintenance, which is conducted before each flight. If I said this isn't likely to be a significant revenue stream, why might this be?**

If it's conducted before flight, then it will be done at whichever airport the aircraft is departing. Which means we'll only ever get "line maintenance" revenue when an aircraft comes to the airport where our business is based.

**In fact, many business jets actually have an onboard engineer, who conducts the line maintenance himself, so there's no need for an external provider.**

So that means the market consists of "light checks" and "deep cleans" happening every four months, together with "heavy checks" and "modifications" happening every three years.

Starting with labour prices, I would imagine you have to pay around USD 25 an hour for a trained aircraft engineer, then on top of this you'll have to incorporate things like training costs, indirect staff costs, utilities, etc. into the charge out rate. Overall, you would bill about USD 100 per hour. Actually, thinking of the services we're offering, for the deep clean you could probably use cheaper, lower skilled staff, so they would have a lower hourly rate.

**That's true. Deep cleaning labour has a fully-burdened cost of USD 60 per hour, whereas it's USD 120 for the other services. A light check requires 150 man-hours, a heavy check takes 1,200 man-hours, a deep clean is 100 man-hours and a modification needs 1,000 man-hours.**

A quick set of calculations will now work out the labour revenue for each of them:

*Light check:*
Labour rate x man-hours = 120 x 150 = USD 18,000
*Heavy check:*
Labour rate x man-hours = 120 x 1,200 = USD 144,000
*Deep clean:*
Labour rate x man-hours = 60 x 100 = USD 6,000
*Modification:*
Labour rate x man-hours = 120 x 1,000 = USD 120,000

Of course there is also the materials to consider. I imagine they're a much more significant proportion of the revenue for heavy checks and modifications, where there would be lots of replacement parts. Whereas if you are doing a deep clean, the material needed are pretty insignificant.

**Okay, let's ignore the material cost for deep cleaning. As an industry benchmark, material revenues are only a tenth of the overall revenue for light checks but half of the overall revenue for heavy checks and modifications.**

So that means the materials represent USD 2,000 for a light check, USD 144,000 for each heavy check and USD 120,000 for every modification.

Hence the overall revenue for each type of service is:

*Light check:*
Labour revenue + materials revenue =
18,000 + 2,000 = USD 20,000
*Heavy check:*
Labour revenue + materials revenue =
144,000 + 144,000 = USD 288,000
*Deep clean:*
Labour revenue + materials revenue =
6,000 + 0 = USD 6,000
*Modification:*
Labour revenue + materials revenue =
120,000 + 120,000 = USD 240,000

There are three light checks and deep cleans each year, and a third of a heavy check and modification in the average business jets year. Therefore the average annual MRO revenue is:

[3 x (20,000 + 6,000)] + [1/3 x (288,000 + 240,000)]
= USD 254,000

Okay, so rounding the numbers, if we have 4,000 business jets, each with an annual MRO bill of USD 0.25 m, then the annual value of the business jet MRO market is around USD 1 bn.

Very roughly speaking, if I use the previous assumption that a business liner generates 4 times as much revenue as a business jet given its larger size, that's USD 1 m spent on MRO each per year, or USD 0.25 bn for all 250 aircraft. Hence the overall market for MRO on business aircraft is USD 1.25 bn.

### Question 2 – Now that we've established the market size, let's consider its growth potential. What would you use as a proxy for business jet MRO demand growth?

Well, obviously demand growth for business jet MRO is going to be directly correlated to the demand for business jets. As business jets are generally used by senior individuals in companies and heads of state, I would imagine that GDP growth is a sensible proxy. This would indicate that demand will grow most strongly in regions such as Asia and the Middle East. However, I've also read that the number of high net worth individuals is increasing very rapidly. So maybe you need to put a multiplier on GDP to reflect this and get an accurate growth rate. Say somewhere between 1.5 and 2.5 times GDP.

**The actual forecast growth for business jet MRO demand is about 7%, so taking something in the middle at twice GDP growth will be equivalent to this. What specific factors might impact steady demand development?**

In times of recession, you would expect there would be a lot more pressure on demand, particularly for corporate users who need to control costs. So demand would follow a more cyclical pattern over the periods of recession and growth. Of course, this is all volume demand. Price development will be affected by the competitive intensity of the market.

### Question 3 – Now seems a sensible time to assess the competitive intensity of the market then. There are currently five major MRO providers, each with a 20% market share.

The industry seems pretty fragmented, with no real dominant company. This implies that the market place will be relatively competitive, putting some pressure on prices and therefore margins.

As for the customers, I imagine there are some companies that have a fleet of business jets that they charter out. If this is a sizeable operation, then they may already have internal MRO operations. Of course some business jets may be tied to long term contracts with existing MRO providers. However, I think the majority of customers would be open to using any MRO provider that offers the correct level of service, reliability and quality at the necessary pricing point.

Within the market, I can't really imagine any direct substitutes and suppliers are likely to offer parts at a fixed aftermarket price. In addition, there are pretty high barriers to entry. You would need hanger facilities at an airport, highly trained personnel and a significant pool of spare parts, which would collectively require a lot of investment. So all these factors make this an attractive market to be established in, if you are able to overcome these barriers to entry.

To conclude, at an annual value of USD 1.25 bn and 7% volume growth rate, the business jet MRO market seems worthy of entry. The competitive situation indicates there will be no dominant player. However, with the high volume growth, you could rapidly improve market share organically. I would therefore recommend entering this market to the CEO.

### Question 4 – So, we've decided that this is a good market to enter. What are the potential entry methods available?

Well, they could use the funds to set up their own business from scratch, or they could acquire an existing business. They could also form some kind of joint venture.

**What kind of companies might they form a joint venture with?**

The obvious choice would be with an existing MRO provider. They could use the funds to expand existing operations, product offering or geographic location. However, another option would be to form a joint venture with a business jet operator that already has a maintenance facility and is looking to expand. This would provide an initial captive market base for the business, guaranteeing an initial source of revenues. The downside of this is that margins are likely to be lower with the JV partner, due to the greater transparency they have on your costs.

**Previously you mentioned either setting up or acquiring a business. What are the advantages and disadvantages of these options?**

Setting up a business offers the highest risks and returns. You start with no technical skills in the sector, need to establish a base of operations and acquire market share from competitors. But you do get to keep 100% of your profits. If EuroCarrier has existing maintenance facilities, these could be used.

With acquiring, you already have an existing operation with existing customers. However here the issue is that there might not be any suitable companies available for acquisition, and even if there are, you need to ensure that you are not overpaying for them.

**So if you had to recommend one of these options to the CEO, which would it be?**

I think I would go with one of the joint venture options – the one with an existing business jet operator. Here there is already an existing customer and skill base, so that right from the beginning the focus can be on expansion, rather than worrying about things such as gaining technical skills and setting up a base of operations. Unlike acquiring a company, there will be fewer issues with valuation, loss of senior management and integration. In addition, from the perspective of mitigating risk, a JV offers an easier exit route from the market, if and when required.

# Case 2 – Advising a client on acquiring a player in the personal protection equipment market

NOTE: Text in this typeface represents the interviewer's questions/comments and plain text represents the interviewee's responses.

## Introduction

Our client is considering whether to invest in Safety Co., a company that manufactures equipment that protects workers' eyes and faces, such as safety goggles and masks. The Eye & Face market for protection equipment grew at 5% p.a. before the economic downturn. Safety Co. has a strong reputation for providing reliable equipment and has a good safety record. Its turnover is USD 200 m which is split 60-40 between North America and Western Europe.

The client has asked Roland Berger to perform an outside-in review of Safety Co.'s position within the market in which it operates to assess the plausibility of the investment.

## Question – How would you go about assessing whether this would be a plausible investment for our client?

I would use the following structure to investigate the attractiveness of the market, in order to answer this question from an outside-in perspective:

1) Determine the market drivers for Eye and Face protection equipment
2) Understand the growth prospects for the market in order to assess how attractive it is – to do so, I would look at how the volume and price might develop over the coming years
3) Gain insight into the competitive positioning of Safety Co. within the market – this analysis would allow me to understand whether Safety Co. will be able to increase its market share or if its position is under threat
4) Understand the opportunities and risks of entering into this market

Fine, that makes sense.

Now, I would look at each of these areas in more detail, starting with the market drivers.

I would assume that the two sectors with the largest demand for Eye and Face protection equipment in North America and Western Europe are:

- Construction – as workers need to be equipped with safety kit when on site
- Manufacturing – factory workers will need protective equipment in industries such as car manufacturing

I would not consider other usage such as laboratories etc at this stage

First, with regards to volume, I would expect Eye and Face protection equipment demand to be driven by:

1) Number of users of new equipment in the construction and manufacturing sectors – this is driven primarily by employment, i.e. number of workers. Construction companies or factories buy more equipment as a result of expansions, which would be linked to the economy as a whole. Therefore, we can look at economic indicators such as manufacturing and employment indices as proxies.

   Additionally, I would expect regulations to play an important role in driving demand for protective equipment. Regulatory changes might mean that certain activities require safety equipment, when previously they did not.

2) Replacement equipment in the construction and manufacturing industries. I think this has two drivers – firstly, worn-out equipment that needs to be replaced, and secondly, regulatory standards which might stipulate that equipment has to be changed after a certain time period. Regulations might also change, resulting in a need to replace equipment of a certain design quickly.

Good start, why don't you expand on those?

Ok, well, looking at new equipment first, I think it is a fair assumption that for any new construction project new equipment will be bought.

Yes, fair assumption.

With factories, new kit will be required if there is expansion, such as a new production line opening. I imagine most demand will come, however, from the need to replace worn-out equipment.

I know that regulators from time to time will recommend new designs or specifications for equipment. When this happens, users of this equipment will need to replace their kit to meet these standards.

Secondly, looking at replacement equipment, this will be required because equipment is lost or broken (for example, dropped and damaged at a building site) or because it is worn out. It is probably a good assumption that the type of equipment that Safety Co. makes has a useful life of one to two years. Additionally, I would expect there are regulations governing the useful life of equipment.

Good – those all seem to be sensible drivers of volume.

The second market driver is pricing which I would break down into two categories: unit pricing and the product mix in the market.

Unit pricing will be mainly impacted by the degree of competition in the market. As for the product mix, customer demand for premium vs. basic equipment is likely to be a factor of quality requirements, cost constraints or fashion may also be a factor, particularly in the case of safety goggles.

Yes, it is important to consider what factors influence pricing. Given the market drivers which you identified, what do you think are the growth prospects of the Eye and Face equipment market?

I will go through the list of market drivers to explain how they might develop going forward.

Firstly, looking at new equipment, while there has been a sharp decline in construction projects and manufacturing output during the recession, I think with the recovery there will be increased demand for safety equipment. This might rise with accelerating pace as companies expand their capacities; for example in the automotive sector. An additional point that may explain recent decreases in sales is “destocking”: there may be wholesalers and intermediaries in the market who reduced their inventory during the downturn. This could provide an additional “one-off” boost to sales once the recovery is underway.

Looking at replacement equipment in factories, I would assume this will stay constant unless there are regulatory changes that require a faster replacement cycle.

In terms of pricing, I think there might be a slight shift in the product mix as companies look for cheaper, non-branded products when it comes to basic Eye and Face safety equipment. But I assume that given the importance of quality, the demand for premium products will stay more or less stable especially when it comes to more sophisticated Eye and Face items. Therefore, there might be some slight pressure on price over the next two years, meaning that we are unlikely to see any significant price rises or shifts towards premium products.

To conclude, I would expect the need for new equipment to be the main growth driver pushing up demand over the coming 2-3 years as the economies in Western Europe and North America recover. I would assume that growth would be higher than growth before the economic crisis as the construction and manufacturing sectors expand their capacities. However, this will be slightly pushed down by price pressures. For these reasons and given that the growth per annum was 5% pre-crisis, I would say the growth post-crisis will probably be somewhere between 5-7% p.a.

Yes, all good points. Let’s talk about Safety Co.’s competitive positioning in the market now.

Fine, I will now move on to examine Safety Co’s position in the market. To do so, I would like to understand the company’s current market share and how that will change in the future. Future change in market share could be determined by:

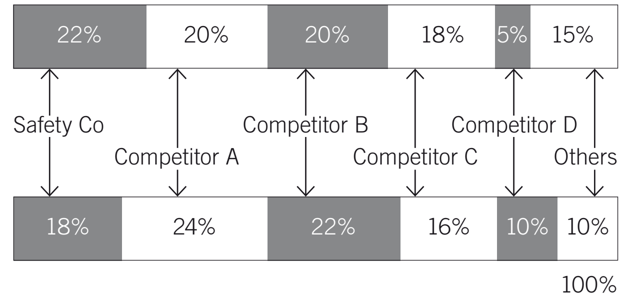
- Market structure – what is the intensity of competition in the market?
- Barriers to entry – is there a threat of new players entering the market?
- Threat of substitution

Can you give me any information on the market share and competitive positioning of the company in the Eye and Face market segment in North America and Western Europe?

This diagram shows Safety Co’s market share in North America and Western Europe.

**Figure 1: Eye & Face, market share by revenue, 2009**

**N. America**




**W. Europe**

Thank you. From this diagram, we can see that the market is fairly consolidated with the top five players accounting for more than 85% of revenues in both North America and Western Europe. This suggests that there are likely to be barriers to entry possibly due to technology/innovation requirements – the threat of new entrants looks likely to be low.

Also, we can see that Safety Co. has the largest market shares in North America by a small margin, and the third largest in Europe. This implies that Safety Co. has a strong brand reputation but is competing very closely with the other major players, and therefore any market share increases will most likely be generated through innovation advantages.

Considering the market, I would assume there would be no major substitutes for the Eye and Face protection equipment.

The fact that Safety Co. is well established and has a good reputation for safety is valuable, because buyers will look for premium goods when it comes to specific pieces of equipment, such as safety goggles, as safety is an area where some businesses will not want to cut corners.

However as discussed earlier, for certain products, as buyers’ budgets are squeezed, they may prefer to go for cheaper, white label alternatives to save costs. To take advantage of this trend, it might be a good idea for Safety Co. to set up an alternative, white label business, to run along side its branded business.

Therefore it seems to me that from a competitive positioning perspective, Safety Co. is in a strong position, with good market share, low threat of new entry and few or no substitute products. In the future, I would expect Safety Co’s market share to be driven by its capability to innovate, and also I think it might face some pressure from private label businesses as customers seek cheaper products in certain segments.

OK, sounds good.

Having examined the growth prospects and Safety Co's competitive position, I need to look at the key opportunities and risks that face Safety Co. I think the main opportunities are:

- Development of business in emerging markets where the manufacturing and construction industries are growing rapidly
- Acquisition of smaller competitors to capture a larger share of the market
- Enhancement of brand positioning – building on the strong reputation of the company

The first point might be difficult to achieve because of lower cost local competitors and local regulations.

However, given that there are several smaller players in the North American market, there may be an opportunity to acquire a smaller competitor, if the there was a good fit and financing available.

However, there are a number of key risks:

- Lagging behind industry consolidation if finance is lacking
- Slow recovery of construction and manufacturing sectors

**So given your findings, what are your recommendations to the client?**

Based on the information available, I think there is a good case for investing in Safety Co., as it seems there could be good growth prospects in the market in which it operates. Its positioning in the market seems to be strong in both North America and Western Europe. The possibility of further international expansion offers further upsides, although more analysis would be needed to verify this potential opportunity.

However, further analysis will be required to make a more conclusive recommendation. In addition to the outside-in view of the market, we would need to work with Safety Co. to understand:

- Its profitability and costs compared to its peers
- Its management team and approach
- Its suppliers and customers

**Those are all sensible conclusions, well done.**

# The Boston Consulting Group Cases for Practice

## The Boston Consulting Group

BCG
THE BOSTON CONSULTING GROUP

## Medical software industry case

NOTE: Text in this typeface represents the interviewee's responses and plain text represents the interviewer's questions/comments.

### Step 1: Actively listen to the case

Your client is GenCo, a large, international, diversified company with a health care division that produces a wide variety of medical instruments and related services. Five years ago, it expanded into the health care software industry by purchasing MedCount, which markets administrative systems to large U.S. hospitals. These systems are designed primarily for back-office functions; they are not designed for managing patients or providing other physician and technical support. Since it was purchased, the software division has failed to deliver the growth needed to justify the multiple GenCo paid for it. GenCo feels it has already squeezed margins as much as possible, and now is looking for new sales opportunities. MedCount turned to BCG to help identify potential ways to increase revenues. How would you approach this problem?

### Step 2: Establish your understanding of the case

First, let me make sure I understand the problem. The parent company produces medical devices and services, but before the acquisition was not involved in health care software. The company it purchased, MedCount, sells only administrative systems software to large hospitals. It is now looking for opportunities to increase revenues.

That is correct.

Could I take a moment to jot down a few thoughts?

Sure, that would be fine.

### Step 3: Set up the framework

I would suggest using the following framework: First, I'd want to understand the market size and growth rates for MedCount's market and related software markets. Next, I would like to explore the competition and their market shares. Third, I would like to examine customer requirements and then, given those external conditions, look at the division's capabilities to understand how well prepared it is to meet the needs of the marketplace.

That sounds fine. So what do you want to know about the market?

### Step 4: Evaluate the case using the framework

Well, the first hurdle would be to identify the markets the company would be interested in. Besides administration

systems, what other types of medical software systems do large hospitals purchase?

There are many software systems, but for the sake of time, the team focused on three primary markets: administration systems, patient administration, and physician support systems.

**What do those systems do?**

Patient administration includes systems like admissions and tracking. Physician support systems are more specialised, for individual physician procedures.

**I would like to know how large each market is and how fast each is growing. I would use secondary sources such as press releases, analyst reports, and published market studies, to obtain this information.**

Great! That is what we did during the market study. Our information revealed the following market sizes and growth rates.

| | Administration | Patient administration | Physician support |
|---|---|---|---|
| Market size ($M) | 1,500 | 1,000 | 1,200 |
| Growth rate | 5% | 5% | 12% |

**From a size and growth perspective, physician support systems look like a very attractive market. I'd like to know a little about the customers themselves. The client is currently targeting large hospitals. Approximately what percentage of the market do they represent?**

We were unable to get an exact breakdown, but we know that these hospitals make up the vast majority of the total medical software market.

**That would make sense, since the more sophisticated procedures at a hospital might necessitate more advanced software solutions. I know that there have been a lot of changes in the industry as a result of managed care. I don't know much about the industry, so I would want to look at market studies and press clippings to get a better sense of the hospital market in general and any technology or software trends more specifically.**

Okay. Let's say that you did that and were presented with this summary of market trends:

- Consolidation in the industry, with three to four large hospital networks dominating 45 percent of the market
- Cost controls instituted, particularly as these large hospital networks acquire smaller hospitals (centralisation of functions being a key cost issue)
- Many hospitals seeking to consolidate their vendor base With regard to technology, many hospitals upgrading their older systems

**If hospitals are consolidating vendors, perhaps our client has an advantage in being part of a larger medical company. Maybe the client could also gain some advantages by expanding into other software segments. Are the people responsible for purchasing software at the hospital the same for all three segments?**

Like all things, it differs by hospital, but the larger hospital networks have tried to consolidate their purchasing not only within but also across hospitals.

**Is the decision maker for medical software the same as for medical instrumentation and devices?**

In some cases, the head of purchasing influences both decisions, but the person who makes the final choice is different. Software decisions are usually made by the hospital IT function, and those for instrumentation by the medical staff.

**I think I have a pretty good understanding of the market for now. Let's look at competition next. We could identify all the competitors and build up the market shares using a combination of public data and estimates.**

Well, let's assume that you don't have an infinite amount of time to look at all the competitors. You can only look at the top five competitors in each market. You are given the following data:

| **Administration Systems** | **Sales ($M)** | **Growth (%)** |
|---|---|---|
| MedCount | 700 | 4% |
| HCS Software Systems | 100 | 7% |
| Morningside Software | 80 | 3% |
| Admin Systems Solutions | 70 | 2% |
| HTI Software | 50 | 15% |
| **Patient Administration** | | |
| HTI | 300 | 5% |
| Registration Software Solutions | 240 | 4% |
| Signup Software | 60 | 3% |
| HCS Software Systems | 30 | 16% |
| Patient Software | 20 | -1% |
| **Physician Support** | | |
| HCS Software Systems | 150 | 16% |
| Physician Support Systems | 100 | 11% |
| Medical Technology Inc | 25 | 18% |
| HTI | 20 | 32% |
| MedSys | 5 | 15% |

**Very interesting. The first thing I would note from the data is that the market concentrations are very different. In administrative systems, the top five competitors control 66 percent of the market and in patient administration, they control 65 percent. But in the physician support market, they control only 25 percent.**

I would want to know what gross margins look like in each of these markets as well. I might turn to analyst reports and look at competitors' financial statements to deduce whether they are making money in each market.

Gross margins vary, of course, but the analyst reports have margins of 25 to 30 percent for administrative systems and for patient administration. For physician support, the margins tend to be higher, more like 45 to 50 percent.

I see that two competitors, HTI and HCS Software Systems, have very large revenue growth in all three sectors, although they each dominate one. I would want to look at their financials, annual reports, and press releases to find out a bit more about their strategy in each of these areas.

You'd find that they recently entered these non-core markets. Why might they have done that?

Perhaps, like our client, each had a strong position in its own segment, HTI in patient administration and HCS Software Systems in physician support. Maybe they too decided to branch out into the other segments to find additional growth.

That is a very good hypothesis. Let's say there is evidence in the sources you consult that supports your assertion.

Well, if that were true, these two companies could be a threat not only in the other two segments, but also in our client's segment, administrative systems. It looks as if the client is slowly losing market share in its segment, since it is growing more slowly than its market.

The market and competitor trends could also suggest that the client may want to enter these other markets. In particular, the physician support market looks attractive; given it has high growth and lack of a dominant competitor. The higher gross margins may provide attractive returns on the necessary investment in software development. However, the patient administration market may also be attractive. Although it is more concentrated and offers lower margins than physician support, the client may be able to enter this segment with a smaller up-front investment. Given the trend toward upgrading existing computer systems, it may be important for MedCount to have a product offering in each of the three market segments. That should not be too difficult, since the company is already in the software industry.

Perhaps, but you should think a little more closely about these types of software. Are all software systems alike?

Well, let me think about that for a moment. I suspect patient administration would have relatively low entry barriers. From your earlier description, these systems appear to be pretty basic, dealing primarily with admissions and patient tracking. However, the entry barriers in physician support might be higher, since these systems are more complex and there are probably multiple systems for the various physician procedures. I guess it would be harder to get into those types of systems.

That would make sense.

Since the company might want to go into only some of the segments, I would want to know how important it is to have products in all three segments. Do we know if the competitors are marketing their products as a bundle?

How might you find that out?

Since it would be difficult to talk to a competitor directly, I would probably target a competitor's customer, particularly one that just converted from our client's software.

Let's say you get an interview with a customer that recently switched to HTI. You discover that the competitor was offering it a better pricing deal and service for software products in all three segments.

How were MedCount's software and service perceived in relation to those of competitors?

The customer thought that its administrative systems were adequate, "the old standby," but not stellar.

Were there any other key reasons it switched from MedCount's system?

When it decided to upgrade its systems, it tried to contact MedCount, but could never get a representative to describe its options.

Interesting. How did HTI perform?

The HTI representative had heard that the company was considering switching software vendors and provided a sales representative to pitch HTI's administrative product the next day.

It definitely sounds as if there was a problem with the sales function and that customer relations need to be improved, particularly for the larger hospital chains. There also seems to be an advantage from both a marketing and sales perspective in having multiple software products. I would want to confirm those views by doing further interviews.

Let's say further interviews support those assumptions.

Since we have already looked at the external conditions, I would like to move on to the client itself. I'd like to know more about its marketing and selling organisation as well as its software development skills.

So far, we know that our client offers administrative software and that there may be a problem with sales and marketing. Could you tell me a little about the marketing department?

The marketing department is organised regionally. Teams are assigned to hospitals within each state or geographic region, such as New England.

That could explain some of the problems with MedCount's marketing and sales. If hospital purchasing is centralized, the marketing organisation may be outdated. Does the company have any teams dedicated to the four or five biggest hospital networks?

No, there are no dedicated teams. They talked about doing that for a while, but it conflicted with the regional structure it had in place.

With regard to software, does the company feel it has any strengths or weaknesses?

It feels that their administrative product is very strong ("best of breed") and is the dominant technology. Also, the product is modular in design, which allows for easier upgrades. Although the company has never branched out into other market segments, the software developers believe that certain modules could be used to build the foundation for other administrative software programmes. The company feels customer support is also an area in which it excels.

### Step 5: Summarise and make recommendations

Let's start with our client's market. The client dominates the administrative software market, which is fairly large but growing slowly, and the company appears to be slowly losing market share. Patient administration is also growing relatively slowly. Both markets are relatively concentrated and appear to offer lower margins than physician support. The physician support market is large and less concentrated, and could potentially provide higher margins, but would require a larger investment. The hospital market itself is becoming more concentrated and is pushing to consolidate vendors. The purchasing agent is often the same for the three types of software.

Looking at our client's competitors, two, HTI and HCS Software Systems, appear to be particularly threatening. Each has a dominant position in one segment and is branching out into other areas. They appear to be marketing their products and services as a bundle and are using service as a key point of differentiation.

The client offers only one type of system and appears to have some weaknesses in its marketing organisation, particularly in marketing to the larger hospital networks, which offer the most promising market opportunities.

How would you recommend proceeding?

The first priority should be to fix the marketing organisation, particularly for the large hospital networks. MedCount will have trouble expanding into new markets if it can't defend its current position and shore up its existing customer relationships. There should be a team dedicated to each of the major chains. The client should also look at improving customer tracking so that it is clear when its customers are going to upgrade. There should also be clear contacts so that the customer can easily keep in touch with MedCount.

Next, I would recommend that the client explore entering the other market segments by leveraging its dominant position in administrative systems. At first glance, patient administration does not appear to be very attractive, with slow growth, low margins, and large, dominant competitors. There appears to be some advantage, however, in having products across the product range. I would recommend that we interview some of MedCount's existing customers to better understand their needs and future IT requirements. If the customer base is interested in one software provider for both back-office administration and patient administration functions, this segment looks promising.

If the client does decide to enter this market, it should look at the lowest-cost method of entry, either developing a product internally or acquiring a competitor. The modular design of its existing administrative software suggests internal development of the patient administration product may be the way to go, but we would need a more thorough comparison of the internal development and acquisition options, including both cost and time to market. I think that physician support offers our client an exciting growth opportunity, given its high margins, high growth, and fragmented competition. I would definitely think about an acquisition strategy, since the client may lack the technical capabilities to enter this specialised market. I would recommend going for one of the larger companies, as that would give the client a stronger position. Smaller companies would probably not offer an important enough position in the market. More research would be needed, however, for us to better understand the intricacies of the market and each potential acquisition.

## Jet fighter manufacturing case

### Step 1: Actively listen to the case

Your client is a U.S. defence contractor that manufactures the Mohawk Light Fighter Jet for the British Royal Air Force. The company has produced the $20 million fighter jet for the past 12 years. The British government has decided to put the contract out to bid, however, and to win the programme, the client's purchasing agents have estimated, the company will need to cut its costs by 5 percent. It has asked BCG to help it reduce costs.

### Step 1: Establish understanding of the case

Let me first clarify the question. The client manufactures a $20 million jet and, because of competitive forces, has to reduce its cost by 5 percent. Is BCG's role also to verify the purchasing department's estimate?

No, you can assume that the purchasing estimate is correct. BCG's role is to find the cost savings to meet that estimate.

Could I take a few minutes to think about the case?

Sure, please do so.

### Step 2: Set up the framework

First, I would like to understand the cost structure of the jet to see what we should look at first. Next, I would like to look at major factors driving the costs we are targeting. Finally, I would like to explore potential ideas to reduce cost.

That sounds like a very logical approach. Let's proceed.

### Step 3: Evaluate the case using the framework

Because the time for the interview is limited, I think we should try to identify those areas most responsible for the cost of the jet.

Time is limited on real projects as well, so I think that would be a good idea! You have the following cost information for the jet. How would you interpret it?

| Cost | Category | Item |
|---|---|---|
| 2,000 | **Profit** | |
| 1,100 | **Overhead** | Engineering, other C&A |
| 1,200 | | Corporate Overhead |
| 1,200 | | Program management |
| 900 | **Manufacturing** | Depreciation |
| 800 | | Indirect labour |
| 1,800 | | Direct labour |
| 1,000 | **Materials** | Raw material |
| 2,000 | | Compounds |
| 8,000 | | Purchased subassemblies |

(Scale: 0% – 20% – 40% – 60% – 80% – 100%)

The major cost driver for the jet appears to be purchased materials. Within manufacturing, direct labour is a fairly large component of cost, as are programme management and corporate overhead within overhead. I think we would want to concentrate most on materials, however, since that's where most of the costs can be found.

That sounds like a good place to start. Where would you look within materials?

I see that materials are broken down into purchased subassemblies, components, and raw materials. I understand what raw materials would be, but what would be the difference between components and subassemblies?

A subassembly functions on its own. An example is the pilot night vision system. A component is a smaller part, such as a part of the engine.

I know that governmental agencies often have very strict guidelines about purchasing that could affect the cost of materials.

For the sake of this case, you can assume that the British Ministry of Defence, MOD, allows "commercial off-the-shelf" purchases, which means that the client is free to purchase from whomever it wants, as long as it can ensure that the parts meet MOD quality guidelines.

I see that purchased subassemblies comprise more than 70 percent of materials. How many suppliers are there for these subassemblies?

There are seven suppliers of major subassemblies that go into the fighter jet.

That seems like a relatively small number. Are there more suppliers that are qualified to do this type of work?

The manufacture of these parts requires a substantial investment in R&D, engineering, and infrastructure. It would be very costly for new suppliers to make the required investment, particularly if the client is trying to reduce the price it pays to the subassembly manufacturers.

Since there are only a few subassembly suppliers, and the investment hurdle would preclude bringing in competing manufacturers, it would be difficult to reduce the price paid. Perhaps we should look elsewhere for savings.

But remember, if your client loses the contract, the subassembly supplier will lose its customer unless it is teamed with the competing bidder. Even then, if the competitor is underbidding your client, there will be even less room for it to profit.

Perhaps it would have an incentive to reduce its costs in order to maintain the contract. Are the majority of its costs in materials as well?

How could you find that out?

I would want to interview the purchasing and engineering personnel of the different subcontractors in order to understand their cost structures. If we had a better understanding of their economics, our client might be able to reduce cost across the board, allowing it to compete more effectively for the contract without killing everyone's margins.

Let's say that purchased materials average approximately 70 percent of the price paid to most of the manufacturers.

If the cost of subassemblies represents 40 percent of the jet cost and 70 percent of that is purchased materials, total purchased materials would be approximately 28 percent of the cost for subassemblies. Purchases of raw materials and components represent another 15 percent, for a total of around 43 percent of the cost of the jet. If our client could reduce the cost of raw materials by 20 percent, it could reduce the cost of the jet by more than 8 percent, more than enough to offset the 5 percent reduction it would need to win the contract.

That sounds reasonable, but 20 percent is a very lofty goal. How would you go about that?

First, I would look at the number of suppliers. Are there a large number of suppliers to the subassembly manufacturers?

The client estimates that there are approximately 125 suppliers of raw materials and components among the manufacturers of the subassemblies and itself.

Well, that sounds like a large number of suppliers. Of course, they could be providing very specialised materials to the subassembly manufacturers. Are these suppliers providing customised or more commodity products?

About 80 percent of these products are commodities, such as sheet metal and wire harnesses. Even some of the electronics, such as printed wire boards and circuitry, are fairly generic.

That sounds promising, but I would need to know whether these commodities are interchangeable, so that our client could concentrate spending with fewer suppliers. Are there many commonalities among the parts used by the different subassembly manufacturers? We could talk to their engineers and look at the designs and bills of material to determine how much overlap there is.

Let's say that you did this and discovered that approximately 30 percent of the cost of raw materials is from similar materials used across the subassembly manufacturers.

It seems safe to assume that the client would need more commonality to be successful in concentrating its purchasing and reducing costs. Do the engineers believe that the percentage of overlap could be increased if the designs were modified?

They believe they could increase that percentage substantially, particularly with basic materials such as screws and sheet metal, but also in other more customised areas.

That's great news, but we would still need to know whether the subcontractors are using the same suppliers. We could analyse the number of suppliers for each of the areas of overlap.

Good suggestion. Although there are some common suppliers, the analysis indicates that the subassembly manufacturers tend to use different suppliers.

## Step 5: Summarise and make recommendations

Our client needs to reduce costs by 5 percent. The largest area of opportunity appears to be in purchased materials, the majority of which comprise subassemblies manufactured by seven subcontractors. By looking at its purchases in total, the client can target approximately 40 percent of costs. To achieve the 5 percent cost reduction, it would need to reduce costs by 15 to 20 percent. It could try to do that by increasing commonality in the design of the subassemblies and components and by shifting volume to a smaller number of suppliers.

Considering that the majority of the raw materials and components are purchased commodities, do you think the 15-20 percent cost reduction is achievable?

Well, I know that commodities typically have lower margins than more customised products. I suspect it may be challenging to hit the client's savings target by focusing only on these purchases. But since raw materials and components represent about 40 percent of costs and there is an opportunity to concentrate purchasing, I think we should start here.

Where else could you look for savings?

If I look back at the cost data on the jet, direct labour is another large cost component. As a contingency, we could look into that area as well. I've read that other companies use outsourcing to lower their manufacturing costs-perhaps our client could do the same. For example, it might want to increase its use of purchased subassemblies and reduce the amount of direct manufacturing it does. Of course this would work only if it could drive direct labour costs below the offsetting cost of these subassemblies. The client will be working closely with the subassembly suppliers to implement its purchasing initiative. This may give it an opportunity to explore the suppliers' capabilities at the same time.

That's an interesting suggestion. How would you recommend the company pursue both of the initiatives you have discussed?

I would look first to combine purchases across the subassembly suppliers with our client's purchases. I suspect that the client and the subassembly suppliers will need to share a great deal of information, including engineering drawings and specifications, with potential suppliers of the raw materials and components. The Internet could prove to be a very effective medium for forming a single "virtual" purchasing department to consolidate both the flow of information and purchase orders across the companies. Our client might also want to use a bidding system for those materials that are true commodities.

Next, I would turn to the engineering departments and form cross-company teams to look for areas in which to increase commonality of design. At the same time, those teams could explore opportunities to use more purchased subassemblies and decrease the client's direct labour costs.

That sounds great, and is very similar to a project we did. I would caution you, however, to examine the upfront costs involved in your recommendations, both for the redesign and for the implementation of the purchasing system, before going ahead.

# Natural Gas Retail Case

## Client

Your client is the major operator (monopolist) in one of the largest European gas market. His business includes two major activities:

- Gas sales to households and firms (gas bought from large producers in Russia, Norway, Algeria…)
- Gas transportation from the national border, where it is delivered by the producer, to the end consumers. This implies the existence of a large ensemble of infrastructures: transportation network, distribution network, storage equipment, methane terminals…

Let's discuss the challenges on the natural gas market after market liberalisation in Europe.

## Situation

Concretely, the market's deregulation means:

- The end of the monopoly for the gas sales; the arrival of new competitors
- The preservation of the monopoly on transportation, but under the surveillance of an independent authority that guarantees equal access to all competitors

Your client is at the head of the purchases/sales department. He is in the following situation:

- Today, company market share is 100%
- At a certain point in the next few years the market will be opened to competition (which is a simplified way of putting it since in reality there will be stages)

## Client's question

About the gas sale activity that will be opened to competition

- What will be the level of competitive intensity at opening?
- What actors are likely to become my competitors?

## Evaluate the case

According to you, how many and what types of competitors are likely to enter the market?

I believe I would need to evaluate the market attractiveness (market growth, profitability/margin, risks) and the entry barriers (gas availability, brand). I would need to ask the following questions:

- What are the rules of the game/key success factors (access to suppliers, customer intimacy, cost advantages, branding ...)?
- How are other players positioned to enter the market?
- What are their competitive advantages thanks to synergies with other activities (electricity, services ...)?

Let us focus on the gas retail sale activity's attractiveness. There are three dimensions you should consider: the natural gas market's growth potential, the profitability of this activity and the risks associated with it. Let us start with the market's growth potential. What are the market's growth levers?

I would differentiate between firms and households. The key levers by client type would be:

- Households: network penetration, share of gas vs. other energies; consumption of gas/household
- Firms: same as households, plus industry growth, productivity, competitiveness with other energy forms

Given the market's main growth levers for the firms' segment and for the households' segment, do you think that the market will strongly grow, stagnate, or decrease?

For the households, I would predict the rise of penetration (network extension) but, overall, I think the consumption will decrease due to global warming and to better built houses. For the firms, I think it will decrease, especially in industries that consume a lot of gas (general price and risk issues).

So what is your conclusion?

I think there will be weak or nonexistent growth. A new entrant will have to take clients from the major player.

Can you imagine what a gas retailer's cost structure is? (turnover = 100)

I believe it would include the energy itself (cost of goods – gas), the infrastructure cost and sales and marketing costs (commercial).

Here is a simplified cost structure: gas – 50%, infrastructures – 40%, commercial costs – 7% and the margin is around 3%. What cost advantage can a new entrant expect to build for each one of these costs?

Most probably, there is a small opportunity of differentiation through costs:

- Gas is sourced at comparable prices
- Infrastructure prices are identical for all competitors
- New entrants have to invest rather more in marketing
- New entrants are not expected to have a productivity lever and only have a small pricing lever.

I would have to check these assumptions.

Let us put ourselves in the shoes of a household client whose yearly gas invoice amounts to € 500. What is the price reduction potential for a new entrant? Can you give a rough estimate?

If I assume I can reduce commercial/marketing costs by 33% (500 x 7% x 33% = 11.55) and I allow a 50% lower margin (500 x 3% x 50% = 7.5), then a new competitor can reduce the gas price around € 15–20/year (11.55+7.5=19). This might allow it to compete with the established client. Marketing costs can be reduced if the new entrant is already established in other energy markets and benefits from scale and known brand name.

What can we conclude on a new entrant's margin level?

Margin will necessarily have to be weak or nonexistent to attract clients and draw away from the established player.

Let us now consider the risks borne by our retailer. In order to simplify, let us focus on what is called the climatic risk. The sales volumes will vary a lot depending on the year, whether the winter is cold or not. During a "warm" year, let's suppose that the heating volumes decrease by 10%, that the cost of supply/gas are totally variable, that the commercial costs are totally fixed, that the infrastructure costs are partly flexible, at 70%. What will be our gas retailer's margin?

I am basing my analysis on the sales and cost structure of a normal year (turnover = 100). Then I calculate the value of each cost block for a warm year, also the margin and compare with the margin in a normal year.

Cold vs. warm
Sales: 100 vs. 90 (-10%)
______________________
Gas: 50 vs. 45 (-10%)
Infrastructure: 40 vs. 38.8 (30% of 40 is variable, makes 12, 10% reduction makes 1.2)
Commercial: 7 stay 7

Total cost: 97 vs. 90.8

Margin: 3 vs. -0.8

In a warm year, it is more expensive to sell gas, so it is a high risk business.

What can we deduce from this risk calculation?

The climatic risk is too high to justify the small margin in a normal year.

Your first meeting with your client is tomorrow morning. What can you tell him/her to answer his/her question based on the analyses that we have just done together?

Well, the market is not that attractive and new entrants are a weak threat.

Finally, it looks like our major player does not have to worry; the gas retailer activity's attractiveness is so weak that one would have to be stupid to venture in it at its opening! But why would it be a big mistake to tell our client not to worry?

We are not working on the right strategic segment: the gas retail sale segment is not independent of the electricity sale and services, as soon as the monopoly disappears. We have been influenced by the client's historical view.

In fact there is a bias in our reasoning from the start. What is it?

We have looked at the gas market on a stand-alone basis. But we need to take into account that the rules of the game might change and that other energy providers might enter the market. Those providers might offer additional products to the gas client: electricity, oil, services or other products.

Are there other levers that would enable a player to enter the gas market in a profitable way?

By offering other energy products or services and products, there can be synergies with the supply of gas:

- Channel diffusion/delivery costs
- Margins from other services can cover production risk

On the other hand, there could be cost synergies on commercialisation:

- Client back-offices could combine gas and electricity sales
- Brand and client acquisition

Who could the other new players in the gas market be?

Potential new players that bring additional value to the client could be major electricity firms, major oil producers and/or major retailers. For the electricity firms, synergies would be mainly based on the commercialisation cost synergies, also for retailers. For the oil producers, there are synergies on the supply side.

What can we finally say to our client?

The threat is real; the firm's traditional strategic vision must be questioned due to the emergence of the new market conditions and rules of the game. Examples of dangerous players are large power firms, oil producers if they don't have more profitable investments to make and a partnership between a large European energy player and a large retailer.

# Supermarket Deli Turnaround Case

## Questions and Facts

### 1. Client's deli financials

**SUPERMARKET DELI TURNAROUND**
**Exhibit 1**

| | | $M 2002 | 2003 | 2004 |
|---|---|---|---|---|
| Deli meats | Revenues | 260 | 255 | 260 |
| | COGS | 160 | 155 | 160 |
| Prepared foods | Revenues | 360 | 400 | 440 |
| | COGS | 190 | 230 | 270 |
| Overall | Revenues | 620 | 655 | 700 |
| | COGS | 350 | 385 | 430 |
| | Gross margin | 270 | 270 | 270 |

**SUPERMARKET DELI TURNAROUND**
**Exhibit 2**

| BBQ wings | | | "Made -to-order" sandwiches | | |
|---|---|---|---|---|---|
| Price | $5 | for 20 pieces | Price | $4 | per sandwich |
| Total material cost | $0.10 | per piece | Avg. sales/store | 20 | sandwiches per day |
| Prep time | 15 | minutes per batch of 200 | Total material cost | $2 | per sandwich |
| Employee cost | $20 | per hour (fully loaded) | Employee cost | $20 | per hour (fully loaded) |
| Total COGS | $2.50 | per 20 pieces | Dedicated hours | 4 | hours per day |
| Margin | $2.50 | per 20 pieces | Revenue | $80 | per store per day |
| | | | Total COGS | $120 | per store per day |
| | | | Margin | $(40) | per store per day |

Note: Boxes indicate figures that should be calculated by the interviewee

### 2. Overall industry/ customers

Deli meat category has been flat to slightly declining recently. Prepared foods category has been growing at roughly 10% per year as people have less time to cook at home.

### 3. Competitors

Increasing competition from deli departments of other supermarkets, discounters, etc. – e.g., expanding product lines, increasing advertising. Also competes with fast food restaurants in prepared foods category.

### 4. Client's product mix and recent events

Mix has remained constant, with the exception of two products introduced a couple of years ago – BBQ chicken wings and "made to order" sandwiches. Both products have been a major boost to prepared foods revenue.

### 5. Info on new products

BBQ wings are similar to the chicken wings the company already sells, although they take a little longer to fry and are tossed in BBQ sauce after frying. "Made to order" sandwiches is client's response to Subway, etc. – for two hours during lunchtime and two hours during dinnertime, one employee's sole task is to make sandwiches to order for customers.

### 6. Financials of new products

Revenues for each product are $40M annually. Costs are not broken down at the product level.

## Framework and Analysis

There are three main questions asked to the candidate:

- Which part of the business is responsible for the lack of profit growth – deli meats, prepared foods, or both?
- Is the lack of profit growth caused by flat revenues, increasing costs, or both?
- What is causing the flat revenues or increasing costs (and what should the client do)?

Based on Exhibit 1, the candidate will see that gross margins for both business lines are flat. Furthermore, deli meat sales have been basically flat while prepared foods sales have been growing at 10%.

The candidate should recognise that the client's deli meat and prepared food sales have been growing at about the category averages; therefore, revenues are not the main issue here. Deli meat COGS have been more or less flat, mirroring sales. However, despite robust growth in prepared food sales, prepared food profits have been flat, implying deteriorating margins.

At this point, the candidate is asked for some potential reasons for deteriorating margins (e.g., change in product/sales mix, rising material costs, rising labour costs).

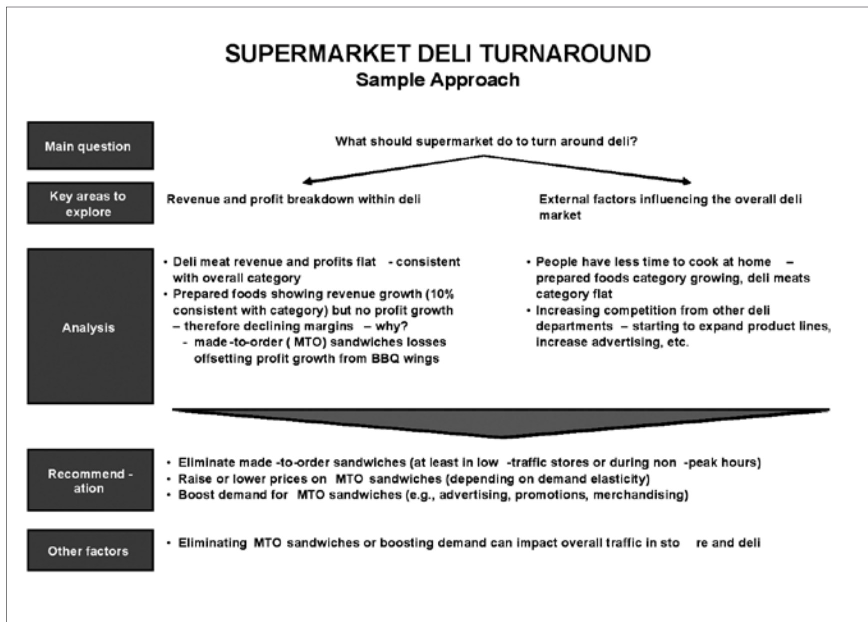
If the candidate asks about changes in product mix, the interviewer informs him/her about the BBQ chicken wings and the "made to order" sandwiches. The candidate should be suspicious at this point and ask to learn more about these products.

By doing a back-of-the-envelope analysis of product profitability (based on data in Exhibit 2), the candidate can find that BBQ wings have a 50% margin, indicating that they are not a problem. On the other hand, he/she will find that the client is losing a lot of money on the "made to order" sandwich concept.

The candidate is then asked for recommendations, which could include:

1) Eliminating the “made to order” sandwich
2) Restricting the “made to order” sandwich to busier stores or during busier times of the day (e.g., lunch hours only)
3) Raising or lowering prices (to either increase profit per sale or units sold – will depend on demand elasticity)
4) Boost demand (through increased advertising, promotions, better merchandising, etc.).

The candidate can also consider the second-order effects of eliminating the product or boosting sales (the effect on traffic in the deli and the overall store).



# Discount Retailer Case

## Step 1: Actively listen to the case

Your client is the largest discount retailer in Canada, with 500 stores spread throughout the country. Let's call it CanadaCo. For several years running, CanadaCo has surpassed the second-largest Canadian retailer (300 stores) in both relative market share and profitability. However, the largest discount retailer in the United States, USCo, has just bought out CanadaCo's competition and is planning to convert all 300 stores to USCo stores. The CEO of CanadaCo is quite perturbed by this turn of events, and asks you the following questions: Should I be worried? How should I react? How would you advise the CEO?

## Step 2: Establish understanding of the case

**So, the client, CanadaCo, is facing competition in Canada from a U.S. competitor. Our task is to evaluate the extent of the threat and advise the client on a strategy. Before I can advise the CEO I need some more information about the situation. First of all, I'm not sure I understand what a discount retailer is!**

A discount retailer sells a large variety of consumer goods at discounted prices, generally carrying everything from housewares and appliances to clothing. Kmart, Woolworth, and Wal-Mart are prime examples in the U.S.

## Step 3: Set up the framework

**Oh, I see. Then I think it makes sense to structure the problem this way: First, let's understand the competition in the Canadian market and how CanadaCo has become the market leader. Then let's look at the U.S. to understand how USCo has achieved its position. At the end, we can merge the two discussions to understand whether USCo's strength in the U.S. is transferable to the Canadian market.**

That sounds fine. Let's start, then, with the Canadian discount retail market. What would you like to know?

## Step 4: Evaluate the case using the framework

**Are CanadaCo's 500 stores close to the competition's 300 stores, or do they serve different geographic areas?**

The stores are located in similar geographic regions. In fact, you might even see a CanadaCo store on one corner, and the competition on the very next corner.

**Do CanadaCo and the competition sell a similar product mix?**

Yes. CanadaCo's stores tend to have a wider variety of brand names, but by and large, the product mix is similar.

**Are CanadaCo's prices significantly lower than the competition's?**

No. For certain items CanadaCo is less expensive, and for others the competition is less expensive, but the average price level is similar.

**Is CanadaCo more profitable just because it has more stores, or does it have higher profits per store?**

It actually has higher profits than the competition on a per-store basis.

**Well, higher profits could be the result of lower costs or higher revenues. Are the higher per-store profits due to lower costs than the competition's or the result of higher per-store sales?**

CanadaCo's cost structure isn't any lower than the competition's. Its higher per-store profits are due to higher per-store sales.

**Is that because it has bigger stores?**

No. CanadaCo's average store size is approximately the same as that of the competition.

**If they're selling similar products at similar prices in similarly-sized stores in similar locations, why are CanadaCo's per-store sales higher than the competition's?**

It's your job to figure that out!

**Is CanadaCo better managed than the competition?**

I don't know that CanadaCo as a company is necessarily better managed, but I can tell you that its management model for individual stores is significantly different.

**How so?**

The competitor's stores are centrally owned by the company, while CanadaCo uses a franchise model in which each individual store is owned and managed by a franchisee that has invested in the store and retains part of the profit.

**In that case, I would guess that the CanadaCo stores are probably better managed, since the individual storeowners have a greater incentive to maximize profit.**

You are exactly right. It turns out that CanadaCo's higher sales are due primarily to a significantly higher level of customer service. The stores are cleaner, more attractive, better stocked, and so on. The company discovered this through a series of customer surveys last year. I think you've sufficiently covered the Canadian market-let's move now to a discussion of the U.S. market.

**How many stores does USCo own in the U.S., and how many does the second-largest discount retailer own?**

USCo owns 4,000 stores and the second-largest competitor owns approximately 1,000 stores.

**Are USCo stores bigger than those of the typical discount retailer in the U.S.?**

Yes. USCo stores average 200,000 square feet, whereas the typical discount retail store is approximately 100,000 square feet.

**Those numbers suggest that USCo should be selling roughly eight times the volume of the nearest U.S. competitor!**

Close. USCo's sales are approximately $5 billion, whereas the nearest competitor sells about
$1 billion worth of merchandise.

**I would think that sales of that size give USCo significant clout with suppliers. Does it have a lower cost of goods than the competition?**

In fact, its cost of goods is approximately 15 percent less than that of the competition.

**So it probably has lower prices.**

Right again. Its prices are on average about ten percent lower than those of the competition.

**So it seems that USCo has been so successful primarily because it has lower prices than its competitors.**

That's partly right. Its success probably also has something to do with a larger selection of products, given the larger average store size.

**How did USCo get so much bigger than the competition?**

It started by building superstores in rural markets served mainly by mom-and-pop stores and small discount retailers. USCo bet that people would be willing to buy from it, and it was right. As it grew and developed more clout with suppliers, it began to buy out other discount retailers and convert their stores to the USCo format.

**So whenever USCo buys out a competing store, it also physically expands it?**

Not necessarily. Sometimes it does, but when I said it converts it to the USCo format, I meant that it carries the same brands at prices that are on average ten percent lower than the competition's.

**What criteria does USCo use in deciding whether it should physically expand a store it's just bought out?**

It depends on a lot of factors, such as the size of the existing store, local market competition, local real estate costs, and so on, but I don't think we need to go into that here.

**Well, I thought it might be relevant in terms of predicting what it will do with the 300 stores that it bought in Canada.**

Let's just assume that it doesn't plan to expand the Canadian stores beyond their current size.

**OK. I think I've learned enough about USCo. I'd like to ask a few questions about USCo's ability to succeed in the Canadian market. Does USCo have a strong brand name in Canada?**

No. Although members of the Canadian business community are certainly familiar with the company because of its U.S. success, the Canadian consumer is basically unaware of USCo's existence.

**Does CanadaCo carry products similar to USCo's, or does the Canadian consumer expect different products and brands than the U.S. discount retail consumer?**

The two companies carry similar products, although the CanadaCo stores lean more heavily toward Canadian suppliers.

**How much volume does CanadaCo actually sell?**

About $750 million worth of goods annually.

**Is there any reason to think that the costs of doing business for USCo will be higher in the Canadian market?**

Can you be more specific?

**I mean, for example, are labour or leasing costs higher in Canada than in the U.S.?**

Canada does have significantly higher labour costs, and I'm not sure about the costs of leasing space. What are you driving at?

**I was thinking that if there were a higher cost of doing business in Canada, perhaps USCo would have to charge higher prices than it does in the U.S. to cover its costs.**

That's probably true, but remember, CanadaCo must also cope with the same high labour costs. Can you think of additional costs incurred by USCo's Canadian operations that would not be incurred by CanadaCo?

**USCo might incur higher distribution costs than CanadaCo because it will have to ship product from its U.S. warehouses up to Canada.**

You are partially right. CanadaCo has the advantage in distribution costs, since its network spans less geographic area and it gets more products from Canadian suppliers. However, since CanadaCo continues to get a good deal of products from the U.S., the actual advantage to CanadaCo is not great-only about two percent of overall costs.

**All this suggests that USCo will be able to retain a significant price advantage over CanadaCo's stores: if not ten percent, then at least seven to eight percent.**

I would agree with that conclusion.

## Step 5: Summarise and make recommendations

I would tell the CEO the following: In the near term, you might be safe. Your stores have a much stronger brand name in Canada than USCo's, and they seem to be well managed. However, as consumers get used to seeing prices that are consistently seven to eight percent less at USCo, they will realize that shopping at USCo means significant savings over the course of the year. Although some consumers will remain loyal out of habit or because of your high level of service, it is reasonable to expect the discount shopper to shop where prices are lowest. Moreover, over time your brand-name advantage will erode as USCo becomes more familiar to Canadian consumers. You certainly have to worry about losing significant share to USCo stores in the long term. You should probably do something about it now, before it's too late.

Can you suggest possible strategies for CanadaCo?

Maybe it can find ways to cut costs and make the organisation more efficient, so it can keep prices low even if its cost of goods is higher.

Anything else?

It might consider instituting something like a frequent shopper programme, where consumers accumulate points that entitle them to future discounts on merchandise.

What might be a potential problem with that?

Well, it might not be that cost-effective, since it would be rewarding a significant number of shoppers who would have continued to shop there anyway.

Any other suggestions?

CanadaCo might want to prepare a marketing or advertising campaign that highlights its high level of service. It might even institute a CanadaCo Service Guarantee that surpasses any guarantees offered by USCo.

Assuming the only way to keep customers is through competitive pricing, is there anything CanadaCo can do to appear competitive to the consumer?

It might want to consider offering fewer product lines, so that it can consolidate its buying power and negotiate prices with suppliers that are competitive with USCo's. It might lose some customers who want the variety of products that USCo has, but it may be able to retain the customer who is buying a limited array of items and is just looking for the best price.

All of your suggestions are interesting, and you would want to analyse the advantages and disadvantages of each in more detail before making any recommendations to the CEO.

MasterTheCase.com

Top Consulting Interview Prep