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Top Consulting Interview Prep

Torch the Case

The NYU Stern Consulting Casebook

2008 Edition

1. Tokyo Express

Type of Case: Market Sizing
Difficulty: Low

Opening

Estimate the number of passengers that pass through the Tokyo Main Station each day. (Tokyo Main Station is one of the primary transportation hubs in Japan.)

Background

Generally, no background information is provided for market sizing. Applicants should make reasonable assumptions.

- Population of greater Tokyo is approximately 8 million.
- Trains run from 5am to 1am daily.

Areas of Discussion

Bottom-up:
The applicant should consider what types of passengers (i.e. revenue streams) go through the station on a daily basis. There are subways, bullet trains, surface lines, buses, and taxis.

Top-down:
Estimate the population for whom Tokyo station is the nearest station (residences, offices, schools) and would presumably use public transportation to get to a different station.

However, Tokyo station is also used by many for transit, even if it is not the starting point or final destination.

Recommended Conclusion

There is no right or wrong answer. Analysis should be Mutually Exclusive and Collectively Exhaustive (MECE).

The "mutually exclusive" part can be difficult because simply calculating the number of people that use the subway, train, bus, etc. respectively, and then adding those numbers together leads to an overstatement. Someone might take the subway to get to Tokyo station then transfer to the train, but counting this one individual in both groups is wrong.

1. Tokyo Express continued…

The "collectively exhaustive" part is also difficult to estimate. Reasonable assumptions would need to be made about peak hour traffic vs. off-peak hour traffic and occupancy/capacity of all modes of transportation which pass through the station.

If a top-down approach is taken, the interviewee also needs to consider those people who may live in the area but walk/ride a bicycle/drive a car to school or work.

A strong answer will include solid assumptions, as MECE an approach as possible, and confidence when working through the calculations.

2. Las Vegas Casinos

Type of Case: Business Transformation
Difficulty: Low

Opening

Your client has a chain of hotels across the USA with locations primarily in gambling cities (e.g. Las Vegas and Atlantic City). The client has been in the business for a number of years and is particularly concerned with the performance of their hotel in Las Vegas. They have come to your firm for advice on how to improve the overall business, but specifically the performance of the Las Vegas Hotel. The Las Vegas hotel is old and requires modernization. Should the client knock down the hotel and start again, or renovate whilst open for business?

What factors would you consider in helping the client, and what recommendations would you give?

Background

- Operations:
  - Each hotel has a casino
  - Hotels are located in gambling centers and they are all profitable (assume equally)
- Client:
  - Family-owned business and shareholders are risk averse in nature
  - Sufficient funds are available and any future investment can be funded through equity
  - The current state of the economy can be discussed here, e.g. lack of liquidity in the market is not a concern since the project can be funded using equity. However, equity may not be worth as much since the market is down
  - Competitive position - second tier of hotels behind the major hotels e.g. Mirage

Areas of Discussion

Focus on the Las Vegas hotel. This case is just a practical discussion of issues and does not have any quantitative analysis.

1. **Option 1: Knock down the hotel and start again**
   - Trade-off between loss in profitability and incremental profitability from having improved hotel. Detail main cash outflow items e.g. construction, rebranding efforts etc
   - Construction period will be shorter and more scope to change the hotel's appearance

2. Las Vegas Casinos continued…

- What do you do with staff during construction period? Fire them, paid leave or redeploy elsewhere in the business? What type of staff do you have – part-time or full-time?
- Brand impact from not having presence in Las Vegas during the construction period
- Major cash outflow during the period from capital investment and little coming in – should not be a major issue given the cash-rich shareholders
- Competitive response in mid and upper tier hotels. Need to ensure that refurbishment is sufficient to house new gambling innovations and modern hotel rooms

2. **Option 2: Renovate whilst open for business**
    - Receive income during renovation period
    - Renovation will take longer as likely to go floor by floor
    - Disturbance to guests may lead to brand issues and may reduce repeat customer business. However candidate may debate if most Las Vegas customers repeat customers, or is LV an once-in-a-lifetime experience for the majority? This may depend on the typical clientele of this establishment
    - Cash outflow more steady but not really an issue for the client
    - Scope for refurbishment is less if you renovate in same building vs. knocking the building down

3. **Other issues**
    - Execution on renovation: Will the project finish on time? Monetary penalties for construction team?
    - What specific renovations should be made, e.g. type of gambling table/restaurant/bar etc.?
    - Lessons to be learned from competitors undertaking similar project?
    - How to launch business on completion? Marketing campaign?

Analysis

No calculations. At most, discuss how calculations would be made.

Recommended Conclusion

This is a suggested answer. The answer does not matter as long as there is a logical framework with solid arguments to back up the conclusion.
The client should knock down and start again based on the reasons above, and brief discussion of practical issues that should be taken into account.

3. Powerpoint with Galileo

Type of Case: New business (unconventional context)
Difficulty: Low

Opening

You're a consultant in 17^{th} century Venice and Powerpoint is your art canvas. Your client, Galileo Galilei has just invented the telescope. He'd like you to help him make some money off what he is sure will be a very useful invention. What do you tell him?

Background

Galileo has a workshop, and 6 talented workers who can manufacture the telescopes for him. Each worker is available 6 days a week, for 8 hrs a day, and all-in labor costs are $10 per worker per hour. Raw materials for a telescope come to $5 per piece, and one worker can make one telescope in 2 hours. This data is only for the costs section of the problem.

Skills involved in making a telescope consist of grinding the lenses correctly, building the housing and focal length adjustment mechanism, and assembling the parts.
The market being considered is the entire world.

No data is available on the populations of Italy, Venice, military, traders, frequency of travel, building, warfare etc. Respond to all requests for specific information on this stuff with "Why don't you try and derive an estimate for that?" As long as the assumptions are reasonable, most answers are valid. This is a brainstorming case – you are looking for creativity in an unusual context. Cases are not dependent on historical facts so any inaccuracies in the candidate's display of 17^{th} century Europe knowledge is given leeway.

Areas of Discussion

Typical "buckets" could include:

<u>Company</u>

Part of the "Company" bucket includes costs.

- Work out costs and production capacity based on the data above.
- Could suggest cost-based pricing

Candidate would also need to discuss the distribution strategy, which would likely involve selling the goods to local merchants for overseas trading. Also, the company cannot likely produce to keep up with initial demand so the good should be priced accordingly. Should more laborers be hired to increase production?

3. Powerpoint with Galileo continued…

Customers:
- Who would need a telescope:
    - Local
        - Traders and sailors
        - The military – army/navy
        - Explorers – land/sea
        - Architects and surveyors
    - Overseas
        - Similar categories
        - Geographic categories
            - Europe is viable
            - Asia, Middle East, America, Far East secondary markets
            - Could rank in an Effort/Return quadrant matrix (some firms loves their matrices)
        - Political considerations
        - Profit sharing with traders
        - Overseas monopoly
            - Large potential demand, relatively slow supply
            - High likelihood of local imitators
    - What do you think is the largest market, at each stage of the product timeline?
- **Extra Credit:** Very rough market-sizing (not the focus of the case)
    - Could suggest (very rough) pricing based on willingness-to-pay

Competitors:
- No patent structure means imitation is a serious problem
- Ease of construction means reverse-engineering is not difficult
    - Obfuscation of the mechanism may be necessary
- 6 workers are skilled engineers. Each is an intellectual property (IP) risk if they break away and start up on their own – keep them happy and well compensated.

Cost Analysis:
The math is incidental, and not the focus of the case. However, interviewer may want to test the candidate's quantitative ability using the example below. The candidate should be able to express why s/he would want to calculate the cost. Reasons can include the desire to assess how many telescopes can be produced relative to an estimated market demand or estimated financial resources required to operate the business.

Interviewer has already provided the following data:
- Six talented workers who can manufacture the telescopes.
- Each worker is available 6 days a week, for 8 hrs a day
- All-in labor costs are $10 per worker per hour.
- Raw materials for a telescope come to $5 per piece
- One worker can make one telescope in 2 hours

3. Powerpoint with Galileo continued…

Cost per unit telescope = $5 + 2*$10 = $25
One week: 6 * 8 * 6 = 288 worker-hours
# of telescopes manufactured in that time = 288 / 2 = 144 telescopes
Total raw materials cost = 144 * 5 = $720
Total labor cost = 288 * 10 = $2880
Total weekly cost = $3600 for 144 telescopes.

Recommended Conclusion

Large market exists, both locally and overseas – will experience a short initial period of monopoly after which imitators will provide serious competition – preventive strategies are necessary to combat this.

Structure the response, but be as creative as possible in terms of your ideas. The math is incidental, and not the focus of the case.

4. Bright Mercury

Type of Case: New market entry
Difficulty: Moderate

Opening

Your client is a large diversified manufacturing corporation with a number of products. They are a large player in the automotive industry but also have products within the consumer products industry. Acquisitions are commonplace in this industry and your client recently acquired another company in the consumer products space. After the acquisition, the team found that the company has some intellectual property that could lead to the production of low mercury compact florescent light bulbs. While mercury helps achieve high performance, it also has hazardous properties. So your client wants to know what they should do with the intellectual property.

Background

Products: The company doesn't have lighting products within their mix. They do manufacture similar devices within their automotive sector such as bulbs in the cars so they have the capability to manufacture this new product.

Customer: Client works with large retailers and wholesalers
Technology: We believe the technology will work and will have great performance. There are 10 other patents with this technology. Client is 5 years ahead of competition.
Pricing: Average current price is $5 per bulb but technology will increase price 40% (calculate $7)

Areas of Discussion

Evaluate the company and understand their product mix, customers and distribution. Then look at the external environment to understand the competitive landscape size of the market, the various products in the market and any barriers to entry. Once the company's capacity to manufacture the light bulbs and the competitive landscape are determined then determine if the intellectual property is more valuable for the company to sell or to keep and manufacture the product.

The student should also state upfront that the client has four options:
1) develop and market the light bulb itself (i.e. acting on the intellectual property)
2) sell the intellectual property
3) enter a joint venture to develop and market the bulb
4) hold onto the intellectual property and preserve the option to act on it

4. Bright Mercury continued…

Analysis

To determine the best of these options the student will evaluate each. For the sake of simplicity, the first two should be evaluated in depth first.

Option 1:
This could be assessed on an NPV basis over a number of years to capture the replacement cycle and market growth.

Information needed:
Revenue:
- Total size of commercial (b to b) and retail (b to c) light bulb market
- Compact Flo bulbs current share of this market and likely growth rate
- Evaluation of client's market share capture with the low mercury bulb
- Likelihood of competitor entry and potential impact on client's market share
- This is all to get to the total revenue per year (price x volume) per year (which you would expect to change from years 0 to 6

Example of Market sizing: Assuming product will be sold first to households then with success move to businesses. 100M HH in the US
20M – 1 bedroom – 8 light bulbs – 160M light bulbs
40M – 2 bedrooms – 10 light bulbs – 400M light bulbs
40M – 3 bedrooms – 12 light bulbs – 480M light bulbs
Total 1040M light bulbs in market

This is a broad assumption since the business market would be far larger and be a market to target first. Distribution is likely far more consolidated as well. Students would ideally go beyond consumer facts and have some sense of business data.

Costs:
Incremental fixed costs to current business:
Student should go through the value chain of development to manufacturing /packing/marketing/distribution to evaluate any fixed costs that would be added due to this business.
Costs of goods sold (variable):
Include all costs from manufacturing/packing/marketing/distribution to determine the Total cost per bulb x Volume projected during the revenue

The student should then calculate the total operating profit per year (possibly factor in corporate tax to be accurate) and calculate the NPV.

4. Bright Mercury continued…

Option 2:
The same data used above would be the value of selling the option. The student would need to explore whether the value to another company would be greater due to any impacts on revenue (e.g., higher volume due to one fewer competitors entering the market) or costs (potentially a buyer has better capabilities for the product and therefore the incremental fixed costs or variable costs of goods sold are lower.

Option 3:
This could be tested verbally rather than quantified for the sake of time. The student could ask about the potential of reducing their own costs by outsourcing or partnering with another entity.

Option 4:
This is likely not a good answer unless the market growth may spike so significantly in year 2 that it would offset a new entrant in year 5. This would just be a good point of discussion.

Interviewer: Based on the market sizing above, consider what is the average life span of the new light bulb.

A total of five years

So there are approximately 208M light bulbs sold per year (total market 1040M / 5 years) so the maximum revenue per year is
208M * $7 = $1,456M

Assuming that they don't capture the entire market…
Life of light bulb (at what point will the market be saturated and due to the longer life of the product. At that point they can enter into businesses and then maybe international.
Look also at pricing later because if the product life span is 5yrs versus current 6months-1year then there is possibly an opportunity for higher prices or to decrease the life span of the bulb so not to jeopardize future sales.

4. Bright Mercury continued…

Interviewer: Please summarize your findings.

Recommended Conclusion

Recommend the manufacture of the light bulb because it increases revenue by $17M for each percent of the market they capture. They are also ahead of the competition so will be first to market and can become the standard. They need to create marketing and education plans to accomplish commercialization of the product since it is priced higher than current bulbs.

Things to consider:

- If there is excess capacity to manufacture, there will be additional costs.
- Create a prototype to see if bulb meets expectations.
- Financial capabilities to develop since the company has a strong R&D group.

5. Call It Excess Capacity

Type of Case: Pricing Strategy, Competitive Response, Supply Chain
Difficulty: Moderate

Opening

We are consulting for VoiceDirect. They have been packaging and reselling excess capacity on their cellular network to highly fragmented prepaid phone card buyers. Over the past year, VoiceDirect has lost significant market share. What is happening, and how can VoiceDirect recover?

Background and Areas of Discussion

Who are the competitors? Only three other players (Sprint, AT&T, T-Mobile)

What is the pricing? VoiceDirect charges five cents per minute, all three other competitors charge three cents.

Ask candidate to calculate VoiceDirect's percentage price premium

The price premium is equal to 66%

The candidate should first draw a diagram to understand the market. The cellular market in the US is divided into Contract (or pay after usage) and Prepaid minutes. We are not analyzing the "contract" segment. The competitors' strategy is to sell their excess capacity to the prepaid market. In light of current economy conditions and with the assumption that people who rely on prepaid cards are mostly those who have difficulty getting Contracts due to a bad credit history, this segment is growing.

The candidate then should ask what is the excess capacity for VoiceDirect (we can assume near infinite capacity) as well as demonstrate understanding that the marginal cost for providing this capacity is zero.

At this stage the candidate should try to evaluate the issues behind the loss of market share. After computing the VoiceDirect's price premium (66%) the candidate should establish three hypotheses. (1) There is no differentiation that justifies the price premium, technological (quality of the signal), geographical (geographic availability), customer service, etc… (2) There is differentiation but it is not perceived by the market; (3) there is differentiation, the market perceives it but because of its place on the low end of the segment, people are not willing to pay for it.

For scenarios (1) and (3), a possible strategy would be to match the competitors' prices, go from five cents/minute to three cents/minute. At this point, the candidate should argue that if VoiceDirect's prices for postpaid cards are larger than 3 cents/minute, there is the possibility of cannibalization of their customer base.

5. Call It Excess Capacity continued…

For scenario (2) the candidate should suggest possible marketing initiatives (a test to the candidate's creativity). Possible examples are: joint campaigns with powerful brands offering prepaid cards (remember the marginal cost is zero); offering cards with a phone, offering supplemental postpaid cards; two-for-one campaigns; offering prepaid cards in exchange for competitors' cards (but need to check if it is possible in light of regulatory restrictions); etc…

At this point the interviewer should ask the candidate for other possible strategies (restart the top-down process)

- Can we enter into a contract at a set price to provide minutes to major prepay providers? The answer is no, Virgin Mobile already has an agreement with one of our competitors. The rest of the market is very fragmented.

- Can we vertically integrate and repackage the minutes ourselves, creating our own prepay brand? Or is Virgin's presence too strong to compete?

- Does the price premium reflect down to the consumer level, or do the repackagers (gas stations, Wal-Marts, etc) eat the price delta? Would it make sense to renegotiate with repackagers to lower their margins?

Analysis

Price premium percentage (as seen above). The marginal cost of providing extra minutes (it's zero)

Key Takeaways

Even though five cents versus three cents seem small, the resulting 66% price premium becomes a major issue as purchase volumes go up. It costs VoiceDirect nothing to provide more minutes, as capacity is unlimited. Providing that there will be no cannibalization of their postpaid customer base, there is only upside in matching the competitors' prices.

Recommended Conclusion

Immediately cut the price to at least the competitor level for repackaging purposes. Assess whether it will be effective for VoiceDirect to go into prepay repackaging market. (This is important since people with bad credit and people under age 18, for example, cannot enter into contracts with VoiceDirect.)

At this point, if there is still time, ask the candidate to estimate the impact of his or her recommendation, in percentage changes in demand. (tell candidate that elasticity for these type of products is approximately -1.25. Candidate should explain what Elasticity is and why it is negative. (ε=(ΔDemand/Demand)/ (ΔPrice/Price))

6. Healthcare Fun

Type of Case: New market entry/Market size
Difficulty: Moderate

Opening

Your client is a healthcare insurance company that serves the Medicare population. Over the past two years, your client and some other healthcare insurance companies have started offering "private fee-for-service" (PFFS) to their respective Medicare patients. The benefit to the patient is that with PFFS, the patient has access to "out-of-network" providers that otherwise would not be covered by their health insurance plan. With the PFFS program, the patient interacts with their healthcare insurance company directly, while Medicare compensates the insurance company for the fees involved.

As I mentioned, your client launched their PFFS program two years ago. They expect the product to gain in popularity among their members. Other healthcare insurance companies also expect PFFS to grow. However, many insurance companies who have started offering PFFS are concerned because they do not currently have the additional administrative support needed in their billing departments to process all the PFFS claims.

Your client is therefore interested in launching a "b to b" model to offer billing services to other healthcare insurance companies that are looking to outsource the work involved in processing PFFS claims.

Is it a good idea for your client to offer this new service?

Background

Your client is a small, regional plan.
Client is already offering the service for their own members, so startup costs are minimal.
Assume the administrative staff/infrastructure needed is already in place.

Areas of Discussion

Potential areas of interest:

- **Company**
- **Customer**
- **Size of market**

What types of healthcare insurance companies are offering PFFS/Who are the customers for this service?

Although both small and large healthcare insurance companies are offering PFFS, <u>only small plans</u> would need to outsource the back office services needed to process PFFS claims (since large plans already have the necessary administrative support in place to process claims).

6. Healthcare Fun continued…

How big is the market for this new service?/What is the growth rate?/What percentage of Medicare members are enrolled under PFFS?

See analysis below

Do not focus on financials/profit; if asked, let the interviewer know that the client is looking to get at least 100 customers (small healthcare insurance companies) by the year 2015. The client is confident that, by 2015, they can capture at least 80% of the market for this service.

Analysis

Provide the information from the first two rows; the interviewee should calculate the numbers from the third row:

	2008	2011	2015
Total number of Medicare members from the small health plans that want to outsource their back office services	9.1 million	11.3 million	15.3 million
Percentage of Medicare members that will use PFFS	22%	29%	32%
To be calculated by Candidate: Number of Medicare members that will use PFFS from the plans that want to outsource their back office services	Approx. 2 million (actual: 2,002,000)	Approx. 3.3 million (actual: 3,277,000)	Approx. 5 million (actual: 4,896,000)

After Candidate calculates the numbers above, provide the following information:

In 2015, the average number of Medicare members in the small health plans that are interested in the service your client is offering is 40,000 members. How many potential customers will there be in 2015?

Answer: Given that five million members in total will be using PFFS in 2015 (calculated above), 5 million/40,000 = 125 health plans using PFFS that are interested in outsourcing their back office work.

6. Healthcare Fun continued…

At this point, let the Candidate know (if you haven't already) that the client is confident they can capture 80% market share by 2015.

So, 80% of 125 clients is 100.

Recommended Conclusion

- Only small plans that offer PFFS will look to outsource the back office services, not large plans
- In 2015, there will be approximately 125 small plans interested in outsourcing their back office services for PFFS billing
- With 80% of the market share, the client would be able to meet its goal of 100 customers by 2015, so yes, they should offer the service
- Risk to be considered include
    - Considering that we are a small insurance plan, would it be possible for us to scale our billing department to service 80 customers
    - As customer service is important especially for Medicare members (age > 65 years), would we maintain quality of service required with the rapid growth to 80 customers in five years

7. Prosumer’s Purchase

Type of Case: New Market Entry
Difficulty: Moderate

Opening

You are the Vice President of market development for an US mid sized consumer packaged goods (CPG) company called Personal Care Company (PCC). Your company sells three product lines generating $50M in annual revenues:

1) skin care (with skin protective and sun-blocking properties)
2) tampons (very absorbent features)
3) baby care bottles (impact resistant)

Your company has just been acquired by Prosumer, a global CPG company that makes batteries and shaving products. How would you recommend increasing PCC’s sales from $50M to $100M in 2 years post acquisition?

Background

There are potential synergies in distribution between Prosumer and PCC related to shaving and skin care products. PCC should look to grow geographically to new markets. One criterion is to focus on areas that are greatly exposed to the sun.

Another focus is to look at the ability of PCC to finance the expansion so it may want to divest another product line if it is not performing as well as sun care such as either the tampon or baby care lines.

Areas of Discussion and Key Takeaways

The following information is provided about the various international markets:

Region	Market Size (billions)	Growth Trend
US	$5B	3%
Europe	$3B	6%
Asia	$1B	12%
Latin America	$1B	12%

7. Prosumer's Purchase continued…

The candidate may want to ask more about the perception of your sun care brand in each market to determine possible performance.

Region	Brand Ranking	Value Proposition
US	#2 or #3	Functional Care
Europe	#2	Aspirational US lifestyle
Asia	#1	Beauty and fairness
Latin America	#1 or #2	Functional Care

Interviewer: Based on this information, which two markets would you want to focus on first and second? Why? The candidate then is asked what are the ways he/she will expand in each market.

Phase 1: Enter the Asian market can be first for its high growth and market potential. The company can take advantage of its core functionality for sun protection and sun blocking since the Asian market values maintaining fair skin to avoid suntans. Market entry includes establishing suppliers, retail distribution, addressing the competitive reaction, marketing, any language or cultural issues and local government regulations.

Phase 2: Enter the Latin American market based on the products' skin care functionality.

Phase 3: Sell product to the distributors and acquire a supply chain.

Interviewer: If the retail price per case is $150, and the mark up margin by the distributor to the retailer is 50%, and the markup from your company (manufacturer) is 100%, what is the cost of each case?

- Take $150 / 1.5 = $100 price to distributor.
- Take $100 / 2 = $50 cost from manufacturer

Interviewer: What are some savings and costs associated with the use of a distributor?

Significant cost savings can be accomplished by

- Recognizing synergies from having PCC use the same supplier and distribution networks already in place by Prosumer
- Cost savings from further economies of scale

7. Prosumer's Purchase continued…

However, the main costs of discontinuing with PCC's current supplier are:

- Contract costs of terminating the relationship short of the agreed upon expiration
- Sunk costs of the inventory that the current supplier will no longer be motivated to support as the relationship has ended
- Fees to the new supplier

Recommended Conclusion

PCC should look to leverage the synergies from Prosumer such as similar product lines in skin care and access to the global market using Prosumer's international suppliers and networks.

The expansion into the global markets should be evaluated along the preferences of each geographical region based on market growth potential first in Asia and then Latin America. Each region would require different marketing strategies that match each area's preferences from functional to lifestyle aspirations benefit propositions.

The expansion has opportunities for significant cost savings from synergies in sharing suppliers and distributors that would need to be above the costs of terminating PCC's existing relationships.

8. Slippery Sales

Type of Case: Increase profitability
Difficulty: Moderate

Opening

Your client is a consumer electronics retail chain selling products such as TVs, DVD players, digital cameras, and cell phones. Sales have varied dramatically across your client's stores with several experiencing a severe decline in revenues over the past two years.

How can you help the client even out performance across the individual stores and increase performance of the entire chain through organizational change?

Analysis and Areas of Discussion

The interviewer should know that the problem is in the client's sales decline but occurring only in a limited number of stores. The interviewer starts by asking the candidate to design an issue or a hypothesis tree (whichever one the candidate feels more comfortable with).

The first level of the tree should separate externalities (aggressive competition, decrease in market demand, etc..) from internal issues. The candidate should then be told to focus on internal issues. Some of the problems the candidate should come up with are: weak marketing strategy, poor choice of product mix shown in stores, low knowledge base of employees (sales force), ineffective incentives program for the sales force, poor after-sale customer service, etc…

To guide the candidate the problem solution, the below numerical data shall be provided and carefully analyzed. These numbers belong to one of the stores facing a decrease in sales.

Based on this information the candidate should be asked how he or she would calculate the sales CAGR (compounded annual growth rate) over the past 2 years. If the candidate does not know the formula, the interviewer can provide it as necessary. The answer is as follows:

CAGR= (2007 Sales / 2005 Sales)^(1/2)-1)

The interviewer can then provide the following data to the candidate for analysis:

Product	Sales	Gross Profit	Margin	Sales 2005	Sales 2006	Sales 2007	Sales CAGR
Accessories	$2.50M	$1.25M	50%	$2.50M	$1.90M	$1.40M	-25%
PlasmaTV	$7.00M	$1.40M	20%	$7.00M	$7.40M	$7.70M	5%
DVD player	$5.00M	$0.75M	15%	$5.00M	$5.30M	$5.50M	5%
Digital Cameras	$7.00M	$2.10M	30%	$7.00M	$6.30M	$5.70M	-10%
Video camcorders	$2.50M	$1.00M	40%	$2.50M	$2.00M	$1.60M	-20%

8. Slippery Sales continued…

The candidate should reach the following conclusion when analyzing the data.

The product lines with the negative CAGRs are those with the highest margin and they are also some of the most technologically complex products. These products would require a higher level of customer service to help customers become better informed in order to make proper buying decisions.

Customer service is lacking at many stores because of a lack of consistent training. Currently, training of sales employees is decentralized through an apprenticeship model, and at stores which perform poorly, the lack of adequate training is perpetuating poor store performance.

The largest revenue streams come from complex electronics such as Plasma TVs and digital cameras where product knowledge must be high among sales associates.

Recommended Conclusion

Having identified the problem, the candidate should mention a set of possible solutions and make a recommendation based on a high level assessment of those possibilities.

One solution is to centralize the training program. Store managers can attend training seminars at the corporate headquarters and then disseminate their knowledge back to their staff. Such an arrangement would reduce the cost of training and streamline the knowledge transfer process Corporate headquarters can also distribute training materials to ensure that associates are trained consistently across all stores. Product manufacturers can also create brochures or in-store collateral to help promote information about their products. The store may want to share such costs through trade spend negotiations with the manufacturers.

Additionally, the incentive structure may need to be adjusted to ensure associates follow the training program closely. The client may think about using quantitative metrics, such as Sales per Average Hour (SPAH) to measure the productivity of sales associates.

9. Patty Joint Shelton

Type of Case: Response to Competitor
Difficulty: High

Opening

Your client is the owner of a Patty Joint (PJ) franchise in the small town of Shelton, Connecticut (population 40K). The restaurant's revenues are trending downward but costs are stable. What are your thoughts on:

1) Cause of the issue
2) How to achieve growth of the business

Background

There are no changes in customer tastes. The menu, food quality and suppliers are the same.

The main cause in the sales drop is the opening of a new competitor FinerFoods Restaurant that opened across the street. It is a fast food "plus" style restaurant that serves not only burgers, but also a broader menu (chicken, pasta, burritos) with table clothes and waiter service. FinerFoods Restaurant has a family-friendly atmosphere.

Areas of Discussion

Do not give the below information unless candidate asks about the restaurant's customers.

There are two main customer segments served by Patty Joint:
1) Business customers for lunch (60% of your clientele)
2) Families for dinner (40% of your clientele)

Patty Joint is losing both its business lunch and family dinner segment to the new competition.

Analysis

Interviewer: Which customer segment is more important and more profitable between the business and family segments?

By reviewing the profitability of Patty Joint by customer:

- **Lunch garners an average profit of $8/customer**
- **The overall average profit is $10/ customer**

9. Patty Joint Shelton continued…

Interviewer: What is the average profit for the dinner segment?

The candidate should ask for the following information to back solve for a weighted average:

- Lunch is 60% of the customer segment
- Dinner is 40% of the customer segment

Once the candidate asks for the number of customers, s/he can use a weighted average formula to find the profitability per customer for the dinner segment.

- (0.60)*($8) + (0.40)*($X) = $10/overall average profit per customer

- X = profitability for the dinner segment is $13/customer, which is more profitable than the lunch segment for Patty Joint. It would likely recoup the loss of this customer segment from FinerFoods.

Interviewer: If the total average profit margin is 50%, what is the overall average revenue per customer?

- $10 / 0.50 = $20/revenue per customer (customers really like burgers)

Interviewer: FinerFoods Restaurant's revenues are 20% higher and costs are 10% higher than that of PJ's overall average customer. What is the average profit per customer at FinerFoods Restaurant?

- Sales: (1.20)*$20 = $24
- Costs: (1.10)*$10 = $11 Note: The costs for Patty Joint is determined by revenue less gross margin from above ($20-$10 = $10)
- Profit = $13
- **Insight**: FinerFoods has a more profitable business at $13 vs. PJ's $10 per average customer.

Interviewer: How would Patty Joint determine why their customers are leaving?

Suggested answers:

1) Create customer satisfaction survey – be sure to account for biases by interviewing an equal number of regular vs. one-time customers
2) Ask corporate headquarters to provide information on performance of other PJ restaurants due to effects of a nearby FinerFoods (or similar competitor) opening to determine if customer defections are widespread
3) Industry publications

9. Patty Joint Shelton continued…

Interviewer: You now have a chance to create some customer survey questions. You can ask any customer but state whom the survey is tailored toward and state your most important question. (Provide opportunity for the candidate to state various survey audiences and question possibilities).

Wait until after candidate finishes the exercise then state the following:

Interviewer: We have some additional survey data collected and here are the results:

First survey audience consists of PJ defecting family dinner customer:
Question: What are important factors in your purchase decisions?
Survey Answer: Family dinner customers value price and service. They are price sensitive and like the perception of FinerFoods as providing value. FinerFoods also has waiter service so the parents do not need to clean up after their children's meals, viewed as quick. The prices are comparable to PJ although 20% higher.

Second survey audience consists of PJ defecting business lunch customer:
Question: What are important factors in your purchase decisions?
Survey Answer: Business lunch customers value speed and convenience. They *perceive* PJ as providing relatively slower service and less convenience than FinerFoods since FinerFoods has waiter service. While the time spent at with waiter service at FinerFoods and the time spent waiting in line at PJ is about the same, the *perception* is that FinerFoods is faster service.

Interviewer: Which customer segment would you focus on based on your survey information and recommend solutions to help your PJ restaurant client. You cannot hire any additional service staff nor change their menu offerings (per corporate policy).

Focus on the more profitable family dinner customer (at the higher $13/profit per customer vs. $8/lunch) and one possible solution includes:

Providing entertainment for children at PJ such as a playground, a clown, or offer promotions on birthday or other special celebrations to make PJ a destination of choice for family events. PJ can also reduce the amount of packaging so there is less to clean up for the family. The children may drive the decision of parents to frequent PJ if they view the restaurant as more attractive and fun.

Recommended Conclusion

Interviewer: Please summarize your findings (cause of the sales deterioration, and recommended solutions to address the problem faced by your Patty Joint franchise).

10. Apparel Outsourcing

Type of Case: Operations, Outsourcing, Cost reduction
Difficulty: High

Opening

Our client sells women's apparel in the US market. They are known as a low-cost competitor and sell their apparel through multiple outlets and retail stores. They are looking at several options to cut costs even further and they'd like our opinion on how they can do that.

They currently manufacture products in two plants, one in the US (Ohio) and one in Guatemala. A third party vendor in China supplies the remainder of their demand.

They are thinking of closing the US plant and want us to determine if this is a good idea, If so, where should they move their operations to worldwide?

Background and Areas of Discussion

Several frameworks will work for this. However, in the end this is a *cost cutting* case so at some point the interviewee should look at some sort of Cost/Benefit analysis by location and keep in mind what are the client's core competencies and strengths are.

For example:
The Company:

- Current state of sales: Growing or Shrinking:
  (The interviewee should ask this to get a feel for future productions needs.)
- What are their major cost drivers?
  (Labor, Materials, Shipping, etc.…Let the interviewee come up with these on their own.)
- What is their product truly know for?
  (As said in the intro...Low-Cost competitor.)
- Are they currently delivering that strength to their customers? *(Yes)*
- What are the risks in closing the US plant, aside from costs?
  (Lead the interviewee to come up with things like bad press, labor negotiations, closing costs, increased shipping costs, etc)

Revenues and costs

- What are the revenues and costs of their current US production facility in order to get a baseline on what closing the US plant will save them.

10. Apparel Outsourcing continued…

Locations:

- New Locations for the US production and do a Cost/Benefit analysis of each.
- Other locations besides current places?
  (Vietnam, India, Philippines, South America, Etc)
- Other vendors in China?
  (If the interviewee is stuck on getting more outsourcing from China since the client is already outsourcing there, draw their attention back to the costs in China compared to both the US and Guatemala.)
- Other plants in Guatemala?...Go to Part 2

Part One: Current State Analysis:

All three producers produce completely equivalent product. There are no quality issues or differences between US, Guatemala, and China production

The US plant is over 15 years old. Its equipment is old and fully depreciated. Maintenance costs have been increasing significantly the last few years as the equipment continues to age.

The Guatemala plant is relatively new and in good shape.

The Interviewee should ask for the following pieces of data. This data should only be given when asked for. The interviewee should be able to construct an organized table like the one shown below.

			COSTS ($/unit)		
	Current Production	**Total Capacity**	**Mfg. Costs (all inc.)**	**Distribution**	**Tariffs**
US	125,000	150,000	$6.00	$0.50	$0.00
Guatemala	40,000	50,000	$4.00	$1.00	$0.50
China	35,000	40,000	$3.00	$2.00	$2.00

Part Two: Alternate production Possibilities:

- There are 10 other apparel manufacturers with plants in Guatemala.
- Half of the 10 plants have approximately 1/3 excess capacity each.
- Using this excess capacity would result in nearly the same costs as the client currently gets from their own Guatemalan plant.
- The 5 plants with capacity break down as follows:
  - P1) 10K units excess capacity,
  - P2) 20K
  - P3) 15K
  - P4) 25K
  - P5) 10K

10. Apparel Outsourcing continued…

Analysis

First, the interviewee should construct a table resembling the one shown in the "Background" section.

Part One: Current state analysis:

The Interviewee should calculate
A) Total costs per product per supplier:

- The Chinese vendor is the most costly at $7.00/unit
- The US currently costs $6.50/unit
- Guatemala is the lease expensive at $5.50/unit

B) If the US plant is closed, its 125K units of production cannot be accommodated by Guatemala and China. The other two vendors can currently accommodate only 15K units from the US.

Part Two: Alternate production Possibilities:

The next step is to ask the Interviewee where they would find the excess capacity to account for the lost US production of 125K units. Answers could include expanding the Guatemala plant, leveraging the contact in China to find new outsourcing resources, looking at other apparel plants in Guatemala for their excess capacity, or seeing outsourcers in other emerging markets (Vietnam, India, Philippines, South America, Etc) If the interviewee is stuck on getting more outsourcing from China since the client is already outsourcing there, draw their attention back to the costs in China compared to both the US and Guatemala.

C) The interviewee should calculate how much capacity the five other plants in Guatemala can provide:
10K units excess capacity + 20K + 15K + 25K + 10K = 80K units' total of capacity

D) Determine if this capacity is enough to handle completely closing the US plant:
(125K units from US) – (15K units placed in current production locations) – (80K units placed in other Guatemalan plants) = 30K units remaining to be placed.

10. Apparel Outsourcing continued…

Recommended Conclusion.

Suggested recommendations to the CEO:
Close the US plant and move as much production as you can to Guatemala.

However, what are the risks upsides with closing the plant?

(1) Retire old equipment and save excess maintenance costs (case is clear about this one). (2) Profit from sale of the plant building? Are there any dollars from selling the building that can be redirected to Guatemala? It does not have to be specific, but should come up in discussion.

An example summary:
"After examining the costs of producing at your US plant, your Guatemala plant and your current China outsourcing arrangement we feel it would be beneficial to close your US Plant. Even though this may produce some bad press in the US, your costs are much less elsewhere. Specifically, your Guatemala plant has low costs and we recommend moving all of your operations there. We realize that your current plant arrangement cannot handle all of the US production, so we recommend retrofitting your Guatemala plant to handle approx half the US capacity, and source the remaining half from other manufacturing sites in Guatemala. During the year that the plant is being retrofitted capacity can either be bought from other vendors in Guatemala, at a premium, or do phased closing of the US plant to handle the leftover production. A study on the costs of retrofitting the plant vs. purchasing additional production from vendors would need to be undertake and we would be happy to help you with that."

11. Hope in a Bottle

Type of Case: Marketing Launch (Understanding pharmaceutical value chain)
Difficulty: High

Opening

Pharmaceutical company Medico has come to your firm for advice on a new drug product launch that would treat a degenerative disease. What factors should Medico consider in terms of timing the launch of a new drug that just received FDA approval?

Background and Areas of Discussion

This is a qualitative case with a nice twist at the end. The interviewee has to think outside the box to get to the solution. There is room for the interviewee to draw the pharmaceutical value chain during this case (added bonus).

The candidate should think about the following areas within his or her framework:

- The Launch and Market Share Objectives of the Company
- The Competitive Landscape
- The Financial Implications

1. Objective of product launch
    a. Gain market share, slipping market share due to undifferentiated products
    b. Loyal patients have been moving to the competitor's product; hence, we need to regain lost patients. The new launch is for a delivery device
    c. The launch should also gain patients from the competition in order to build market share
    d. Improve corporate image
2. Competitive Landscape
    a. It is a $1B market, the client has 10% market share
    b. A key competitor is going to launch their new device in a matter of weeks. There is unrest on further market share erosion and loss of current patients
    c. There are four major competitors in the market; one with 60% share (the company with an upcoming launch) and the rest almost equally divided amongst the other three (which includes our client)
3. Financial Implications and Objectives
    a. The goal is to double revenue within one fiscal year
    b. We are two months into the year and can potentially launch next month, but that will be a few weeks after the competition has launched anyway
    c. The launch budget is $7M, 1/5 the competition's budget for launch
    d. The value each patient offers is $150,000 annually for adults and $60,000 annually with pediatrics

11. Hope in a Bottle continued…

4. Other Factors
    a. The positioning of the competitor's product is along safety. Market research has indicated that this resonates most with pediatrics
    b. We have 22 sales reps in the field
    c. The rest of the competition has no launch plans

Analysis

- How many patients does Medico need?
    - Company makes 10% of $1B which is $10M and needs to make another $10M within one year
        - Translates into over 65 adult patients within the fiscal year
        - The result is approximately three patients per rep within the year – to even out the distribution you can average one patient in the weaker territories and 3 – 5 patients in the dense territories. (Please make a note that in defining what is weak/dense the upside potential of a territory should be identified, not just the hold of our client in that territory)
- Focused targeting
    - Physicians/Clinics – Target physicians who are more concerned with patient quality of life and ease of use (use publications and sales force input)
    - Distribution centers – Target distribution centers that are not in long-term contracts with the key competition and gain their loyalty
    - Patient Type – Focus on young adults with a high volume upside and more inclination towards quality of life vs. safety (assuming all products meet safety standards by FDA guidelines)
- Broadening reach to gain critical mass
    - Large upside geographic centers – Research the location of clinics and consumers that have a large uptake, but a more fragmented dipping into all products – aim at gaining their loyalties
    - Mid-size distribution centers – Since large distribution centers are in "grandfathered" contracts with the competition, target the mid-size centers that have been ignored and cater to their population. Try to lock annual high volume contracts
    - Patient Advocacy groups

11. Hope in a Bottle continued…

Recommended Conclusion

Timeline – the launch should indeed be delayed as the client is still in the first quarter and this gives them time to sharpen their strategy with us and leverage the following –

- Identify weaknesses from the competition's launch
- Allow the competition to preempt key customers and then target the unmet market
- Wait until the competition has set their brand strategy and use the time to target a differentiated brand strategy
- Positioning and alignment with key customers especially while negotiating contracts with distributors and clinics (the competitor contracts would be public knowledge at this stage)

There is benefit to being second-to-market, as long as a strategic plan is incorporated, inclusive of various scenarios. However, there should not be a delay over three months as this might compromise the launch uptake and time needed to gain critical mass.

12. Top of the Game

Type of Case: Marketing strategy
Difficulty: High

Opening

Fizz Soda has come to your firm for advice on whether they should run a nationwide bottle-top promotion for a major sporting event in 2008 e.g. the Super Bowl.

What factors should Fizz Soda consider in order to make this decision, and what recommendation should be given to Fizz Soda?

Background and Areas of Discussion

1. Previous campaigns and scope of proposed campaign
    a. Discuss any previous campaigns and any learning points
        i. Previous campaigns have generally been successful, but Fizz Soda has found that they make most profit from high profile campaigns
        ii. Previous campaigns have involved prizes ranging from soccer balls or basketballs (depending on the campaign) to all expenses paid trip to a sporting event
    b. Lead time involved in changing the design of labels on bottles and bottle tops is minimal and is zero cost
    c. Proposed campaign:
        iii. Discuss the type of sporting event. 2008 is a big year with the Olympics and annual sporting events such as the Super Bowl, NBA playoffs etc
        iv. Collect bottle tops and claim varying level of prizes vs. lucky bottle tops for grand prize vs. another idea or combination of all
        v. Begin promotion three months before the event
2. Competitor campaigns
    d. Competitors, *e.g., Coca Cola*, are expected to run similar campaigns. Discuss historical drink preference of customer (Coke vs. Fizz Soda), and likelihood of switching between the two drinks. Also discuss keeping those incremental Fizz Soda drinkers after the marketing campaign
    e. Review the impact of other campaigns, such as McDonalds or Burger King, deemed minimal given the different product offerings, i.e. bottle of soda to quench thirst or give energy vs. extra value meal where the drink comes with
3. Financials of running a campaign – **incremental** cash flow
    f. Monthly Revenue – see calculations below
    g. Costs – see calculations below.
    h. Time horizon
    i. Net cash flow
4. Consider the selection of sporting event and interest level of each event, Super Bowl vs. Olympics vs. Playoffs and the difference in incremental revenue. Do this qualitatively and discuss where one would get data from if running out of time

12. Top of the Game continued…

Analysis

The analysis should not focus on the total beverage market, but instead focus on the incremental Fizz Soda sales that would be gained by the promotion over both the short-term and long-term (by customers switching from Coke to Fizz Soda).

- Monthly revenue
    - Price: Soda bottle - $1.50, and soda can - $1. Average out to $1.25
    - Quantity: Only target those who are currently indifferent between Coke and Fizz Soda, seeing as loyal Coke drinkers will not switch. Also consider Fizz Soda drinkers may switch from drinking another product to Fizz Soda more often – but not necessary in calculations (for time). Steps required
        - Size total soda market USA
            - US Population: 300m
            - Segment by age with life expectancy at 80yrs, and assume population uniformly distributed among ages. Therefore 3.75m in each age band (300m / 80 yrs)
            - Make assumptions for number of soda drinkers in each category and build table similar to below:

Age group	# in each category	% soda drinkers in category	Frequency of soda drinking	Sodas per month
0 – 5				
5 – 10				
10 – 20				
20 – 40				
40 – 60				
60 - 80				

    - Make assumption for number of consumers that are indifferent between Coke and Fizz Soda to arrive at potential sales per month

- Monthly costs – take marketing costs as a percentage of revenues for simplification, i.e. 10%
- Cost of prizes – estimate costs of flights, hotels, tickets, spending money for 10 people. Can also estimate cost of smaller prizes too but likely to be immaterial

Recommended Conclusion

Conclusion should be based on the net cash flow calculated above balances against any qualitative arguments made earlier.

13. TV/Film Retake

Type of Case: Competitive response, increase profits, turnaround
Difficulty: High

Opening

The client is a leading TV/film studio that has several lines of business. They are particularly concerned about one part of their business which provides postproduction services internally as well as for external customers.

This division has experienced stagnating profits in the recent times. They have hired you to explore ways to address this problem, and increase the profitability of this business.

The postproduction services division is comprised of four distinct products:

- Restoration of old films for preservation
- Production of master prints for theaters and exhibition
- Production of master copies for the home entertainment market
- Production of daily material for review during ongoing film production

It is common in the movie industry to outsource these functions. However, based on the studio market research they know that their internal rates for these services are comparable to the market rates. The CFO of the client wants to know what strategic options he has to increase profitability.

(Note: The interviewee should note that since there are no monetary benefits from outsourcing, it should not be a concern.)

The interviewer finishes presenting the case by asking the following questions:

1. Which possible recommendations will you consider to each business unit?
2. Which criteria would you use for the recommendations?
3. What metrics would you use to determine the relative profitability of the four services?

13. TV/Film Retake continued…

Background

The interviewer should only provide the information in Exhibit 1 in response to the interviewee's questions, and should also lead the interviewee to think about these main issues.

Exhibit 1: Main issues to consider (Not to share with interviewee, use for feedback)

<table>
<tr><th>SERVICE</th><th>CUSTOMERS</th><th>ISSUES</th><th>TREND (Market)</th></tr>
<tr><td>Restoration</td><td>Home entertainment</td><td>Customers care about the quality of the services</td><td>Stable</td></tr>
<tr><td>Master Theater</td><td rowspan="2">New Productions</td><td rowspan="2">Customers care about the quality and also the price of the services</td><td rowspan="2">Decreasing in recent times</td></tr>
<tr><td>Master Home</td></tr>
<tr><td>Dailies</td><td>On going Movie Productions</td><td>They care about the speed of the service</td><td>Stable</td></tr>
</table>

SG&A costs have been stable and are shared among the service lines. A recent benchmark study has shown that these costs are consistent with industry norms.

If interviewee asks for further financial information provide Exhibits A and B from the Handouts/Figures section below.

Analysis /Problem solving

The interview should first try to answer the first question since it will help him structuring the following ones. Possible recommendations for each business unit are: Expand, boost revenues (marketing), lower costs (operations), close, sell, spin-off, etc.

For the next question the interviewee should consider criteria as: gross margin, market trend, nature of business (core/non core), percentage of revenues vs. total revenues of the business unit, ease of implementation of possible solutions, risk as in possible competition responses, etc…

The interviewee must calculate gross margins *(Revenue – Cost)/Revenue* by service using data provided on exhibit A. Alternatively the candidate can calculate revenues and costs per job based on the numbers given in Exhibits A & B, and then gross margin and profits to compare the profitability of the four services. Any attempt to compare based only on total revenues, or COGS, etc would be inaccurate and should be pointed out as such during feedback.

13. TV/Film Retake continued…

The use of Exhibit B in the analysis process should be pointed to the candidate at the end as unnecessary/ over complication (constructive feedback making him realize that in some occasions the interviewer intentionally provides misleading information).

Exhibit 2 below is provided as an aid for the interviewer to guide/follow up the interviewee's process.

Exhibit 2: Profitability data (Not to share with interviewee, use for feedback)

Service	Profit Margin	Recommendation
Restoration	1.1/2 = 55%	Keep, Expand
Master Theatre	0.7/3 = 23%	Keep
Master Home	0.5/5 = 10%	Explore
Dailies	0.8/2 = 40%	Keep, Expand

Remember: Margin = (Revenue – Cost)/Revenue

After computing the margins the candidate should add to this matrix all the above-mentioned dimensions by trying to classify every service according to his different criteria. This process should be interactive (problem solving with interviewer)

(Case is continued on the next page.)

13. TV/Film Retake continued…

Handouts/Figures

Exhibit A – Revenues and COGS

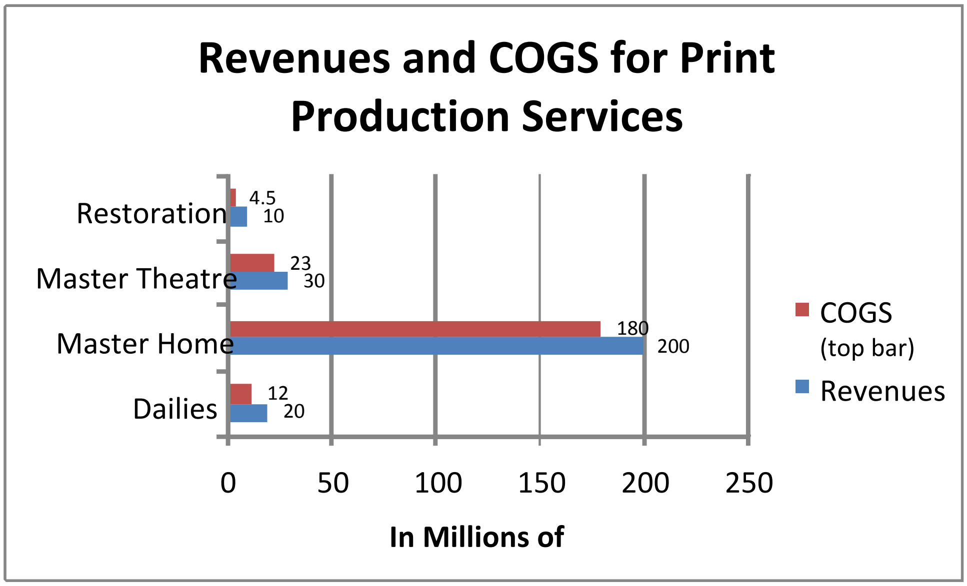


Exhibit B – Volume

Service	Number of Jobs (most recent quarter)
Restoration	5
Master (Theatre)	10
Master (Home Entertainment)	40
Dailies	10
Total	65

13. TV/Film Retake continued…

Note: A strong candidate will consider the whole market when analyzing the recommendations. The risk inherent to every decision comes mainly from the market response. Example, deciding to close/sell/spin-off a service might lead to total loss since for instance the competitors may start to offer bundles of products which would lead the customers to choose them to take advantage of the discount rather then split their requests.

Key Takeaways

The decision model should be consistent along the different services considering (1) gross profit margin; (2) contribution to total revenues; (3) nature of service, core/ non-core; (4) ease of implementation/ risk

Recommended Conclusion

The candidate should address all four of the questions provided at the beginning of the case and develop a framework that addresses the decision criteria for deciding what to do with each service line. Financial as well as strategic factors should be considered.

There is no one specific answer, but the recommendations should be grounded in reasonable conclusions derived from the financial data provided and sound calculations made by the interviewee.

A strong candidate will address the SG&A allocation issue among the service lines to further complement the analysis carried out.

The recommendation should also include a risk analysis and implementation/next steps for the division.

Our Favorites from the 2007 MCA Casebook…

14. Wine in Boxes

Type of Case: Increase Profits
Difficulty: Moderate

Opening

Our client is the CEO of an Australia-based winemaker that is the market leader in its country. The company has two types of products: bottled wine and boxed wine. Recently, profits have been decreasing, and the CEO believes that this is due to losses in the boxed wine division. We need to assess the situation and provide a recommendation.

1) What factors should we consider to determine whether the boxed wine is a good business?
2) What is the profitability of each of the two divisions?
3) What is our recommendation?

Background (Provide the following information if requested by interviewee.)

- The company is currently losing money
- Sales are split evenly between the two divisions
- Bottled wine sells for Australian US$ 5 p/unit; Boxed wine sells for AUS$10 p/unit
- Bottled wine contains 750ml; Boxed wine contains 3 liters
- A plastic bag holds the wine inside the box
- Both products have an overhead of AUS$0.50 p/unit
- Raw material, consisting of grapes, costs AUS$2 for the bottled wine
- Packaging costs AUS$1 for both products, while other variables (distribution and labor) are AUS$1 per bottle and AUS$2 per box.

Areas of Discussion

- How is revenue split between the products?
- What types of costs do the products carry, and what are they?
- What price is being charged for each product? To whom?
- Who is the target customer of each product?
- Are the same grapes being used for both products? Why?

Analysis (Calculations to be completed by interviewee.)

- If the grape cost for bottles is AUS$2, for boxes it is AUS$8 (1:4 ratio)
- Profit for bottles is AUS$1.5; boxes have a loss of AUS$0.5

Recommended Conclusion

The company should try to source grapes of lower cost for its boxed wine product line. Although the current raw material cost ratio is 1:4 when comparing bottled wine against boxed wine, the price ratio is only 1:2. We can assume that this is because the bottled line targets a superior market segment, and boxes cater to businesses that sell wine in bulk. This is another reason for not maintaining the same quality (and cost) of grapes for both product lines. If raw material cost for boxed wine could be lowered, even slightly, the line would be profitable.

15. Wild Card

Type of Case: Accounting
Difficulty: Moderate

Opening

Here is information about Companies A, B, and C. What can you make of this data? And can you determine what type of industry each one is in?

	Net Income After Taxes	Revenues	Assets	Liabilities	Equity
Co. A	254M	2.6B	2.8B	1.0B	1.8B
Co. B	7B	77B	1.121T	1.085T	35B
Co. C	11B	348B	151B	89B	61B

Areas of Discussion

If interviewee is absolutely stuck, lead him/her to calculate ROA, ROE, Net Profit Margin, etc. The Current Ratio cannot be calculated here because Total Assets and Liabilities are provided, as opposed to Current Assets and Liabilities.

After calculations are complete, have the interviewee interpret the data. Based on the numbers, what kind of companies do you think these are?

Analysis (Calculations to be completed by interviewee.)

	ROA	ROE	Net Profit Margin	Debt-to-Assets	Debt-to-Equity
Co. A	9%	14%	10%	36%	56%
Co. B	1%	20%	9%	97%	3103%
Co. C	7%	18%	3%	60%	148%

Recommended Conclusion

Co. A has the highest ROA and Net Profit Margin. However, it has the lowest ROE, Debt-to-Assets ratio, and Debt-to-Equity Ratio. This suggests that Co. A is perhaps a low volume, high margin store…such as a jewelry store. (Co. A is in fact Tiffany & Co.)

Co. B has the highest ROE, and Debt-to-Equity is out the roof! Additionally, it has the highest Debt-to-Assets ratio, so it uses a lot of Debt, increasing the firm's risk-exposure. Co. B has the lowest ROA among the companies. Assets and Liabilities are pretty equal. All of this suggests that Co. B may be a financial institution of some kind. (Co. B is in fact Morgan Stanley.)

Co. C has the lowest Net Profit Margin, and Assets are almost twice the Liabilities. This suggests that Co. C is a high volume, low margin store…like a retailer of some kind. (Co. C is in fact Wal-Mart.)

16. Flying to Mango

Type of Case: Increase Revenues
Difficulty: High

Opening

Our client is the CEO of a mid-size passenger airline based in Mexico D.F. The airline operates on the Hub & Spoke model and is seeking to increase its revenue. It intends to do so by switching the only airplane currently serving the flight to Mango, Brazil (an agricultural outpost) to their existing New York line service. Is this a good idea?

Background (Provide the following information if requested by interviewee.)

- The airplane serving the Brazil line is a Boeing B757 with 200 seats
- Only one plane serves the Brazil line, making two round trips a day
- The occupancy rate of the Brazil line is 90%
- Each round trip ticket to Brazil costs $350

- The New York line is currently served by 4 planes similar to the Brazil line plane
- The New York planes each make 3 round trips a day
- The occupancy rate of the New York line is 80%
- The ticket cost is the same, $350
- If an additional plane (and flight) is added to the NY line, occupancy rate will drop to 70%

Areas of Discussion

- Are costs relevant for this case? (They are not)
- What is the revenue generated by each route?
- Is there enough demand for NY flights to justify another airplane?
- Does eliminating the Mango route have any repercussions on other flights to South America?

Analysis (Calculations to be completed by interviewee.)

- Current revenue is $798,000
  Brazil= 200*2*0.9*$350 = 126k & NY: 200*3*4*0.8*$350 = 672k
  126k +672k = 798k

- New revenue would be: $735,000
  NY only = 200*5*3*0.7*$350

Recommended Conclusion

Calculations indicate that eliminating the Mango line would actually decrease overall revenues of the airline. This is because the occupancy rates for the New York route drops when an extra airplane is added to that line. In addition, removing the airplane that serves Mango completely eliminates a highly profitable flight, and may cause service quality repercussions due to unsatisfied customers.

17. The Water-Fueled Engine

Type of Case: New Market Entry/Pricing
Difficulty: High

Opening

You have invented a car engine that is fueled by water. What would you do now?

Areas of Discussion

Product
There are no differences in the production costs of a regular gas fueled engine and a water fueled engine
No differences in performance.

Infrastructure
Gas station can be switched to water easily
Water costs are minimal. How would this impact gas station business models? What are the implications for sale to a specific company or industry wide? Consider network effects.

What options do you have?

Start a firm and manufacture engines for vehicles (cars, boats, planes, etc)
Think about:
Access to capital
Management capabilities

Sell the patent. To whom? Specific industry: car vs. planes vs. boats, etc. Military vs. private.

(Case is continued on the next page.)

17. The Water-Fueled Engine continued…

How would you price your patent?

This technology is a disruptor. Water engines will completely replace gas engines.

Use car industry as an example. The price of the engine should be equal to the extra profit derived from the delta price that car manufacturer(s) can apply to a water fueled car. The delta price that the car manufacturer(s) can apply depends upon a quantification of the lower costs that customers will face by not having to pay for fuel. In order to determine such number it may be useful to know:

Size of car market
100M households
50M urban * 2 cars per household
50M suburban * 3 cars per household
200M cars, replaced every 10 years
20M cars per year, 80% new, 20% old
16M new cars per year

150k miles per car
25 miles per gallon
6k gallons over life of car
$3 / gallon
$18k in gas
Willing to pay $5 to $10k in premium (tax benefits / green image)

$80B to $160B potential market just in cars

Patents
Are patents generally enforceable? How complex is the technology? What are the implications for sale to a specific company or industry wide?

Recommended Conclusion

Sell patent/technology instead of starting firm from scratch.
Sell to as many industries as quickly as possible. Target the largest players because they have the capital to buy the technology and the resources to integrate the technology quickly. Use competitive bidding to raise the price.

18. Shipping Economics @ Online Toy Store

Type of Case: Profitability / Data Analysis
Difficulty: High

Opening

Your client today is a global specialty retailer of children's toys and baby products with annual worldwide revenues totaling over $11 BN. After a recent buyout by Private Equity, the firm has been pursuing aggressive growth targets across all three of its divisions. The e-commerce division has about $400 MM in total revenue and a major area of growth has been identified within Shipping & Handling (S&H) of customer orders.

Your client offers its customer's two S&H options; "2nd Day Expedited" or "Ground", and each of those are further divided into "Lower 48 States" or "Alaska & Hawaii" depending on the order destination zip code. Annual S&H revenue from each product offering is as follows:

- Ground to Lower 48: $ 32 MM
- Ground to AK & HI: $ 180 K
- Expedited to Lower 48: $ 3.73 MM
- Expedited to AK & HI: $ 90 K

The e-commerce division hopes to increase S&H profits by ~115%. You are part of the team studying their S&H economics and are asked to make a recommendation to impact immediate growth and meet their goals.

Background (Provide the following information if requested by interviewee.)

- Total revenue of ecommerce division during previous year = $400 MM. Divided as follows:
  - S&H Revenue = 9% ($36 MM)
  - Merchandize Sales Revenue = 91% ($364 MM)
- Your client ships customer orders from a single distribution center in Groveport, OH.
- Your client ships products in 8 different box sizes.
- Total Annual S&H revenue from each product offering
  - Ground to Lower 48: $ 32 MM
  - Ground to AK & HI: $ 180 K
  - Expedited to Lower 48: $ 3.73 MM
  - Expedited to AK & HI: $ 90 K
- Your client is currently priced on par with competitors.

18. Shipping Economics @ Online Toy Store cont…

Areas of Discussion

- *Explore the revenue and pricing structure:*
  1. Select SKU's (items) in inventory have fixed S&H prices for each of the four delivery options regardless of delivery destination.
  2. 21% of all orders include SKU's using these fixed prices.
  3. The majority of inventory is priced according to the weight of the order against a "weight table". Weight table pricing is as such:
  - Ground shipments to the Lower 48 states begin at \$ 4.84 for the first 1 lb and increases at \$0.85 for each additional pound.
  - Ground shipments to AK & HI begin at \$ 6.84 for the first 1 lb and increases at \$0.85 for each additional pound.
  - 2nd Day shipments to the Lower 48 states begin at \$ 10.98 for the first 1 lb and increases at \$0.99 for each additional pound.
  - 2nd Day shipments to AK & HI begin at \$ 20.98 for the first 1 lb and increases at \$0.99 for each additional pound.
  - This weight table is a blended price that aggregates the zone-based cost table that the carrier charges and adds a 25% markup.
  4. 73% of all orders are priced against the weight table. Another 6% of orders include a mix of items with fixed price S&H and weight table pricing.

- *Guide the Interviewee to explore items with Fixed Pricing:*
  Further analysis into the SKU's that have fixed shipping prices shows that 44 items represent 10% of merchandize revenue of all fixed price items and represent 59% of the losses in that segment.

- *Explore the cost structure:*
  Your client uses a single package delivery vendor to ship all orders. The vendor charges your client for each order based on the following factors:
  - **Distance.** The lower 48 states are categorized into 8 zone distances, with 1 being the closest and 8 the furthest. Alaska & Hawaii are divided into 2 zones; Metro and Remote.
  - **Size.** Small packages (less than 3 cubic feet) are billed based on its weight. Large items are billed based on volumetric dimensions.

- *Have the interviewee brainstorm about other shipping cost drivers per order:*
  - **Number of Shipments.** A large order with smaller items is likely to be more "combinable" and may ship in fewer boxes than one with larger items.
  - **"Over-boxed" items**. Manufacture's packaging of some items is not durable for cargo shipping and therefore needs to be put in another box, or "over-boxed".

18. Shipping Economics @ Online Toy Store cont…

- *Explore the following after graphs have been shared with the interviewee:*

1. **The largest loss bucket in S&H is Ground shipments to the Lower 48 states. Why should your client not increase its S&H prices for this group? Why should they increase prices on the other three S&H offerings?**

- Ground shipping also constitutes the largest portion of your clients business and increasing prices could negatively affect demand for items and orders.
- Expedited shipping is a premium product and the customer is likely to be less elastic to an increase in price. Therefore an increase in price might not impact demand too much.
- Alaska and Hawaii constitutes a small fraction (less than 1%) of your client's total business while contributing to ~5% of losses. Unless it is a business decision to maintain a presence in that region at such a cost, there is no reason to do so.

2. **Your client's shipping prices are on average 25% more than their vendor's price table. Why do you think your client is seeing egregious losses in certain categories? How can they tackle this?**

- The egregious loses are primarily due to "over-boxing" of items due to the limited number shipping boxes. The client would need to better understand the demand on various items, their dimensions, what items are most frequently combined and then determine the optimal assortment (number and dimensions) of shipment cartons they use. This would be a longer-term solution.

3. **If you were to recommend a new pricing strategy that raises prices, how much would your business be at risk? How much of you estimated losses can you save?**

- The percentage of business at risk is the ratio of the total merchandise dollars shipped through the segments that the candidate is recommending a price change to over the total business. If the interviewee recommends raising prices to Alaska & Hawaii, Expedited shipments and the 44 fixed price items the interview should identify approximately 11% of the business at risk (calculations below).
- Percentage of loss saved for the segments to AK & HI, Expedited shipments and the 44 fixed price items is approximately 30% (calculations below).

4. **Should raising prices be a long-term solution? Why or why not?**

- Raising prices is not a long-term solution because it leaves your client at a competitive disadvantage. The long-term goals should be to reduce costs by further analyzing each of the cost drivers.
- *Some longer-term solutions are:*
- Conducting a "carton-size study" to determine the optimal assortment of boxes used
- Look to expand the distribution network to also ship items from distribution centers on the east and west coast
- Negotiate lower shipping costs with the vendor

18. Shipping Economics @ Online Toy Store cont…

Analysis (Calculations to be completed by interviewee.)

- Margin on each product is calculated with the following formula:

$$\frac{MarginOnWins + MarginOnLosses}{TotalRevenueInCategory}$$

Margin on Ground to Lower 48:	13%
Margin on Ground to Alaska & Hawaii:	-142%
Margin on Expedited to Lower 48:	-17%
Margin on Expedited to Alaska & Hawaii:	- 39%

- Percentage of business at risk:

$$\frac{MerchandiseToAK\ \&\ HI + MerchToExpedited + (10\% \times TotalMerchWithFixedPrice)}{TotalMechandizeDollars}$$
$$= \frac{200K + 30{,}000K + 1{,}800K + (10\% \times 76{,}440K)}{364MM} = 10.89\%$$

- Percentage of Loss Saved:

$$\frac{LossMarginToAK\ \&\ HI + LossMarginToExpedited + (59\% \times LossMarginWithFixedPrice)}{TotalMechandizeDollars}$$
$$= \frac{257.2K + 1{,}010K + 38.18K + (59\% \times 892.6K)}{6{,}172.2K} = 29.68\%$$

Handouts/Figures

1. Business Shipped to Various Segments. (See Below)
2. Gross Margin on Category Wins and Losses. (See Below)

Key Takeaways (What interviewee should glean from handouts/figures. There may be some calculations here as well.)

1. Business Shipped to Various Segments.

- Approximately 1/3 (~28%) of the business is shipped to customers at a loss
- Approximately 2/3 (~78%) of all business to Alaska and Hawaii (Ground & 2nd Day) are shipped at a loss
- Approximately 1/3 (~34%) of all orders that have items with a fixed price are shipped to customers at a loss

18. Shipping Economics @ Online Toy Store cont…

2. Gross Margin on Category Wins and Losses.

- Orders shipped by Ground to the Lower 48 states (which is ~91% of the business) accounts for ~79% of Losses
- Orders with only items with fixed S&H pricing (which is 21% of the business) accounts for ~14% of Losses
- Orders shipped Expedited to the Lower 48 states (which is ~8% of the business) accounts for ~16% of Losses
- Orders shipped by Ground to Alaska and Hawaii (which is ~0.5% of the business) accounts for ~4% of Losses
- Orders shipped Expedited to Alaska and Hawaii (which is ~0.05% of the business) accounts for ~0.6% of Losses

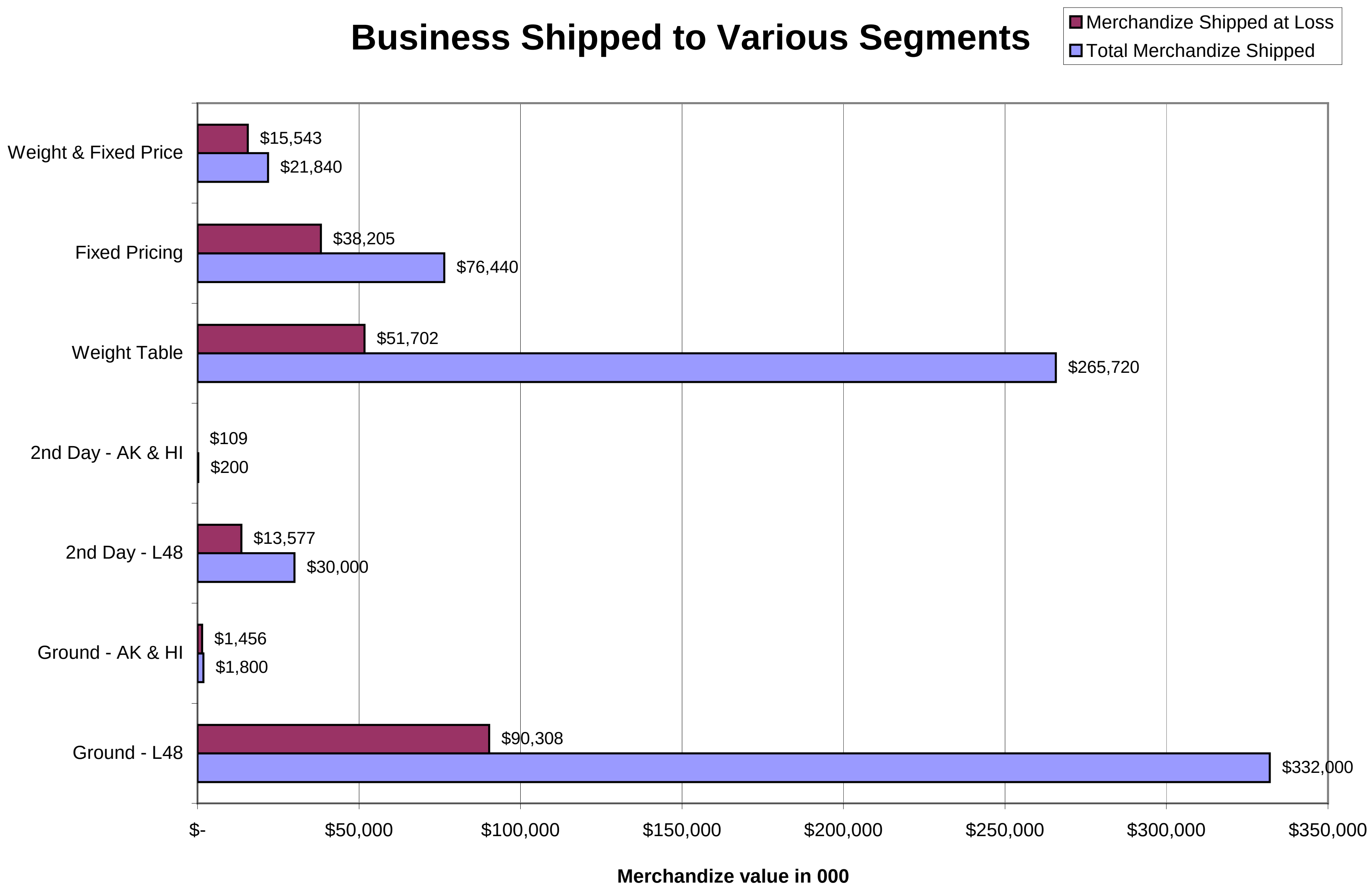
Recommended Conclusion

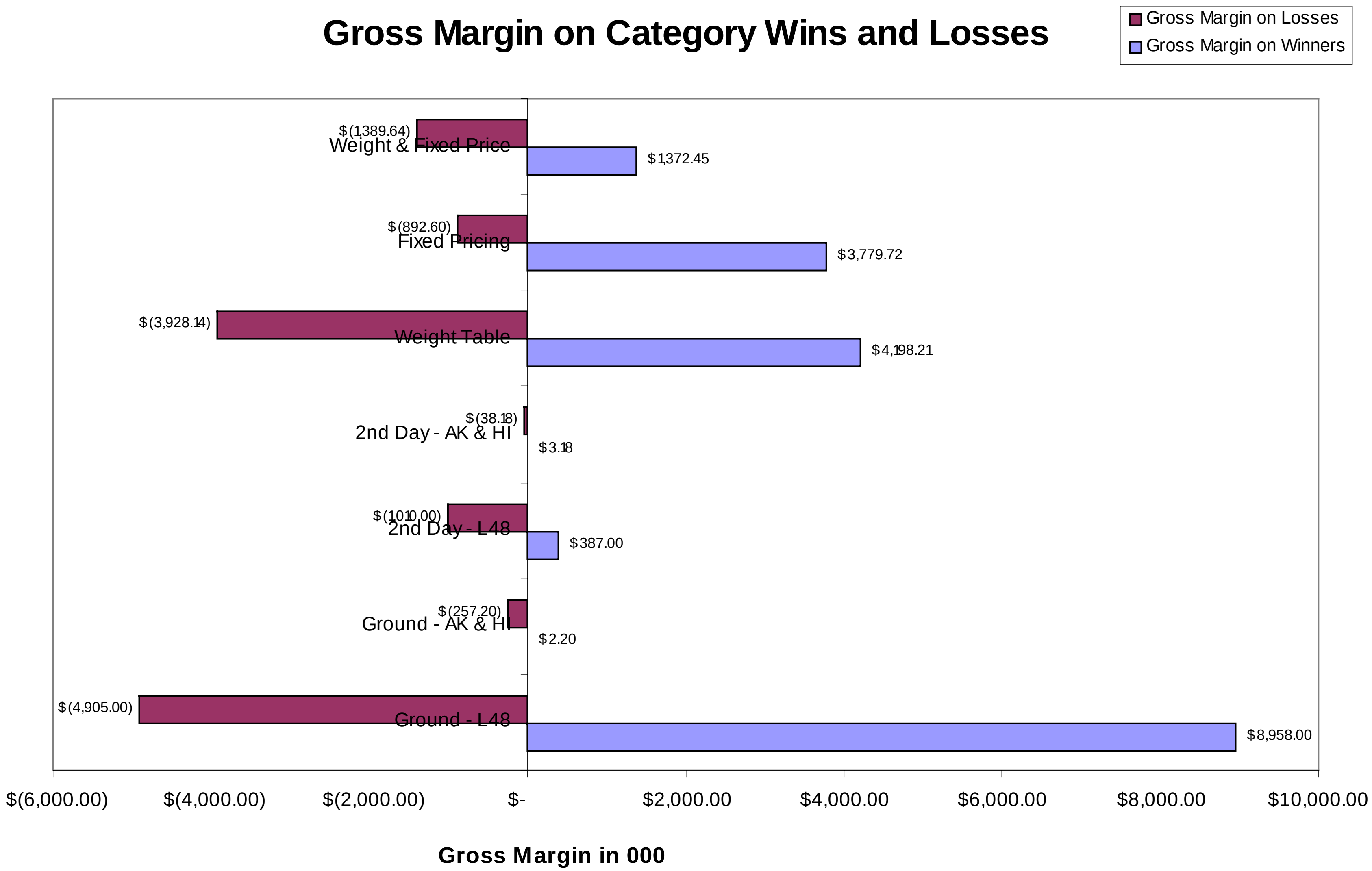
In the short-term the client can save ~30% of losses by:

- Increasing fixed S&H prices on 44 SKU's.
- Raise weight table prices for Ground orders to AK & HI and Expedited orders to both the Lower 48 states and AK & HI.

The higher prices might leave the client at a competitive disadvantage and therefore the long-term goal should be to reduce costs and return prices to normal. The client can look to reduce costs by:

- Conducting a "carton-size study" to determine the optimal assortment of boxes used
- Look to expand the distribution network to also ship items from locations in the east and west coast
- Negotiate lower shipping costs with the vendor


Business Shipped to Various Segments
Merchandize Shipped at Loss
Total Merchandize Shipped
Weight & Fixed Price
Fixed Pricing
Weight Table
2nd Day - AK & HI
2nd Day - L48
Ground - AK & HI
Ground - L48
$15,543
$21,840
$38,205
$76,440
$51,702
$265,720
$109
$200
$13,577
$30,000
$1,456
$1,800
$90,308
$332,000
$-
$50,000
$100,000
$150,000
$200,000
$250,000
$300,000
$350,000
Merchandize value in 000


Gross Margin on Category Wins and Losses
Gross Margin on Losses
Gross Margin on Winners
Weight & Fixed Price
$(1,389.64)
$1,372.45
Fixed Pricing
$(892.60)
$3,779.72
Weight Table
$(3,928.14)
$4,198.21
2nd Day - AK & HI
$(38.18)
$3.18
2nd Day - L48
$(1010.00)
$387.00
Ground - AK & HI
$(257.20)
$2.20
Ground - L48
$(4,905.00)
$8,958.00
$(6,000.00)
$(4,000.00)
$(2,000.00)
$-
$2,000.00
$4,000.00
$6,000.00
$8,000.00
$10,000.00
Gross Margin in 000

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