Consulting Club @ Ross

ROSS CASEBOOK 2016

Ross Consulting Club

September 2016

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Introduction

We proudly present the RCC 2016 casebook. This document is meant to provide a brief overview of the case interview process and a series of practice cases. For each case, we have specified the type, difficulty level, and industry. Some cases are also specific to certain formats used by the various firms. We highly encourage you to practice with fellow students, as this method best simulates the case interview process.

We have updated the firm and the industry overview sections of this casebook based on the most recent information available. The materials in this casebook are intended to provide a starting point for interview preparation, and we encourage you to build upon the information by doing your own research on industries and engaging with firms to gain a deeper understanding of their practices.

Best of luck in the upcoming recruiting season!

RCC 2016 Casebook Team

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FIRM OVERVIEW

Accenture

Does not sponsor internationals

Accenture is a large global management consulting firm specializing in executable solutions and organizational transformation.

About

- Focused on practical solutions that clients can implement
- Balance of strategy and implementation
- Rapidly growing management consulting division
- Internal Strategy College offers consultants the opportunity for professional growth
- New consultants hire into the global operating model or a specific industry

Quick Facts

- Number of consultants: 18,000
- Number of offices: 200 in 56 countries
- Services: 18

Interview process overview

- First Round:
  - Two 45- minute interviews consisting of a fit portion and a 30 minute case
- Second Round:
  - Two/Three 45- minute interviews consisting of a fit portion and a 30 minute case

Career path

- Consultant
- Manager
- Senior manager
- Senior Executive

A.T. Kearney

A.T. Kearney is a global team of forward-thinking, collaborative partners that delivers immediate, meaningful results and a long-term transformational advantage to clients and colleagues.

About

- Traditional strengths are operational consulting & strategy
- Increased presence in private equity work
- Diverse work environment and friendly colleagues
- Strongest industry verticals: Consumer, Industrial, Retail and Public Sector Energy (CIRP). Financial Services picking up
- Recent Managing Director change and aggressive growth strategy (including lateral hires) has been announced for the firm

Interview process overview

- First Round
  - 45 minutes case interview
  - 45 minutes behavioral interview
  - Conducted by a Manager/Principal
- Second Round
  - Written case (60 minutes preparation, 30 minute presentation including 15 minutes for Q&A)
  - Two 30-45 minutes fit interview

Quick Facts

- Number of consultants: 3500
- 61 offices in 40 countries
- 13 Industry groups
- 11 practice areas

Career path

- Associate
- Manager
- Principal
- Partner

Bain & Company

Bain & Company is a global management consulting firm that differentiates itself in solving business problems for clients by working with the clients' team as business partners and focusing on results.

About

- Expertise across all major industries and across functions
- Bain redefined the boundaries of traditional strategy consulting in working with companies such as: Tied Economics, BridgeSpan Group, PE consulting, Bain Capital
- Emphasis on people – opportunities to balance work –life, international transfers, externships, private equity rotations
- Leading consulting firm sought by major private equity firms
- Generalist model with office-based staffing

Interview process overview

- First Round:
  - Two-45 minute interviews including a brief fit interview (5-10minutes) and a case interview
- Second Round:
  - 45 minute behavioral interview
  - 45 minute case interview
  - Written case: Interviewee has 60 min to review a written case followed by a 30 minute presentation/Q&A by interviewer

Quick Facts

- Number of consultants: 5,700
- Number of offices: 51

Career Path

- Consultant
- Case Team Leader
- Manager
- Principal
- Partner

Boston Consulting Group

BCG is a global management consulting firm and one of the world's leading advisor on business strategy. Commitment to both clients' success and its own standards is what sets BCG apart.

About

- Regional staffing model
- Creative and supportive environment that values innovation
- BCG provides one of the lowest leverage ratios in the consulting industry; senior management works closely with junior consultants
- Emphasis on a generalist approach. Consultants are not required to specialize in an industry or service line until becoming a Principal

Quick Facts

- Number of consultants: 6,200
- 87 offices in 45 countries
- 19 Industry groups
- 18 practice areas

Interview process overview

- First Round
  - Two Case Interviews (Includes a section for behavioral)
  - Conducted typically by 2nd year Consultants to Principals
- Second Round
  - Three Case Interviews typically conducted by senior representatives
- All Interviews are 45 min with at least 25 min dedicated to the case
- Some offices (such as Chicago) piloting a written case

Career path

- Consultant
- Project Leader
- Principal
- Partner

Cognizant

Does not sponsor internationals

Cognizant is a global consulting firm focusing on business & IT solutions that increase competitive advantage through added efficiency and effectiveness.

About

- Strong data analytics driven solutions
- Senior consultants put on high profile projects right away
- Accelerated promotion track available for top performers
- National staffing model
- Customer-focus culture, based on passion, collaboration, cost reductions and business results
- End-to-end solutions provider with ideation to value realization framework

Quick Facts

- Number of consultants: 3,000+
- Number of global offices: 50+
- Industry Practices: 12
- Functional Practices: 6

Interview process overview

- First Round:
    - One 30 interview consisting of fit questions and another 45 minute interview consisting of a technology case question
- Second Round
    - Two 30 minute interviews consisting of fit and experience questions

Note: Technology case will be a general case consisting of a discussion about a general idea

Career path

- Senior Consultant
- Manager
- Senior Manager
- Director
- Senior Director

*Based on best available information

Deloitte

Deloitte is the world's largest consulting firm, specializing in strategy and operations , technology and human capital consulting across a broad range of industries and functions.

About

- Offers opportunities from strategy through execution, with national staffing providing flexibility to work in a variety of industries
- Continues to build capabilities to redefine how clients are served: has leading digital practice in Deloitte Digital, and acquired full service advertising agency Heat in 2016 to grow creative capabilities
- Built Deloitte University (DU), a leadership development, networking and training facility; produces whitepapers, periodicals, MOOCs and podcasts through DUPress
- Embeds Flexibility and Predictability initiative into all engagements to continue to provide work / life balance for consultants

Quick Facts

- Number of consultants: 20,000
- Number of offices: 80+ US offices, 20 available to students recruiting for an internship; 800+ Global offices; 8 available to students recruiting for internships
- Practices
  - Strategy & Operations (S&O); Technology (includes Deloitte Digital); Human Capital

S&O interview process overview

- First Round:
  - 30 minute behavioral interview
  - 30 minute analytical case interview (interviewer-led Q&A style case)
- Second Round:
  - 2 45 minute strategy case interviews (interviewee led) including a portion of behavioral upfront
  - 90 minute group case interview

Career path

- Senior Consultant
- Manager
- Senior Manager
- Principal or Director

Deloitte (continued)

Students must select which of the practices they would like to recruit for; each practice has a slightly different interview process.

Technology interview process overview

- First Round:
  - 30 minute behavioral interview
  - 30 minute analytical case interview (interviewer-led Q&A style case)
- Second Round:
  - 45 minute technology strategy case interview (interviewee led)
  - 45 minute behavioral interview (includes emphasis on the practice)
  - 90 minute group case interview

Human Capital interview process overview

- First Round:
  - 30 minute behavioral interview
  - 30 minute analytical case interview (interviewer-led Q&A style case)
- Second Round:
  - 45 minute human capital case interview (interviewee led)
  - 45 minute behavioral interview (includes emphasis on the practice)
  - 90 minute group case interview

Everest Group

Everest Group is a boutique management consulting firm working with executives for Global 500 companies on the development and execution of global strategies, including IT and business services.

About

- Types of projects include: growth, go-to-market, IT and sourcing strategy, as well as business transformation, change management, strategic talent management and implementation
- Research arm is the leading provider of global services market analysis
- Accelerated growth in consulting practice past few years – lots of opportunity for upward mobility
- New consultants will be hired into the global consulting practice

Quick Facts

- Number of consultants: 35; of which 5 are Partners
- Number of offices:
  - 2 – Consulting (Toronto & Dallas)
  - 3 – Research (India, Dallas & New York)
- Private company
- Follow global staffing model

Interview process overview

- First Round
  - Two 30-minute interviews back-to-back: one behavioral, one case
- Second Round
  - One written case and presentation to panel (1 hour prep, 15-minute presentation)
  - Three, 45-minute case interviews (w/Partner / Assoc Partner)
  - Two, 45-minute behavioral interviews

Career Path

- Consultant
- Senior Consultant
- Director
- Senior Director
- Associate Partner
- Partner

EY

EY is the 2nd largest professional service firms in the world delivering capabilities to help companies turn innovation into action, information into insight and risk into results.

About

Advisory Services

- Performance Improvement (PI) - includes all operations related work and a strategy function known as "strategic direction"
- Financial Services Organization (FSO) - strategy work for Financial Services clients

Quick Facts

- Number of consultants: 167,000
- *Vision 2020* is a firm-wide growth revenue to double revenues by 2020 (largely led by growth of consulting practices)

Interview process overview

- First Round (on campus):
  - One or two interviews[1]
  - Behavioral may be separate or part of each interview
- Second Round (off campus):
  - 2-4 interviews with Managers, Senior Managers and Partners
  - Mixture of behavioral and case interview
  - Group Exercise with a problem statement – 15 minutes

[1]*Depends on which service line you are interviewing for.*

Career Path

- Senior Associate
- Manager
- Senior Manager
- Partner

L.E.K Consulting

L.E.K Consulting is a global management consulting firm that leverages its deep industry expertise and uses analytical rigor to solve the toughest and most critical business problems of its global clients.

About

- Expertise in Private Equity, Airlines and MedTech
- 5 offices in the U.S: Boston, New York, San Francisco, Chicago and Los Angeles
- Office-based consulting model limits frequency of travel
- Provides strong opportunities for international exposure
- Option of declaring an industry focus early on in the career

Quick Facts

- Number of consultants: 1,000+
- 22 offices in 14 countries
- 15 Industry groups and 4 functional areas worldwide

Interview process overview

- First Round (phone interview):
  - Behavioral and case interviews (quantitative and estimations); 30 minutes; conducted by a consultant or manager
  - Behavioral and case interviews (qualitative); 30 minutes; conducted by a consultant or manager
- Second Round (Off-campus):
  - Business presentation interview ; 45 minutes preparation, 30 minutes presentation (no PowerPoint) including Q&A; conducted by principal and manager
  - Behavioral; 30 minutes; conducted by a partner
  - Behavioral and case; 45 minutes; conducted by a partner

Career path

- Consultant
- Manager
- Principal
- Partner

McKinsey & Company

McKinsey & Co is a large global management consulting firm focusing on high profile studies for businesses, governments, and institutions.

About

- Strong research department supporting consultants
- National staffing model
- High profile clients and studies
- Teams with diverse backgrounds (MBAs, PhDs, JDs)
- A culture that promotes work-life balance
- Encourages active discussion; individuals have "obligation to dissent"

Interview process overview

- First Round:
  - Two 45-60 minute interviews consisting of a case and fit questions (~15 minutes for fit questions)
- Second Round:
  - Three 45-60 minute interviews consisting of a case and fit questions (~15 minutes for fit questions)

Note: Fit questions address three main points: personal impact, leadership, and entrepreneurial skills

Quick Facts

- Number of consultants: 9,000
- Number of global offices: more than 100 offices in more than 60 countries
- Industry Practices: 22
- Functional Practices: 8

Career path

- Associate
- Engagement Manager
- Associate Principal
- Partner
- Director

Parthenon (Part of EY)

EY is the 2nd largest professional service firms in the world delivering capabilities to help companies turn innovation into action, information into insight and risk into results.

About

Parthenon – EY (Transaction Advisory Services)

- Parthenon joined EY on August 29, 2014 to form a strategy consultancy that helps firms reach their growth goals
- Work is divided as Strategy and Transaction Execution
- Strategy - Growth, Market Diligence, Market Entry, Portfolio Optimization
- Transaction Execution – Commercial DD, M&A Strategy, Sell-side Preparation

Interview process overview

- First Round (on campus):
  - Two interviews[1]
  - Behavioral may be separate or part of each interview
- Second Round (off campus):
  - Written Case - 30 mins and work with a consultant ~15 mins
  - Behavioral interview – 15-20 mins

[1] *Depends on which service line you are interviewing for.*

Quick Facts

- Number of consultants: 500+
- Number of global offices: more than 22 offices in more than 13 countries

Career Path

- Consultant
- Senior Consultant
- Vice President

Partners in Performance

Does not sponsor internationals

PIP is a global management consulting firm and known for identifying and delivering bottom line improvements.

About

- Non office-based staffing model, consultants may live anywhere
- Creative and supportive environment that values innovation
- Emphasis on executable ideas over broad strategy
- Work hand-in-hand with client representatives from all levels to deliver value and sustainable improvements

Quick Facts

- Number of consultants: 400+
- Based in Australia with practices on each continent
- 17 Industry groups
- 15 practice areas

Interview process overview

- First Round (2 interviews):
    - Each interview will have a Case and Behavioral portion
    - Interviewers will range from Managers to Principals
- Second Round
    - Same format as the first round

Career path

- Associate
- Senior Associate
- Manager
- Associate Principal
- Principal
- Director

PwC Advisory

PwC Advisory is a rapidly growing consulting organization backed by the stability and strength of the PwC brand. They support clients in designing, managing and executing lasting beneficial change.

About

- National staffing model
- Focus on four industry verticals: Financial Services, Health Care, Product and Services, Public Sector
- Consulting practice projected to double in the next two years
- High investment by the firm on internal networking events to develop strong intra-company bonds
- New employees recruit for a specific industry focus

Quick Facts

- Number of advisory staff: 46,000+
- 758 offices in 160 countries
- Practice areas:
  - Strategy
  - Finance
  - Operation
  - People & Change
  - Risk

Interview process over view

- First Round (On-campus, 2 sections, 45 minutes each)
  - Behavioral
  - Mini-Case and Fit
- Second Round (3 sections, 45 minutes each)
  - Behavioral
  - Content interview: Industry Focus Interview
  - Case interview: a presentation based on a case emailed 48 hours in advance

Career path

- Senior Associate
- Manager
- Partner/ Principal

Roland Berger

Roland Berger is one of the top international consultancies. It prides itself on developing creative strategies and implementing practical solutions.

About

- Locations in U.S: Chicago, Boston, Detroit
- Values entrepreneurial spirit and individuality of consultants
- Three core values: entrepreneurship, excellence and empathy
- Deep Understanding of diverse cultures and markets
- Internal transfer policy that allows consultants to permanently change offices if they have suitable language skills
- Every new hire is assigned a senior mentor to help with the transition and personal development

Interview process overview

- First Round
  - Fit and short case interview; 45 minutes; conducted by consultants
- Second Round
  - Personal fit interview; 30 minutes; conducted by consultants
  - Business knowledge interview; 30-45 minutes; conducted by a partner
  - Presentation case interview ; 30-60 minutes preparation, 30 minutes for presentation including Q&A; conducted by consultants and members of management team

Quick Facts

- Number of consultants: 2400
- 50 offices in 36 countries
- 26 Industry groups and 27 functional areas worldwide
- 3 industry groups and 4 functional areas in North America

Career path

- Senior Consultant
- Project Manager
- Principal
- Partner

Strategy&

Strategy&, member of the PwC network of firms, is a global management consulting firm known for its functional expertise, industry foresight, and “sleeves rolled up” approach to working with clients.

About

- Strategy& is been known for deep industry and functional expertise across public and private sectors, influential global studies and books, and management magazine “strategy + business”
- Emphasis on mentoring and assessment – senior mentor, junior mentor, 360 degree performance assessment
- Expertise across diverse industries and functional areas and emphasis to pick either industry or function; functions align to industry practices as you move up
- National staffing model

Interview* process overview

- First Round:
  - Two 45- minute interviews consisting of a fit portion and a 30 minute case
- Second Round:
  - Two 45 minute interviews with partners following the same format as the first round

**Can apply to PwC and Strategy&, but can only interview with one*

Quick Facts

- Number of consultants: 3,000
- Number of offices: 57, including North America, South America, Europe, Middle East, Asia, Australia, New Zealand and South East Asia

Career Path

- Associate
- Senior Associate
- Principal
- Vice President, Partner

The Cambridge Group

Does not sponsor internationals

The Cambridge Group is a management consulting firm specializing in helping clients identify and capture market demand.

About

- Acquired by The Nielsen Company in 2009 enables access to key customer insights
- Emphasis on helping Growth strategy – top line growth
- Office-based consulting model limits frequency of travel
- Major industries include retail, CPG, and financial services, but expanding into other areas including media and technology

Quick Facts

- Number of consultants: 90
- Number of offices: 1 (Chicago)

Interview process overview

- Single Round (3 consecutive interviews over ~2 hours):
  - Two 40-45 minutes – Full case interview
  - 40-45 minutes – Behavioral interview

Career path

- Consultant
- Project Manager
- Project Director
- Principal

Treacy and Company

Treacy and Company is a management consulting and venturing firm that advises clients on their most most pressing performance issues related to strategy, growth, and profitability.

About

- Emphasis on helping growth strategy and innovation (product and service, go-to-market, operating model)
- Major industries include financial services, telecommunications, industrial products, healthcare, and consumer goods.
- Works in highly focused teams—typically a partner and two or three consultants
- Has an active venturing arm that focuses on Stage 0 start-up ideas with a goal of launching at least one new viable venture each year

Interview process overview

- First Round (2 interviews):
  - Two 30 minutes – 20 minutes case and 10 minutes behavioral
- Second Round (3 interviews):
  - 45 minute behavioral interview
  - Two 45 minutes - 30 minutes case interview and 15 minutes behavioral

Quick Facts

- Number of consultants: 100+
- Number of offices: 2 (Chicago and Boston)

Career path

- Associate
- Engagement leader
- Principal

ZS Associates

Does not sponsor internationals

ZS Associates is a global management consulting firm specializing in using data driven strategies to provide sales and marketing solutions.

About

- Expertise in marketing and sales with a focus in healthcare
- Partnership with clients to design and implement solutions
- ZS services include consulting, outsourcing, technology, and software
- Project-specific and formal training provide opportunities for continued professional development

Quick Facts

- Number of consultants: 2,000
- Number of offices: 20
- Practices
  - Business consulting
  - Business operations
  - Business technology

Interview process overview

- First Round:
  - On –campus consisting of two sessions-a behavioral interview and a case interview; 45 minutes each; conducted by a manager
- Second Round:
  - Behavioral interview; 45 minutes
  - Case interview; 45 minutes; conducted by a principal
  - Business presentation interview ; 45 minutes preparation, 30 minutes presentation including Q&A

Career path

- Consultant
- Manager
- Associate Principal
- Principal

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INDUSTRY OVERVIEW

Airline Industry

Key Ideas	Revenue Streams	Cost Drivers
▪ Consolidation in industry ▪ Low cost carriers and fare competition on competitive routes ▪ Online booking and check-in ▪ Expansion of domestic and international routes ▪ Capacity optimization (Load Factor)	▪ Ticket sales to economy and business passengers ▪ Charges for baggage and on-board services (up-selling) ▪ Cargo transportation ▪ Credit cards	▪ Fuel ▪ Labor ▪ Marketing ▪ Terminal fees ▪ Insurance/legal fees

Customer Segments	▪ Leisure travelers – (generally price sensitive) ▪ Business travelers – (very important to airlines due to margins and services purchased) ▪ Freight/Cargo Transportation
Channels	▪ Internet - online travel sites, airline websites ▪ Airline sales team: call centers, online, or kiosk ▪ Travel management companies (TMCs) serving corporate clients, travel agents
Risk	▪ Changes in fuel prices have a major impact on profitability ▪ Macro-economic conditions greatly impact amount of leisure travelers ▪ An intensely competitive market with many foreign airlines partly government subsidized
Key Economic Drivers	▪ World Price of Crude Oil ▪ Trips by US residents ▪ Optimization of capacity ▪ Per capita disposable income

Automotive Industry

Key Ideas	Revenue Streams	Cost Drivers
▪ Automakers, Original Equipment Manufacturers (OEMs), Replacement Parts Production, Rubber Fabrication ▪ Highly capital and labor intensive ▪ Extensive competition due to foreign automakers ▪ Unions	▪ New car sales ▪ Auto part sales ▪ Services offered with vehicle purchase ▪ Financing ▪ Extended warranties ▪ Leasing	▪ Labor ▪ Materials ▪ Advertising ▪ Financing costs ▪ Recall costs

Customer Segments	▪ Cars, vans, pickup trucks and SUVs ▪ Personal car buyers ▪ Rental car companies ▪ Commercial purchasers ▪ Government purchasers
Channels	▪ Automobile dealers ▪ Secondary automobile market ▪ Automotive parts/services outlets
Risk	▪ Globalization of the industry enables more ease of foreign competition ▪ Extensive competition impact on already low margins ▪ Changes in consumer trends and tastes
Key Economic Drivers	▪ GPD growth ▪ Income growth/disposable income ▪ Price of crude ▪ Steel prices ▪ Consumer confidence index ▪ Yield on Treasury note

Commercial Banking

Key Ideas

- Consolidation/acquisitions
- Increased mobile banking
- Channel innovation in digital and physical channels
- Customer attrition rate
- Offshoring of call centers, back office functions
- Digitization of processes
- Cross-selling

Revenue Streams

- Loan interest
- Loan types
  - Real estate
  - Auto
  - Personal
  - Education
- Service Fees
- Spread between interest rate charged and Fed rates
- Credit cards

Costs Drivers

- Wages
- Bad debt expense
- Interest rates on deposits
- Branch and compliance costs
- Overhead costs - paper fee; error rate costs for manual processing

Customer Segments

- Wealth: deposit balances, income
- By lifestyle: buying behavior
- Size: small businesses and consumers
- Age: under 35 adapt to technology better

Channels

- Savings and loan
- Credit union
- Traditional checking
- Online banking
- Microfinance

Risk

- Change in savings behavior
- Loan default, interest rates and federal funds rates

Key Economic Drivers

- Consumer confidence
- Household debt
- Employment statistics
- Urbanization
- Home and car buys
- Disposable income
- Interest rate
- Government Regulation

Health Care Industry

Key Ideas	Revenue Streams	Cost Drivers
▪ Affordable Care Act ▪ Highly fragmented: Top 50 organizations account for 15% revenues ▪ Employers pushing health care costs onto employees ▪ Aging Baby Boomer population driving increased revenues	▪ Hospital care ▪ Physician and clinical services ▪ Prescription drugs ▪ Nursing ▪ Dental services ▪ Research, Equipment, Investment	▪ Dependent on segment ▪ Significant costs related to new technology implementation ▪ Often inefficient organizational structures

Customer Segments	▪ Patients/consumers ▪ All generations and segments of the population require different products/services
Channels	▪ Hospitals ▪ Doctors offices ▪ Nursing homes ▪ Outpatient surgery centers ▪ Pharmacies ▪ Medical equipment
Risk	▪ New legislation (Impact of Affordable Care Act still uncertain) ▪ Funding availability
Key Economic Drivers	▪ Regulation for health & medical insurance ▪ Federal funding for Medicare and Medicaid ▪ Aging population ▪ Advances in medical care and technology

Non-profit Industry

Key Ideas

Intended Impact
- Define success criteria
- Think big picture (e.g., society, people you are working for/with0
- Consider tradeoffs
  - Depth vs. breadth of reach
  - Quality vs. quantity of program initiative
- Intended impact should align with strategic goals

Theory of Change
- Define specific actions steps to achieve the intended impact
- Define timelines, initiative priorities and ownership responsibilities

Implementation Feasibility
- Revenue Impact (Self sustaining model, grants)
- HR costs: creating new roles, hiring new staff, train existing and new staff, modify existing organization structure
- New infrastructure cost – IT systems, office space
- Indirect costs
  - Impact on culture of organization
  - Impact on scale on quality of outcomes

Performance Measures and Reporting Impact
- Measure performance vs. peers
- Set milestones for financial and operational goals
- Monitor and modify plan accordingly
- Consider performance during and after implementation of initiatives

Case topics

- Growth through existing platforms
- Growth through new partnerships
- Growth driven by policy changes
- Thought sharing to strengthen the industry
- Growth using technology

Link for sample case:
http://www.bridgespan.org/MediaLibraries/Bridgespan/BridgespanMedia/AboutUs/HR/PracticecaseinterviewFall2007.pdf

Oil & Gas Industry

Key Ideas	Revenue Streams	Cost Drivers
▪ Upstream, midstream, downstream ▪ PV-10 ▪ Cost per gallon ▪ OPEC ▪ GDP growth ▪ Renewable energy ▪ Fracking	▪ Crude oil ▪ Gasoline ▪ Natural gas ▪ Refining products such as lubricants ▪ Gas stations: gasoline, food market, car wash	▪ Exploration: seismic studies, drilling rigs and labor ▪ Production: refining ▪ Pipelines ▪ Gas station: oil, labor, insurance, licenses

Customer Segments	▪ Petroleum refiners ▪ Electricity generators	▪ Domestic and commercial users ▪ Other industries
Channels	▪ Retail ▪ Wholesale	▪ Commercial
Risk	▪ Access to reserves ▪ Energy policies ▪ OPEC decisions	▪ Political pressures ▪ Substitutes/renewable energy
Key Economic Drivers	▪ Government regulation ▪ International oil production and demand	

For the 2014-2015 changes in O&G industry read: http://www.nytimes.com/interactive/2015/business/energy-environment/oil-prices.html?_r=0

Pharmaceutical Industry

Key Ideas	Revenue Streams	Cost Drivers
▪ Affordable Care Act ▪ Aging population ▪ Patents and generics ▪ Research & Development ▪ Insurance ▪ FDA ▪ Market penetration ▪ Contract v. in-house salesforce	▪ Insurance payments ▪ The federal government provides certain grants to subsidize R&D ▪ Due to significant R&D lead times revenue is highly volatile ▪ Seasonality is high on certain products (vaccines and cold medicine) and low on other products (pain medicines)	▪ Research & Development ▪ Manufacturing cost (the largest share of the industry's costs) ▪ Marketing costs ▪ Wages ▪ Liability insurance and legal fees

Customer Segments

- Medical patients
- Prescribing doctors
- Government insurance programs
- Health insurance companies

Channels

- Over-the-counter
- Prescription drugs: Hospitals, pharmacies
- Mail order pharmacy: Express Scripts, Walgreens

Risk

- Generic manufacturers pose a major competitive threat following patent expiration
- Tariff barriers are no longer a relevant form of protection
- Unfavorable government healthcare regulations and CMS rates

Key Economic Drivers

- Median age of population
- Research and development expenditure
- Insurance and regulatory landscape
- Patent protection

Private Equity & Hedge Funds

Revenue Streams	Cost Drivers	Key Ideas
▪ Components of the revenue charge ○ Invested capital ○ Transaction and advisory fees ○ Carried interest ▪ Divestures	▪ Wages and profit-sharing ▪ Administrative costs(regulatory filings, record keeping, accounting and travel)(sub-bullets) ▪ Outsourcing of capital intensive IT functions for algorithmic trading	▪ Value creation: selling underperforming assets, pricing optimization, diversifying customer base, operations efficiency ▪ Exit: strategic or IPO ▪ Synergies ▪ Stability of cash flows(IRR, NPV) ▪ Strong management team ▪ Targeted returns ~ 40%+ ▪ Un-invested capital vs. invested

Investors	▪ Pension funds (largest share) ▪ Private investors (e.g. High net-worth individuals) ▪ Banks, sovereign funds and life insurance companies
Averages in Industry	▪ Large firms focus on deals ~ $1.0B; middle market firms cover deals between $15.0M- $1.0B ▪ Average holding period before sale has increased from 3 years to 6 years in the past 15 years ▪ Borrowing can typically range from 65.0% to 85.0% of the purchase price of the firm
Risk	▪ New regulation -> compliance costs, Rising competition -> decreasing industry fees ▪ Competition also exists with sovereign wealth funds and corporate buyers ▪ Changes in tax structure
Key Economic Drivers	▪ Investor uncertainty/Pension demand ▪ Access to credit/interest rates ▪ Regulations ▪ Exit opportunities ▪ GDP/Investment returns

Retail

Key Ideas	Revenue Streams	Cost Drivers
▪Same store sales ▪Sales per square foot ▪Inventory turn-over ▪Seasonality/recessions ▪Trends	▪ Women's apparel sale ▪Drugs & cosmetics ▪Furniture & household appliances ▪Children apparel ▪Men's apparel ▪ Toys ▪Footwear ▪Misc. items	▪Cost of Goods Sold (74% of costs) ▪Transportation ▪Wages ▪Rent and utilities ▪Marketing

Customer Segments	▪The industry consumer-oriented and, due to the spectrum of products, its markets are generally segmented into different income, demographics and age
Channels	▪Department Stores/Big box retailers ▪Discount retailers ▪Demographic retailers ▪Shopping malls
Risk	▪ Changes in disposable income ▪ Demand and supply issues ▪ Overstock ▪ Easy entry invites competition
Key Economic Drivers	▪Consumer Confidence *i*ndex ▪Per capita disposable income ▪International Export/Import ▪Gross Domestic product/inflation ▪Households > 100,000 income(luxury goods) ▪Commodity prices(eg : gold price for jewelry)

Telecommunications Industry

Key Ideas	Revenue Streams	Cost Drivers
▪ Deregulation led to spur of new companies ▪ Bottlenecks: High capital, scarce operating skills and management experience ▪ Shift from telephones to internet based services for mobile ▪ Bundling of services	▪ Voice calls ▪ Additional lines/family plans ▪ Text and image communication ▪ Data subscriptions ▪ Accessories	▪ Infrastructure ▪ Wages ▪ Marketing and advertising

Customer Segments	▪ Residential and Small Business (Price sensitive) ▪ Large multinationals (Price insensitive)
Channels	▪ Retail stores - carriers and mass retailers ▪ Online
Risk	▪ Rapid development of technology ▪ High exit barriers ▪ Systems not reusable across industries
Key Economic Drivers	▪ Investment in rising technology services ▪ Number of subscriptions to additional services ▪ Number of broadband and mobile internet connections

Utilities Industry

Key Ideas	Revenue Streams	Cost Drivers
▪ Increase in energy consumption ▪ High investment costs and regulations ▪ Industry structure is disintegrating into smaller supplier segments ▪ Seasonality ▪ Gov. incentives for sustainable initiatives ▪ Bundling services w/renewable	▪ Transmitted electricity: base load and intermittent electricity ▪ Base load (95% of industry) ▪ Coal, natural gas, nuclear, other ▪ Intermittent: renewable energy	▪ Purchased power accounts (nearly half of total costs) ▪ Infrastructure ▪ Wages ▪ Marketing ▪ Maintenance contracts

Customer Segments	▪ Commercial and Industrial ▪ Residential
Channels	▪ Transmission lines/pipelines ▪ Upstream electricity generators
Risk	▪ Clean energy threatens the future of traditional power generation methods ▪ Seasonal demand leads to uncertain estimates ▪ Energy efficient appliances decrease consumption
Key Economic Drivers	▪ Economies of scale ▪ Industrial production index ▪ Climate/seasonality

Further Reference

Other recommended sources include

- IBIS World reports
- Industry Handouts on Investopedia

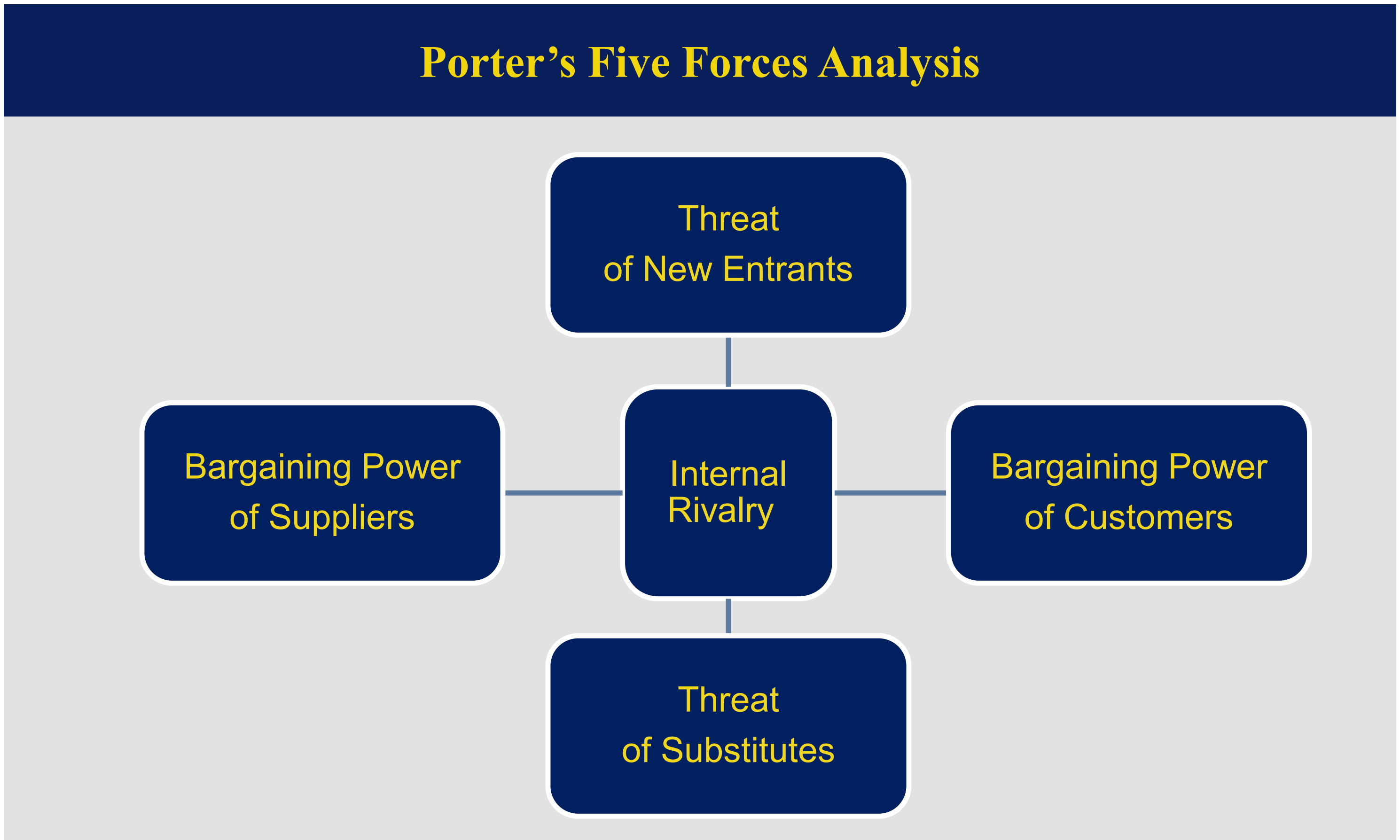
Consulting Club @ Ross

CASE INTERVIEW BASICS

Case Structure

Understand the Question (~1-2 minutes)	Develop Framework (~2 minutes)	Analyze (~20 minutes)	Form Recommendation (~1-2 minutes)
• Listen! • Paraphrase the problem statement to make sure you understand the situation and objectives • Ask 1-2 clarifying questions around the topic and/or metrics to be used for the analysis • Make sure you have all the information you need to develop a framework • State an initial hypothesis which you plan to test using your framework	• Ask for a moment to organize your thoughts • Develop 3-4 areas to analyze along with a few tailored sub-topics • Structure the framework in a logical fashion – it should open with the most important topic and provide the interviewer with a roadmap of where you plan to take the case • Engage interviewer by turning framework towards them and explain framework, including relationships between various buckets	• Refer back to the framework as you move through each of the main areas • Use one sheet of paper per topic – think of the case as presentation deck • Tie back each piece of analysis to the main objective/problem statement • Walk through the calculations /analysis • Drive insights whenever possible!	• State your recommendation as a direct response to the problem/objective – it should not come as a surprise to the interviewer • Incorporate key metrics/findings as a part of your recommendation • Include risks, mitigation of risks and next steps

Porter's Five Forces



Porter’s Five Forces

Concept	Key Drivers	
Internal Rivalry	• Concentration and balance • Industry growth • Product differences	• Exit barriers • Overcapacity
Threat of New Entry (Barriers to Entry)	• Economies of scale • Capital requirements • Access to distribution channels	• Competitor response • Brand identity • Proprietary product differences
Threat of Substitutes	• Switching costs • Relative pricing	• Availability of and consumer propensity to substitute products
Bargaining Power of Suppliers	• Supplier concentration • Switching costs	• Threat of forward integration • Product differentiation
Bargaining Power of Customers	• Buyer concentration • Buyer volume • Buyer switching costs	• Ability to backward integrate • Substitute products

Key Marketing Concepts

4Ps	Considerations	
Product	• Features and capabilities • Quality and reputation • Service and warranties	• Packaging and size • Positioning and market segmentation • Differentiated versus commodity
Promotion	• "Pull" versus "push" • Consumer awareness • Loyalty • Advertising medium	• Public relations • Buying process • Trial/Repurchase
Price	• Perceived value • Willingness to pay • Retail/Discounts • Economic incentives	• Skimming • Strategy → relation to market size, product lifecycle, and competition
Place (Distribution)	• Channels • Inventory → levels, turnover, carrying costs	• Coverage • Transportation → alternatives, efficiencies, costs

Key Marketing Concepts

3Cs	Considerations
Company	• Strengths/Weaknesses/Opportunities/Threats • Strategy and vision • Available resources/Capacity • Experience/Learning curve • Financial • Culture/Organizational structure
Competition	• Industry • Size/Number/Market share • Economies of scale/Scope • Capabilities/Experience • Resources → Financial, distribution
Customer	• Perceptions • Loyalty • Switching costs • Purchase behavior • Segmentation • Market characteristics/Trends

General Frameworks

Topic	Key Drivers

Revenue	• Volume
	  • Internal → Price, Customer Service, Distribution/Inventory/Capacity
	  • External → Competition, Substitutes/Complements, Market Forces/Demand
	• Price → Competition, Elasticity, Differentiation, Segments
	• Product Mix → Attributes (e.g. niche, patent), Quality, % of Revenue, Variety
	• Alternative Revenue Streams

Costs	• Fixed Costs → Manufacturing, Labor, Marketing, Overhead, IT, SG&A, PP&E • Variable Costs → Inputs, Distribution, Marketing, Maintenance, Packaging, Inventory • Balance Sheet Items • Benchmark Opportunity Cost/Cost Accounting/Capacity Utilization • External → Union strikes, Technology, Currency Fluctuations, Tariffs, De-Regulation

General Frameworks

Topic	Key Drivers	
Competition	• Rivals (structure) • New Entrants • Substitutes	• Reaction • Position
Customers	• Market Size • Segments • Needs	• Purchase Drivers • Price Elasticity • Retention/Loyalty
Processes	• Manufacturing • Marketing • Sales • Distribution	• Customer Service • IT • R&D • Forecasting
Company	• Core Competencies • Cost of Capital • Brand • Organization / Incentives	• Controls • Financial Capability • Management Capability

General Frameworks

Topic	Key Drivers
Macro	• Legislation • Unions • Technology • Economy → Oil, Interest Rates, Unemployment • International Issues → Politics, Regulations, Taxes, Tariffs • Environment • Socio-Cultural • Demographics
Supply Chain	• Suppliers • Distributions
Industry	• Barriers to Entry/Exit • Lifecycle • Consolidation • Government Policy • Capital Costs • Access to Technology, Distribution, etc.

Key Formula Review – Income Statement

Topic	Formula
Income Statement	Sales - COGS = Gross Profit - Operating Expenses (excluding Depreciation/Amortization) = EBITDA - Depreciation/Amortization = Operating Profit (EBIT) - Interest Expense = Profit before Tax - Tax Expense = Net Income
Margin	Gross Margin = (Revenue - Cost) / Revenue EBIT Margin = Operating Income/ Sales Revenue EBITDA = EBIT + Depreciation & Amortization Net Margin = Net Income / Sales Revenue
Breakeven	$\text{Breakeven} = \dfrac{\text{Fixed Cost (FC)}}{\text{Price (P)} - \text{Variable Cost (VC)}}$

Key Formula Review – Income Statement

Ways to value a company	• Discounted Cash Flow • Multiple based (EV/EBITDA, P/E) • Transaction based (Past M&A deals in the same industry)
Time value of Money	Perpetuity = Annual Cash Flow / (Discount Rate – Growth Rate) NPV = ∑ {Net Period Cash Flow/(1+R)^T} - Initial Investment where R is the rate of return and T is the number of time periods.
Rule of 72	Time for invested principal = 72/ R R = rate of return At 7% R, the investment will double every 10 years At 10% R, the investment will double every 7 years
Return on Assets (ROA)	ROA = Net Income/ Total Assets
Return on Equity (ROE) Du Pont Analysis	ROE = Net Income / Total Shareholder's Equity ROE = Operating Efficiency * Asset Efficiency * Financial Leverage

Economics Review

Concept	Definition
Adverse Selection	Situation in which an individual's demand for insurance is aligned to their risk of loss (i.e. people with the highest expected value will buy insurance) and the insurer cannot account for this correlation in the price.
Consumer Surplus	Economic gain achieved when consumers purchase a product for a price less than their willingness to pay. • Consumer Surplus = Willingness to Pay - Price
Economies of Scale	The average cost per unit for a business entity is reduced by increasing the scale of production.
Economies of Scope	The average cost for a business entity is reduced by producing two or more products.
Elasticity	• If E>1, decrease price to increase revenue • If E<1, decreased price leads to lower revenue
Law of Diminishing Returns	At some point in the production process, the addition of one more unit of output, while holding everything else constant, will eventually lead to a decrease in per unit returns.

Economics Review

Concept	Definition
Marginal Cost	Cost of one more unit of output.
Monopoly	Entity is the only supplier of a particular good. • Lack of competition → produce less and charge more • Barriers may include government regulation, networks, patents, scale, etc. • Revenue is the midpoint of the demand curve
Moral Hazard	The unobservable actions and risks that humans may take once a contract is signed since they don't bear consequences. It is a special case of information asymmetry that affects the cost of transaction.
Perfect Competition	• Firms take price → MR = P • Maximum profit = MR = MC • P<AVC → shut down
Price Discrimination	Situation in which identical goods are sold at different prices from the same provider. • 1sr degree → Different price for different willingness to pay • 2nd degree → Different price for different quantities • 3rd degree → Different price for different segments (attributes)
Risk Averse	Individuals who prefer certainty over the uncertain for the same expected value (EV).
Risk Neutral	Individuals who are indifferent on risk taking if the EV is the same.
Risk Seeking	Individuals who prefer risk even if the EV for a certain event and the risk is the same.

Key definitions

Term	Definition
Arbitrage	The purchase of securities on one market for immediate resale on another market in order to profit from a price discrepancy.
Break-Even	Total amount of revenue needed to offset the sum of a firm's costs. Implies that the firm's profit will be $0.
CAGR	Compound Annual Growth Rate: (Ending value/beginning value)^(1/# of years)-1. Most likely to show up in a case with graphs and exhibits.
Capacity	The maximum level of output of goods and/or services that a given system can potentially produce over a set period of time.
Competitive Advantage	When a firm is able to deliver benefits equal to competitors but at a lower cost OR able to deliver greater benefits than competitors.
Contribution Margin	C=P-V, where P is unit price, and V is variable cost per unit.
Core Competencies	The activities that a firm does well to create competitive advantage.

Key definitions

Term	Definition
Customer Segmentation	Subdivision of a market into discrete groups that share similar characteristics.
Discount Rate	Also known as cost of capital. There is an opportunity cost associated with every investment, with the cost being the expected return on an alternate investment.
Entering New Market	Three main methods: start from scratch, form joint venture, acquire an existing player.
Fixed Costs	Costs that do not change with an increase or decrease in the amount of goods or services produced.
Gross Margin	A Company's total sales minus its cost of goods sold, divided by the total sales revenue, expressed as a percentage.
Horizontal Integration	The acquisition of additional business activities at the same level of the value chain.
International Expansion	Main mechanisms: exporting, licensing, franchising, joint venture, foreign direct investment (acquisition or startup).

Key definitions

Term	Definition
Inventory Turnover	A ratio showing how many times a company's inventory is sold and replaced over a period. Should be compared to industry averages: low turnover implies poor sales or excess inventory; high ratio implies either strong sales or ineffective buying.
Learning Curve	Visually shows how new skills or knowledge can be quickly acquired initially, but subsequent learning becomes much slower. A steeper curve indicates faster, easier learning and a flatter curve indicates slower, more difficult learning.
Market Share	The percentage of market size controlled by an individual firm.
Payback Period	The length of time required to recover the cost of an investment.
Market Size	Total size of a population (usually measured in number of people or actual dollar value) that would purchase a company's goods or services. Market size is always relevant and is a question that should be asked.
Product Lifecycle	Four main stages: market introduction, growth, maturity, decline.
NPV	The difference between present value cash inflows and present value cash outflows.

Key definitions

Term	Definition
Product Mix	Total number of product lines that a company offers to its customers. Often an important area to explore in profitability cases to identify loss-making products.
Promotion	Coupons, discounts, trials, etc. designed to increase sales of a product or service.
Rule of 72	Also known as the rule of 70, AKA rule of 69. Simply put 72, 70 or 69 in the numerator and the projected annual growth rate in the denominator to give you the amount of time until the investment doubles.
Sales per Square Foot	The average revenue a business creates for every square foot of sales space. Used in the retail industry as a measure of efficiency.
Same Store Sales (SSS)	A statistic used in retail industry to determine what portion of new sales has come from sales growth and what portion from the opening of new stores.

Key definitions

Term	Definition
SWOT Analysis	Strengths, Weaknesses, Opportunities and Threats. Very basic framework, probably not a good idea to put down as your case framework, but good to have as a mental checklist.
Synergies	The idea that the value and performance of two companies combined will be greater than the sum of the separate individual parts. Used mostly in M&A.
Value Chain	Another concept from Michael Porter. His Value chain: Inbound Logistics, Operations, Outbound logistics, Marketing and Sales.
Variable Costs	Costs that vary depending on a company's production volume; they rise as production increases and fall as production decreases.
Vertical Integration	Degree to which a firm owns its backward suppliers or forward buyers.
Weighted Average	An average in which each quantity is assigned a weight. These weightings determine the relative importance of each quantity on the average.

Consulting Club @ Ross

CASES

Case 1: Metal Co., Ross Original (Interviewer Driven)

Prompt

- Your client, Metal Co, is a global company involved in manufacturing parts of made from metals, plastics and glass. They have an expertise in a stamping process whereby they use heavy machines to stamp and cut parts from sheets of those raw materials. All their parts are usually made to order. Some examples of those parts include car doors, window panes, dashboards of cars etc.
- They are headquartered in the US but operate in 200 countries. Like most of the economy, they experienced a severe downturn in 2009. However, they have been able to recover well from revenue standpoint and the year on year revenues have stabilized. But, their profitability is much lower compared to competition and this has put severe pressure on the CEO. The CEO thinks that there are concerns with the cost structure of the company and wants you to specifically analyze their cost structure.
- Before we begin, do you have any questions?

Additional Information (if requested)

- **Target:** There is no target, the greater the savings the better it is.
- **Revenue:** We don't have the numbers but we know that they are stable (low growth).
- **Activities:** Design of parts and manufacturing. They have plants in all the countries since they are involved in heavy and volumetric parts. Sometimes, they outsource a part of their activities to smaller companies.
- **Customers:** Auto makers, construction companies, electronics companies

Evaluation Guide

A strong candidate will:

- Identify that this is a cost problem and avoid too many questions on revenue or customers.
- Absorb following key takeaways – global nature, focus on cost structure
- Point to the fact that most companies managed to bring their costs down during recession but maybe Metal Co did not

Question 1: Can you list the cost components you would like analyze and how?

Strong Candidate Will Cover:
• Raw Material – Steel, plastic, glass, etc. • Labour – plant workers, designers, engineers • Utilities – Electricity, Water, Gas • PP&E – Depreciation of Machines • Sales & Marketing – including lobbying • Transportation – Raw material and finished goods transportation • Outsourcing costs – manufacturing of parts, designing

Exceptional Candidate Will Cover:
• Mention outsourcing costs as a key costs component. They will identify that if a higher margin activity like designing is outsourced, their margins will be lower. However, if low margin activities like manufacturing is outsourced, the margins will be higher. • Want to benchmark the costs with those of the competition • Will prioritize on Raw Material, Labour and/or Utilities as key items to focus on.

Question 2: We obtained some cost figures from Metal Co and this is what we found (hand Exhibit 1). Please share your thoughts and next steps based on this.

Strong Candidate Will Cover:

- The costs for Steel & Plastic have increased by 50% in two years.
- This is a commodity item and the costs should not have increased dramatically.
- The costs for Heating and Air-conditioning as well as Electrical went up for 2 years ago and then came back down.
- This means that the company has either controlled the costs, or the projects with such requirements have reduced. This would happen if the proportion of infrastructure projects increased in the last year.

Exceptional Candidate Will Cover:

- Ask if the revenues increased in line with costs. This is a key point that highlights business acumen.
- Answer this by saying that revenues did not increase at such a high rate.
- Will mention the next steps saying they want to further analyze steel costs because the jump is highest in steel ($200M)

Question 2: We looked deeper into steel and found the following about steel prices (hand Exhibit 2). Metal Co anticipates that their steel consumption will increase 20% by volume next year. Can you calculate how much they will save by procuring from China?

Additional Information for Candidate:

- The costs mentioned included transportation and customs duties

Strong Candidate Will Cover:

- Identify that the share of costs is to be divided in $ terms whereas increase in consumption is in terms of volume (tons).
- Compare the final savings to $600M and $1525
- Mention that there are risks associated with procuring form China

Question 2: What do you think are the challenges associated with procuring from China? (This is a brainstorming question)

Strong Candidate Will Cover:

- Take some time to structure their thoughts and talk through the thought process
- Some of possible answers include:
  - Quality considerations
  - Longer lead times to deliver across the world
  - Capacity constraints in Chinese steel manufacturers
  - Foreign exchange fluctuations associated with CNY
  - Existing relationships with current suppliers which might be supplying other raw materials as well
  - Political considerations because many steel producers in China are state owned
  - Increase in transportation costs

Exhibit 1: Total Costs for Metal Co

	3 YEARS AGO	2 YEARS AGO	1 YEAR AGO
STEEL	400	500	600
PLASTIC	300	350	400
GLASS	200	300	250
ALUMINUM	150	200	175
OTHERS	50	75	100
TOTAL	1100	1425	1525

$MN

Exhibit 2: Steel Prices for Metal Co

	SHARE OF TOTAL COSTS	AVG LOCAL COSTS FOR METAL CO	AVG COSTS FOR STEEL FROM CHINA
HIGH GRADE STEEL	60%	$1500	$1200
LOW GRADE STEEL	40%	$1200	$1000

Per ton

Solution to Exhibit 2:

	TOTAL COSTS LAST YEAR	TOTAL VOLUME LAST YEAR	VOLUME NEXT YEAR	SAVINGS PER TON FROM CHINA	TOTAL SAVINGS
HIGH GRADE STEEL	60%*600 = 360	=360M/1500 =240K TONS	=240 * 120% =288K TONS	$300 PER TON	=288K * 300 =$86.4M
LOW GRADE STEEL	40%*600 = 240	=240M/1200 = 200K TONS	=200*120% =240K TONS	$200 PER TON	=240K * 200 =48M
					=134.4M

Case 2: DevCo, Deloitte

Redefining Medical Device Global Marketing Strategy

Business Situation:

- DevCo is a global medical device manufacturer headquartered in the US with operations in more than 60 countries. The Company produces a range of medical devices and data management tools. They have always been a market leader and commanded premium pricing; however, intensified competitive pressure from lower-cost manufacturers and increased customer price sensitivity have negatively impacted margins and market share.
- In response to these dynamics, Aaron Rike, the Chief Marketing Officer of DevCo, repositioned a portion of the high-end product line to address the preferences of more cost conscious customers. He also led DevCo's efforts to acquire and develop a lower cost product line to expand its product range. Aaron quickly realized that while the expanded portfolio was robust, the product lines lacked differentiation which created customer confusion and impacted financial performance. Further, he faced organizational challenges since product development, marketing, and sales were managed at the product level.
- Concerned that product overlap would further erode market share and profitability, Aaron called Sally Jones, a Principal In Deloitte's Strategy practice and long-time advisor to him and the DevCo, to discuss his challenges. He engaged Deloitte to develop a new portfolio strategy and redefine the accompanying go-to-market strategy in order to position DevCo for continued market leadership and growth.

Problem Statement (For interviewer reference only; Provide one question at a time)

Imagine you are a Senior Consultant on Sally's team as you help DevCo understand the following….

1. What factors should DevCo consider when evaluating its product portfolio and go-to-market strategy?
2. Deloitte analysis indicates that DevCo should rationalize its portfolio in order to reduce overlap. There are three primary product lines (A, B, and C). Which product line is most attractive for DevCo? **(Note: Share data sheet with candidate at this point)**
3. How many units of NewPro does DevCo need to sell to be profitable? Based on this analysis and the considerations from the prior question, would you launch NewPro? **(Note: Interviewer must provide price and cost data)**
4. What should DevCo consider when deciding to launch NewPro for Product Line B? If you were the CEO (head of all three product lines), would you launch NewPro?

Redefining Medical Device Global Marketing Strategy

Prompt Questions and Responses (For interviewer reference ONLY)

- **What factors should DevCo consider when evaluating its product portfolio and go to market strategy?**

- A **good answer** will explore the impact of external environment and company capabilities on the product portfolio and go-to-market strategy. Below is a list of areas that may be addressed:
  - **Customer Mix:** What types of customers use DevCo products? What must the company provide in order to meet these different customer preferences (e.g., product attributes, engagement approach)?
  - **Competition:** What differentiates DevCo's products from the competition? How can this be leveraged to protect / gain market share?
  - **Brand:** How should DevCo position products in the market (i.e., features, price, channel) to promote the DevCo brand?
  - **Channel:** Which distribution channels should DevCo utilize? What regulatory perspectives should be taken into account?
  - **Product:** What is a customer's willingness to pay for certain product features / functionality? What products offer "good enough" features to address customer preferences?
  - **Financial Impact:** How much revenue does each product line drive? Which lines are most profitable?

- A **great answer** looks beyond external factors and company capabilities to explore the impact of the portfolio structure and go-to-market strategy on DevCo's strategy and operations both today and in the future. Below is a list of areas that may be addressed:
  - **Strategic Priorities:** How can product positioning and customer engagement be used to support DevCo's strategic priorities (e.g., continued market leadership, broad portfolio)?
  - **Organization Structure:** Can the current organization and structure support the future portfolio strategy?
  - **Global Footprint:** How will country-specific needs and regulations impact product requirements and go-to-market strategy?
  - **Evolving Environment:** What market trends (e.g., Health Care Reform, growth of emerging markets) are impacting customer preferences and how should DevCo respond?

Redefining Medical Device Global Marketing Strategy

Prompt Questions and Responses (For interviewer reference ONLY) Note: Please provide data sheet to candidate at this time

- **Deloitte analysis indicates that DevCo should rationalize its portfolio in order to reduce overlap. There are three primary product lines (A, B, and C). Which product line is most attractive for DevCo?**

- A **good answer** will provide accurate financial information to support the argument (see below).
- The interviewee will create income statements for each product line for the most recent fiscal year (2012). Cost of capital should not be used in any way (extraneous information)
- The interviewee will calculate operating income and operating margin %.
- If the candidate focuses on largest operating income then product line B is the correct answer; however, if candidate focuses on operating margin % then Product Line C is correct
- Below is the math for each product line:

	Product Line A 2012	Product Line B 2012	Product Line C 2012
Revenue (1)	$1,000	$2,250	$600
COGS (2)	$600	$1,700	$250
SG&A (3)	$150	$225	$120
Operating Income (4)=(1)-(2)-(3)	**$250**	**$325**	**$230**
Operating Margin % (5) = (4) / (1)	**25%**	**14%**	**38%**

Redefining Medical Device Global Marketing Strategy

Prompt Questions and Responses (For interviewer reference ONLY)

- **Deloitte analysis indicates that DevCo should rationalize its portfolio in order to reduce overlap. There are three primary product lines (A, B, and C). Which product line is most attractive for DevCo?**
- ***ANSWER CONTINUED***
- A **great answer** will calculate the income statement for three years using historic and forecast data to identify trends in operating income and operating margin % (operating income for 2013 can be calculated without constructing the full statement – since all the costs are variable, operating income grows at the same rate as revenue):
- Product line C has enjoyed the fastest top-line growth, although it remains the smallest of the three, while product line B, the largest one, has had the slowest growth
- All product lines have seen operating margin declines since 2011, and stable margins in 2012-2013, with product line C having the highest margin.
- As a result, **Product Line C is most attractive** both from the total operating income perspective and from the operating margin % perspective (different than the "good answer" due to forecasting with growth)
- The candidate can also use the qualitative information to develop further inferences from the data. As long as they can strongly articulate the basis for the argument, this is valid. Examples include:
  - **Support model:** The candidate references the service models as being a key driver of profitability for the products
  - **Durability:** Product Line B has a product life that matches product line A, but at a lower price point. This could be a key driver in why gross margin is lower in product line B

	Product Line A			Product Line B			Product Line C		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
Revenue (1)	800	1,000	1,200	2,200	2,250	2,363	300	600	900
COGS (2)	400	600	720	1,600	1,700	1,785	100	250	375
SG&A (3)	120	150	180	220	225	236	60	120	180
Operating Income (4)=(1)-(2)-(3)	**280**	**250**	**300**	**380**	**325**	**341**	**140**	**230**	**345**
Operating Margin % (5) = (4) / (1)	**35%**	**25%**	**25%**	**17%**	**14%**	**14%**	**47%**	**38%**	**38%**

Redefining Medical Device Global Marketing Strategy

Prompt Questions and Responses (For interviewer reference ONLY)

- **Product Line B is considering launching a new product, NewPro, to expand its footprint within the DevCo portfolio. NewPro will have a suggested price of $200 with a rebate offered to all purchasers of $15 per product. The manufacturing cost will be $115 per unit and per product marketing costs are expected to be $20 per unit. The fixed costs to launch the product will be $20,000,000. Product Line leadership only wants to launch NewPro if it is profitable by the end of year 1.**
  - **How many units does DevCo need to sell to be profitable?**
- This answer is a straightforward calculation. The candidate needs to be able to properly build a breakeven analysis. There is only one correct answer to this question though a fair answer could still be obtained if the candidate sets the analysis up properly (i.e., shows the understanding) but makes a simple mental math error. See the math below:

Price	$	200
Rebate	$	(15)
Net Price	**$**	**185**
Manufacturing costs	$	115
Marketing	$	20
Variable Costs	**$**	**135**
Margin	$	50
Fixed Costs	$	20,000,000
Break even units		**400,000**

Redefining Medical Device Global Marketing Strategy

Prompt Questions and Responses (For interviewer reference ONLY)

- **Product Line B is considering launching a new product, NewPro, to expand its footprint within the DevCo portfolio. NewPro will have a suggested price of $200 with a rebate offered to all purchasers of $15 per product. The manufacturing cost will be $115 per unit and per product marketing costs are expected to be $20 per unit. The fixed costs to launch the product will be $20,000,000. Product Line leadership only wants to launch NewPro if it is profitable by the end of year 1.**
  - ***<u>FOLLOW UP</u>*****: Based on this analysis and the considerations from the prior question, would you launch NewPro?**

- A **good answer** will consider the viability of selling 400,000 units in year one, in addition to the brand, selling model, and risk considerations discussed in the prior questions. One way to justify the viability of the volume required to breakeven is for the candidate to calculate the projected revenue from NewPro at break-even and to compare it with the total Product Line B revenue in 2012. Revenues from NewPro represent only around 3% of product line revenues, suggesting that achieving break-even in the first year is viable.

Break-even NewPro volume	Net price per unit, USD	Net NewPro break-even revenue, USD MM	Product Line B revenue, 2012, USD MM	NewPro break-even revenue as % of Product Line B
(1)	(2)	(3)=(1)x(2)	(4)	(5)=(3)/(4)
400,000	185	74 MM	2,250 MM	3.3%

- A **great answer** will not only consider the viability of selling 400,000 units in year one, but also consider the potential impact to the broader business (e.g., capacity, resourcing) and some qualitative considerations which should be explored (i.e., branding, product overlap, sales model). This brings in information from the answer provided in question 1.
- The candidate can also mention that 100% rebate execution is a conservative assumption, and that, if execution percentage is lower, the contribution margin will be higher and less units will be required to break even.
- Finally, the candidate can discuss the positive margin implications for Product Line B, as the margin on NewPro is significantly higher than the average product line margin (25% from gross and 27% from net price vs. 14% average).

Redefining Medical Device Global Marketing Strategy

Prompt Questions and Responses (For interviewer reference ONLY)

- **NewPro will be positioned as "leading edge" with a high touch support model. The product will be sold through the third-party distributors that Product Line B utilizes.**
  - **What should DevCo consider when deciding to launch this product? If you were the CEO (head of all three product lines), would you launch NewPro ?**

- A **good answer** will use information from previous answers to raise several considerations in addition to the output of the breakeven analysis – most information suggest that **NewPro should not be launched** with the current plan:
  - **Investment priorities:** Given relatively slow growth and low margins, Product Line B may not be the best place to spend limited investment dollars. Product Line C is most attractive (highest margin %) for DevCo, so investment should focus there.
  - **Product Overlap:** Product overlap has been identified as one of the key issues to be resolved, and NewPro introduction arguably exacerbates this problem. Being a "leading edge" product, NewPro may not align with the brand, price point, and feature set of other products from Product Line B. NewPro is more similar to Product Line A, which could further cannibalize revenues and create customer confusion.
  - **Support Model**: Product Line B is sold through distributors with limited on site support. A higher touch support model, for NewPro would require additional investment from DevCo.

- A **great answer** will examine mitigation strategies that would allow DevCo to realize financial and strategic opportunities from NewPro while addressing associated risks, and highlight additional considerations, for instance:
  - **NewPro launch as part of Product Line A** – the candidate should explain the fit with Product Line A and understand that we may need some additional info, i.e. whether the product line already has similar products. Also, we have to determine whether direct sales force selling Product Line A is an appropriate channel for NewPro.
  - **Identified need for the product** – if current customers of Product Line B are demanding this particular product, then investment can be a necessity to prevent customers from switching to competitors.

Wrap Up

Wrap Up

- As part of this engagement, the Deloitte team:
  - Developed a go-to-market strategy to create differentiation within the client's portfolio and tailored the marketing strategy by customer segment. The strategy included branding, messaging, engagement model, development approach, and organization enablers
  - Analyzed the product portfolio and recommended a portfolio prioritization strategy based on customer preferences that reduced product overlap
  - Aligned key business leaders around a common view of the customer – one achieved by looking through the customer's eyes
  - Recommended internal processes and structural changes that would allow for improved communication to focus on the customer

DevCo: Data Sheet

Financial Information Breakdown*

All numbers in millions of dollars (USD)

	Revenue		COGS		SG&A		Cost of Capital		2013 Growth *(Estimated)*
	2011	2012	2011	2012	2011	2012	2011	2012	
Product Line A	$800	$1,000	$400	$600	$120	$150	17%	15%	*20%*
Product Line B	$2,200	$2,250	$1,600	$1,700	$220	$225	7%	10%	*5%*
Product Line C	$300	$600	$100	$250	$60	$120	19%	20%	*50%*

Product Line Information

Product Line	Features / Functionality	Product Support Description	Product Life	Sales Channel	Price Point
A	Leading edge and mid-range	• Always on call • High touch approach	10-15 Years	Sales Force	High
B	Mid-range and entry level	• Readily available support • Limited on-site availability	10-15 Years	Distributor	Medium
C	Mid-range and entry level	• Always on call • Limited on-site availability	8-10 Years	Distributor	Low

* When using this information, assume all costs are variable

Case 3: Wireless City, McKinsey (Round 1)

Problem Statement

- Our Client is the government of a large city. (Think Chicago, New York or Los Angeles) They plan to provide free wireless connection to all of their residents by building Wi-Fi hotspots covering the entire city. They hired McKinsey to help them determine whether or not they should do it.

Type of Case

- **Industry:** Public Sector
- **Difficulty:** Medium
- **Format:** Interviewer led

Interviewer Guidance

- This is a typical McKinsey style case. You begin with testing the interviewee's capability of building a framework for an uncommon topic, followed by two brainstorm questions. The math part of the case is a geometry question, which is likely to hit the interviewee's unprepared area.

Clarifying Information and Case Guidance

Clarifying Information on Request	Sample Framework

▪ Criterial or Goal: There is no clear decision making criteria. Our Client's goal is to maximize the Wi-Fi for the residents. They would like to hear our thoughts about the potential benefit of this project.
▪ Customer: The target users are the city residents. If the candidate asks whether tourists can use the service, tell them the client want us to make a recommendation.
▪ Location: United States.
▪ Budget: There is no budget for this project yet. However, cost is certainly a consideration in decision making.
▪ In-house or outsourcing: Our Client want us to make a recommendation on this.
▪ Tech-ready? : Yes, all required technologies are available in the market.
	- Benefit
	    - Individual
	    - Commercial
	    - Public
	- Cost
	    - Initial investment
	    - Maintenance and service
	- Alternatives (commercial Wi-Fi, 4G network)
	    - Are alternatives good enough?

Brainstorming Question A

Brainstorming Question

- After the candidate explains the framework, mention:
  - Our client likes your analysis. They did some further research and finalized the details of how the Wi-Fi hotspots operate. Each Wi-Fi hotspot can cover a certain area. When any opened, Wi-Fi capable device enters this area, the Wi-Fi hotspot will notice and begin to trace its location. The owner of the Wi-Fi device can login to the wireless network for free with a unique ID and password provided by the government. Once logged in, the owner's name and location will be traced by the Wi-Fi hotspot.
  - Given these details, can you think about possibly uses given the location, time and login ID data collected by the Wi-Fi hotspots?

Brainstorming Solution

Keep pushing the candidate for at least 5-6 answers. Some possible answers include:

- Crime prevention
- Traffic network design
- Urban planning
- Push advertisement for nearby restaurants or stores
- Find the “hot location” for new restaurants or stores
- Real-time traffic monitoring

Brainstorming Question B

Step One

- Regardless of whether or not the candidate mentioned crime prevention, ask the following:
  - Now let’s talk about crime prevention. One government officer suggested that when a crime is reported, the police can narrow down the suspect by looking at the data of the nearby Wi-Fi hotspot. Do you think this is a good idea?

Step Two

- Allow the candidate to brainstorm some pros and cons until he mentions that if someone intends to do something bad, he will not login the Wi-Fi in order to avoid his data being tracked. Then mention:
  - One officer had a similar concern, so he suggested that the government should not let the public know that their ID and location will be recorded by the Wi-Fi hotspot. What do you think?

Step Three

- This is an open ended question. The candidate may talk about the importance and potential backlash from the public. Push the candidate to see if they can defend their position logically.

Math Questions and Solutions

Math Question

- Our client collected quotes for the total cost of the project and the best quote was $30M. To benchmark, they want to see how much the project will cost if they install the Wi-Fi hotspots by themselves. The size of the city area is 40*25 and each hotspot can cover a circle area with radius of 5. Our client want to cover 100% of city area. Each Wi-Fi hotspot cost $1M. Do you think it is better for the client to install the hotspots or to outsource?

Potential Clarification Questions

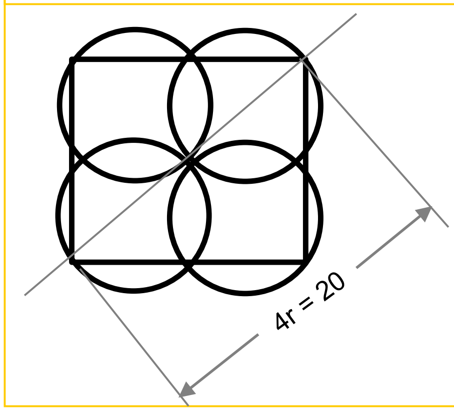
The following information should only be given when asked:

- If the client were to launch the project, $20M is the total initial cost (service costs are not included)
- $1M is the total cost of installing one Wi-Fi hotspot, including labor, equipment, etc.

Math Questions and Solutions

Math Question Solution

- A candidate with really strong math will figure that four WiFi hotspots can cover a $10\sqrt{2}$ * $10\sqrt{2}$ square area. Therefore, the 40*25 triangle area needs (40/14) * (25/14) * 4 = 3*2*4 = 24 hotspots. (See below)
- As long as the answer is within the 24 – 28 range and the methodology makes sense, it can be considered a good answer. However, if the candidate directly divided the area of the triangle (1000) by the area of the circle (3.14*5^2= 80) and got ~13, you should remind them that a triangle's area can not be perfectly covered by circles without overlap.
- A good candidate will synthesize that the total installing cost will be lower than $30M but not far away from it. Considering that the extra admin cost of in-house approach, accepting the $30M outsource cost may still make sense.



- After the math question, let the candidate make a recommendation and conclude the case.

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MOCK CASE: DOWN UNDER

In 1845, Deloitte started with one individual

Power to the Ones

Down Under - Business Situation

Prompt the candidate to explain their thought process and approach to address the issue

For Candidate: Business Situation

Our client is Down Under Apparel an Australian based swim wear and lifestyle company. The company unexpectedly missed its internal earnings target. The CEO has called Deloitte to diagnose the problem.

For Interviewer: Guide candidates through the following steps

Structure

Develop structured approach to identify & recommend a solution to the problem

Understand the Client

Methodically learn more about the client to tailor the analysis

Analyze

Analyze the forecast & actual information through interpreting data

Identify the Problem

Synthesize information to determine why Down Under missed its earnings forecast

Brainstorm Solutions

Brainstorm a potential solutions and deliver a recommendation

Additional Background Information

This slide includes extra information to navigate the case but should not be provided unless the candidate asks

For Candidate: Clarifying Questions & Answers

Competitors	▪ The client competes against a difference competitor set depending on the product. Historically, the Maui was the largest rival in the surf and athletic swim wear, but offered lower quality products at lower price points. ▪ The client has no interest in growth through competitor acquisition
Customers	▪ Surfers and Professional Athletes (30% of Revenue): Value to the performance and cutting edge technology (hydrodynamic). Willing to pay for performance, yet low earnings for the average suffer and swimmer suggest limits to what they will pay ▪ Luxury Seekers (70% of revenue): Fastest Growing segment, contributing to the explosive growth. These are casual users who enjoy the performance but not a key to buying process. Value the brand and ascetics. Brand offers legitimacy.
Channel	▪ **Surf Shops**: Typically small independent retailers located in beach towns. Client has long standing relationships and entry point for any given market. See more Surfers and Professional Athletes. Carry limited merchandise due to small locations, almost exclusively performance wear. ▪ **Big Box Retailers** (think Dick's, not Walmart): Asking for products at targeted price points to appeal to their customers. Typically more price sensitive customers. Offers a wide variety of performance wear and equipment (boards, beach equipment etc.) some lifestyle products. Frequent Sales ▪ **Department Stores** (think Bloomingdales, not J.C. Penny): Least price sensitive customers. Offers a wide variety products focusing on the lifestyle wear. Only channel outside online that offers the resort collection. ▪ **Direct to Consumer** (Online): Attracts repeat customers who are already familiar with brand and products. Never puts anything on sale.

1

Financial Trends

Note: in millions ($)

Forecast Details

2014 Sales Forecast by Channel and Category ($MM)

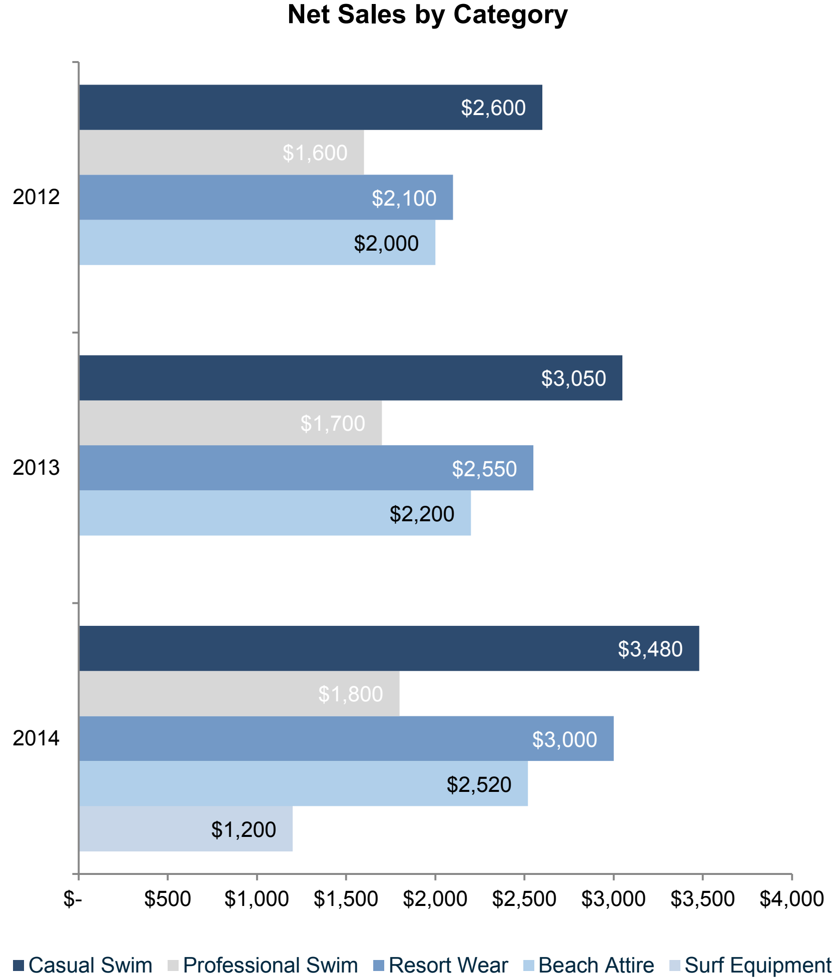
	Big Box	Department	Online	Surf Shops	Total
Beach Attire	$1,000	$800	$480	$400	$2,680
Casual Swim	$1,400	$870	$580	$435	$3,285
Professional Swim	$400	$0	$360	$800	$1,560
Resort Wear	$1,050	$1,100	$450	$675	$3,275
Surf Equipment	$400	$0	$0	$1,600	$2,000
Total	$4,250	$2,770	$1,870	$3,910	$12,800

2014 Projected Units Sold by Channel and Category

	Big Box	Department	Online	Surf Shops	Total
Beach Attire	8	6	4	3	21
Casual Swim	11	6	4	3	24
Professional Swim	3	0	2	4	9
Resort Wear	7	6	3	4	20
Surf Equipment	1	0	0	4	5
Total	30	18	13	18	79

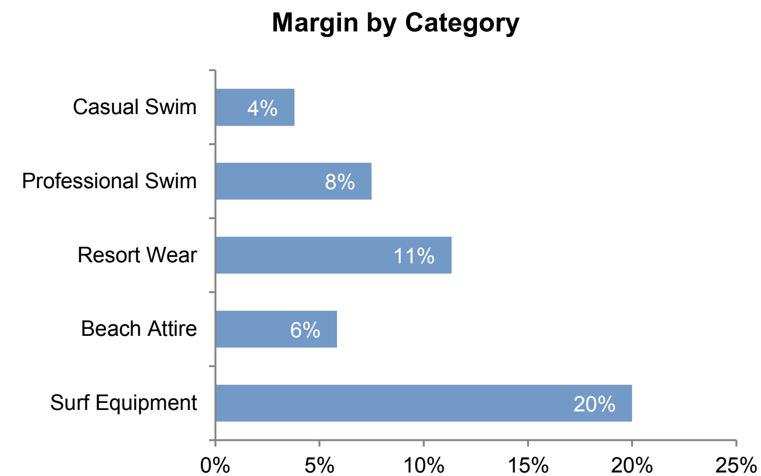
Note: in millions

Sales by Category (Actuals)



Note: in millions ($)

Average Price by Category (2014)	
Beach Attire	$128
Casual Swim	$134
Professional Swim	$173
Resort Wear	$163
Surf Equipment	$400



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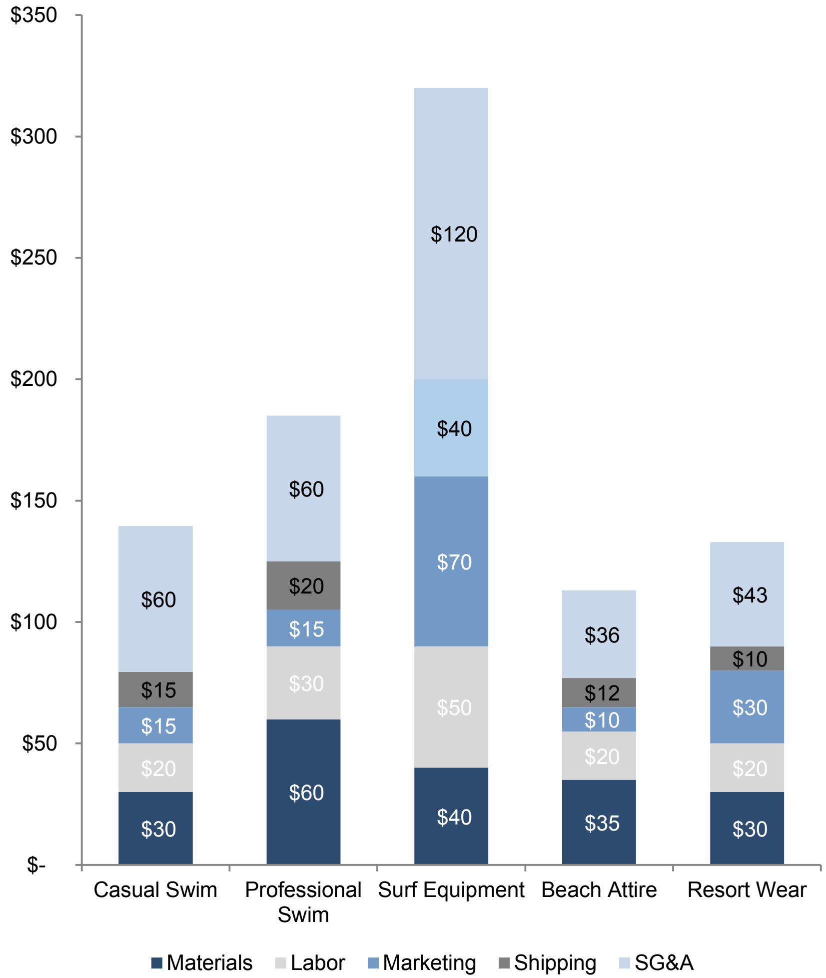
Cost Information (Actuals)

Average Cost by Category



Other Information

- Down Under's offers free shipping for Direct to Customer sales due to competitive pressures
- Down Under is opening a new manufacturing and distribution center and consideration 3 sites:
  - Southern California
  - Mexico
  - Guatemala
- Five years ago, Down Under relocated many of its manufacturing facilities to South Asia from Australia boosting long term profitability
- FY 2014 costs are approximately the same as FY 2013 costs

Step 1: Candidate Develops a Framework

Guiding and Evaluating Candidate Responses (For interviewer reference only)

First: The candidate should summarize the case and create a framework

Next: The interviewer should evaluate whether or not the framework is MECE, which is a good indication of structured thinking

Here are the key considerations of this case:

1. The candidate has to recognize that the ***main topic of the case is identifying why Down Under Missed It's earnings forecast***
2. **Understanding the client and industry** is key prerequisite before launching into a project
3. **Concept forecasts v. actuals** and the ability to distinguish between the two
4. ***Segmenting data*** *is necessary for analysis and to draw insights* (e.g., customer types, sales channels, etc.)
5. ***Precise questions*** *uncover additional data*
6. ***Risks and challenges*** *of launching a new product*

Finally: The candidate should state a hypothesis and work through a framework to test it. Redirect candidate that immediately requests data to learn more about the client

The candidate should attempt to learn more about the client and then identify hypotheses

Step 2: Analyze Information

Guiding and Evaluating Candidate Responses (For interviewer reference only)

The candidate should come to the following conclusion: The client missed its earning forecast due to selling 2m fewer surfboards/ surf equipment at surf shops

<u>The candidate can determine that information in several ways. One potential path is below</u>:

- Candidate asks about expected earnings and is provided data sheet 1
- Candidate compares expected sales and costs to determine expected earnings = $1,100 million
- Candidate asks for a breakdown of either the sales or cost information and is provided data sheet 2
    - No relevant analysis at this time. The candidate moves to actual sales.
- Data Sheet 3 provides the following information:
    - Actual Sales = $12,000 million
    - New category introduced in 2014: Surf Equipment
    - **<u>Interview must provide the following when prompted</u>**: $800 million sold at Surf Shops
    - Using the information on the sheet, $800 million / $400 = 2 million units sold
    - Compares this information to data sheet 2 and determine only 50% of units sold compared to forecast
    - Forms a hypothesis: Missed surf equipment at surf shops is the issue
    - Proposes to validate through understanding cost information
- Data Sheet 3 confirms that costs are inline with expectations and costs are not a problem

The candidate should be able to draw insights between the data sheets to identify the source of the problem

Step 3: Brainstorm a Solution

Guiding and Evaluating Candidate Responses (For interviewer reference only)

Candidate should propose potential solutions to increase sales at Surf Shops. If the candidate does not switch to "solutioning," then guide him/her with the following question:

Thinking **about your own or a friend's shopping experience**, how could the client increase sales?

A good response would include the following considerations:

- Tailor to the customer experience instead of sales overall
- Acknowledge but not focus on other ways to increase sales (e.g., working with the vendor, product modification, etc.)
- Outline potential challenges, risk, or other considerations

The candidate should prepare a structure or framework to organize brainstorming

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Step 4: Provide a Recommendation

Guiding and Evaluating Candidate Responses (For interviewer reference only)

At this stage, the candidate should ***recap the case and deliver a fact based recommendation*** on the best course of action for Down Under.

A good response will include the following:

1. ***Recap the case*:** Deloitte was engaged by Down Under to identify the reason why the company missed its earnings forecast
2. ***Share Insights*:** Down Under missed its earnings forecast due to lower than expected sales of Surf Equipment at Surf Shops. The new product launch into a tangential category proved challenging for down under.
3. ***Propose next steps identify risks:***
   - *Propose options to increase sales* (e.g., introduce surf equipment into new channels, developed actionable steps to increase sales with surf shops, increase product consideration, etc.)
   - Identify other considerations/ challenges (lack of channel and consume awareness of product, movement away from core competencies, long term impact to brand)

The candidate must demonstrate executive presence, describe the problem, and propose a solution

Appendix
(For interviewer reference only)

1

Always provide this before data sheet 2, even if the candidate asks for more specific information

Forecast (for interviewer reference ONLY)

Expect Profit = $1,100M

Actual Profit= $500M

Note: in millions ($)

Approximate figures

Only provide if the candidate proposes to break down the information on data sheet 1

Forecast Details (for interviewer reference ONLY)

2014 Sales Forecast by Channel and Category ($MM)

	Big Box	Department	Online	Surf Shops	Total
Beach Attire	$1,000	$800	$480	$400	$2,680
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Total	$4,250	$2,770	$1,870	$3,910	$12,800

2014 Projected Units Sold by Channel and Category

	Big Box	Department	Online	Surf Shops	Total
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Surf Equipment	1	0	0	**4**	5
Total	30	18	13	18	79

Note: in millions

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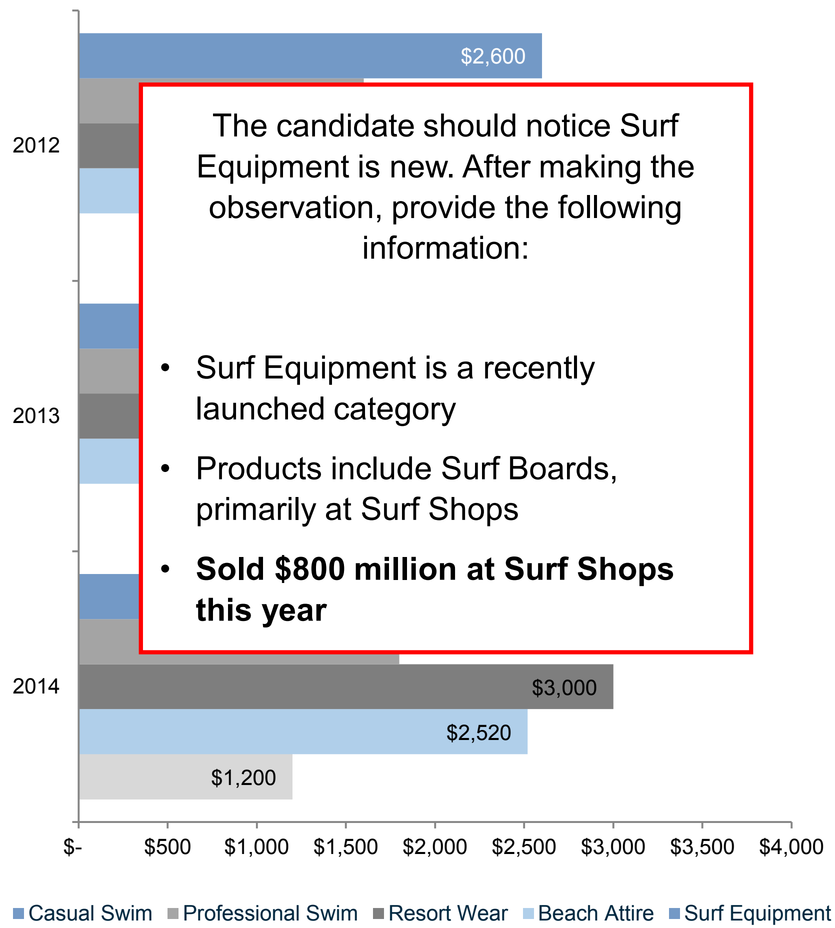
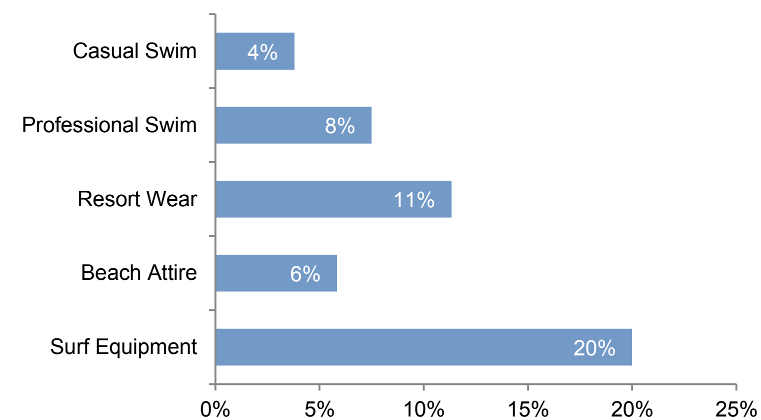
Sales by Category (Actuals) (for interviewer reference ONLY)



The candidate should notice Surf Equipment is new. After making the observation, provide the following information:

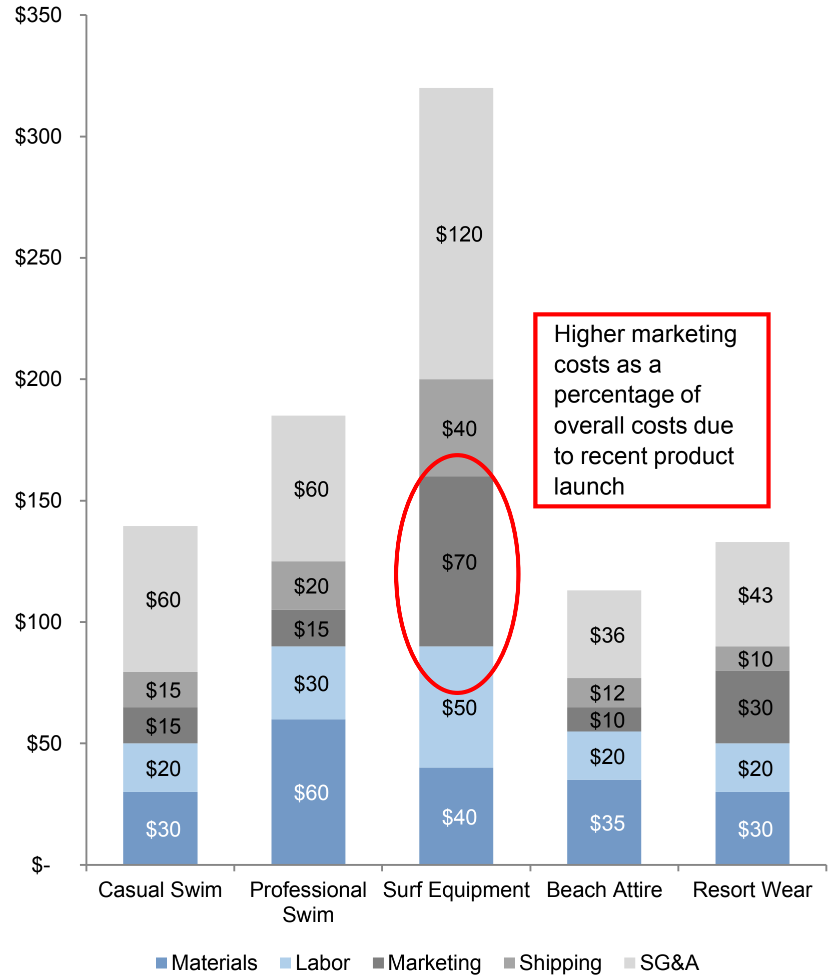
- Surf Equipment is a recently launched category
- Products include Surf Boards, primarily at Surf Shops
- **Sold $800 million at Surf Shops this year**

Average Price by Category (2014)	
Casual Swim	$145
Professional Swim	$200
Surf Equipment	$400
Beach Attire	$120
Resort Wear	$150



Cost Information (Actuals) (for interviewer reference ONLY)

Average Cost by Category



Other Information

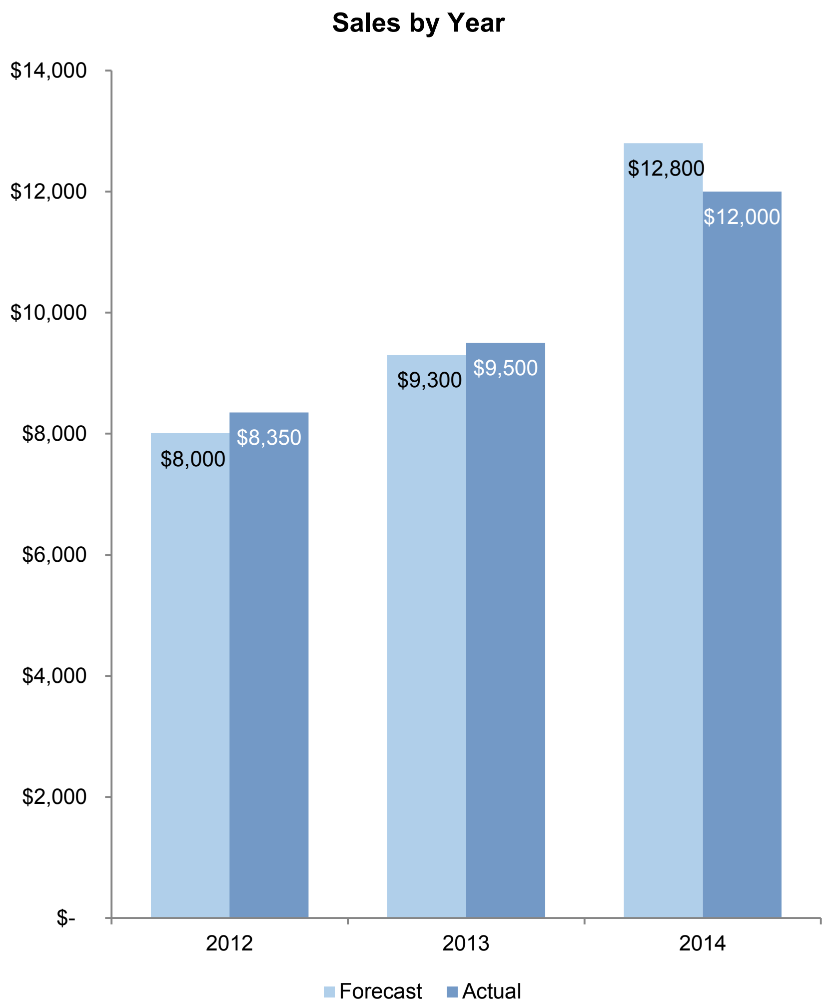
- Down Under's offers free shipping for Direct to Customer sales due to competitive pressures
- Down Under is opening a new manufacturing and distribution center and consideration 3 sites:
  - Southern California
  - Mexico
  - Guatemala
- Five years ago, Down Under relocated many of its manufacturing facilities to South Asia from Australia boosting long term profitability
- FY 2014 costs are approximately the same as FY 2013 costs

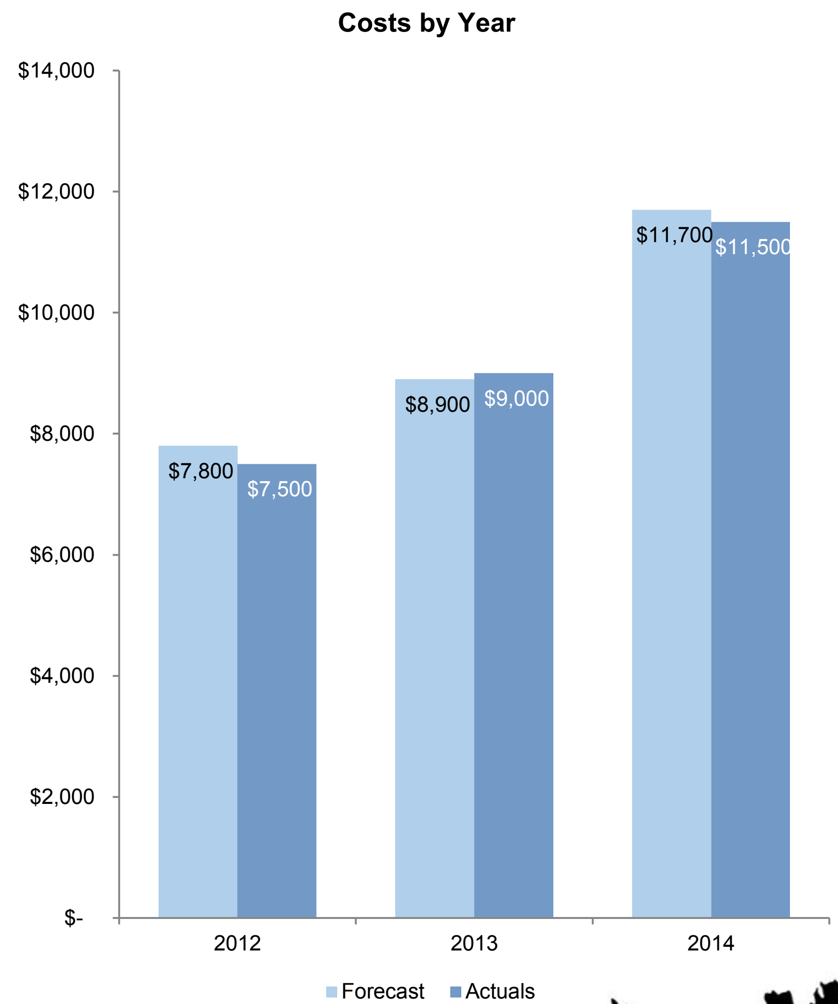
Information should inform candidate costs are not the main issue

1

Candidate Handout

Financial Trends





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Forecast Details

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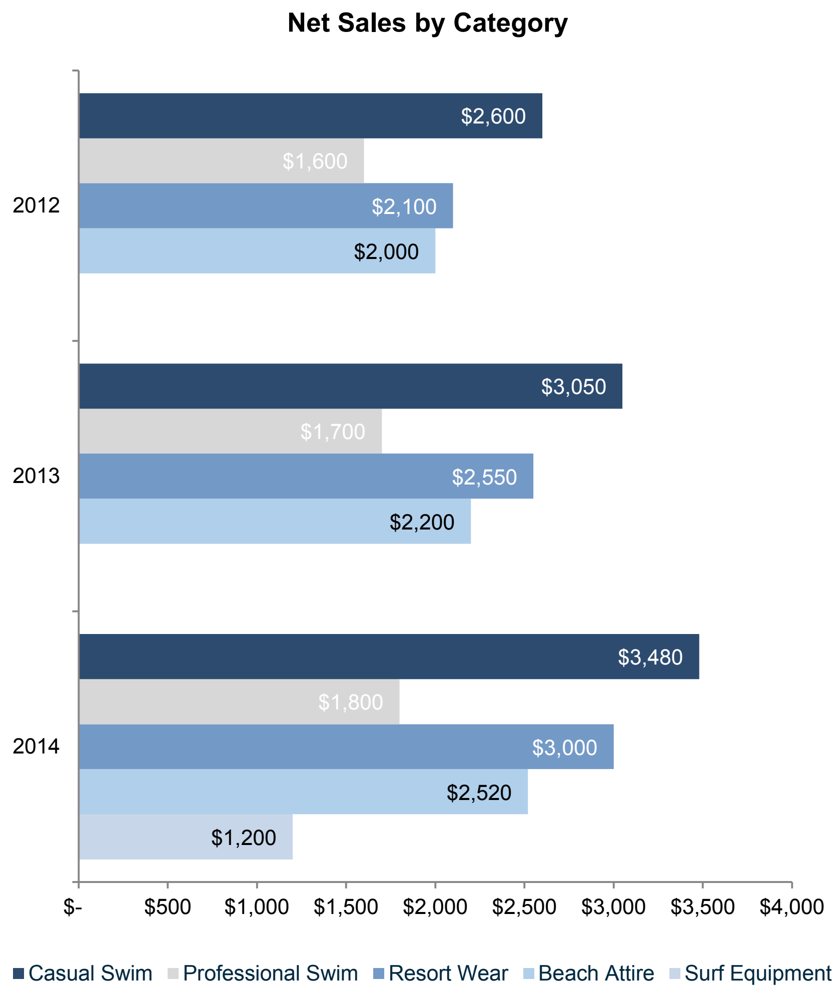

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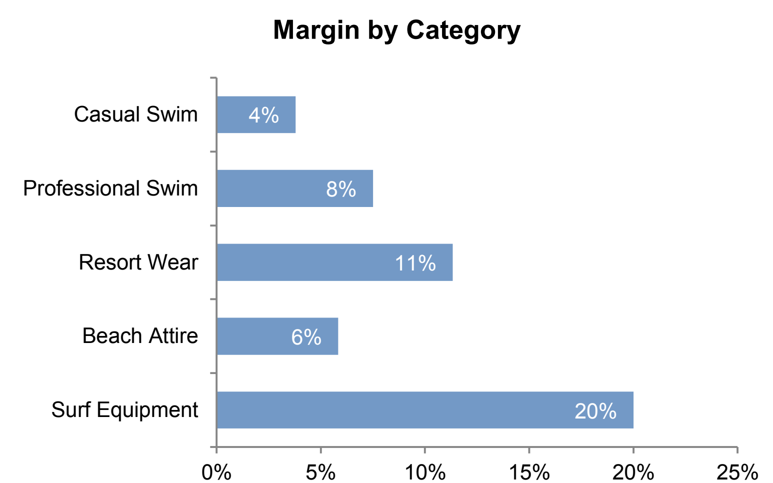

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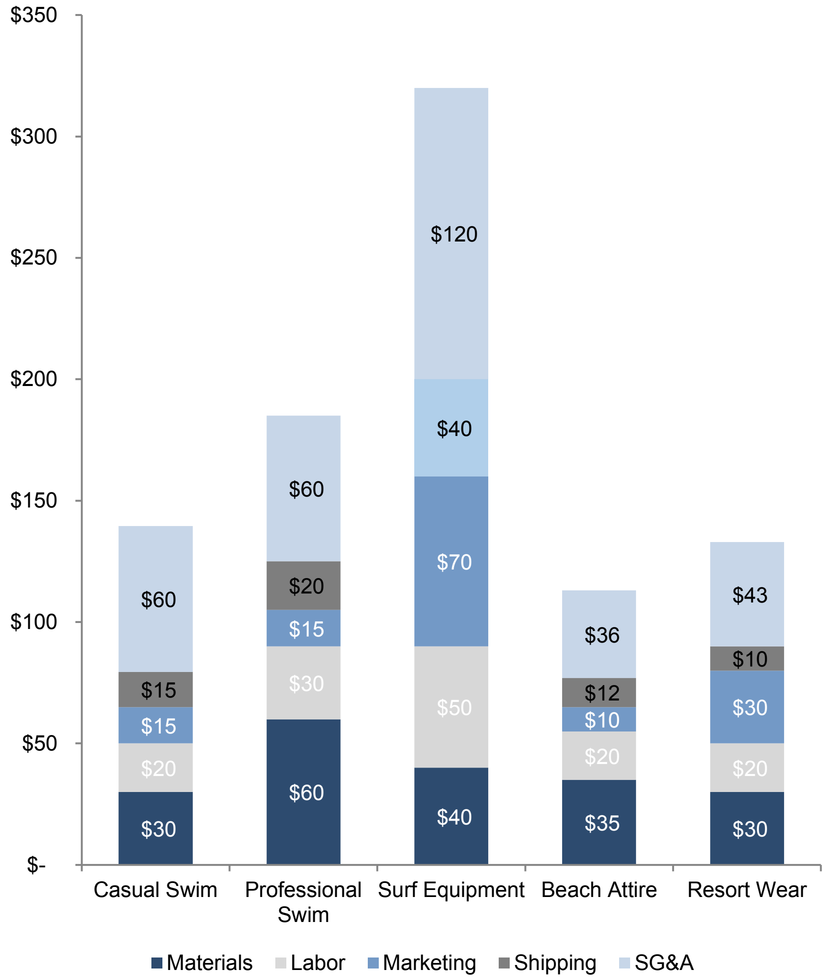
Cost Information (Actuals)

Average Cost by Category



Other Information

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  - Guatemala
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Case 5: SpaceZ Inc., Ross Original

Problem Statement

- Our client is a national Aerospace company that focuses on creating space programs. For the past few years, there has not been a reusable platform for software to be shared across programs. The client is doing well, but wonders if they should develop an interface to have software shared among programs. It makes sense, but the client suspects it might be too expensive. The client wants you to help decide whether to develop this, and if so, how to go about it.

Type of Case

- **Industry:** Aerospace
- **Difficulty:** Medium
- **Format:** Interviewer Led / Cost Reduction
- **Concepts Tested:** Quantitative Analysis

Interviewer Guidance

- Candidate should go through all three phases of possible involvement (greenfield, partnerships, acquisition)
- Candidate should analyze the current market conditions; why the company decided to consider this initiative
- Candidate should know that the purpose of this is to reduce cost of other programs and not revenue generation

Clarifying Information and Case Guidance

Clarifying Information on Request

- SpaceZ has been losing a lot of bids recently to its competitors due to its higher priced quotes
- Only in the US market
- The customer is government
- Programs do not talk to each other, in other words, no communication between each project and no sharing of any lessons learned
- +90% of the projects are classified and are only shared on a need-to-know basis
- Government is becoming cost conscious and bids cannot be revised any longer (used to be able to get more money from the government if underbid)
- Client has eight near-term proposals that will be submitted within a year for new projects/contracts; wanted to use this to platform to be more competitive

Interviewer Guide to Case and Exhibits

- The candidate should explain his/her overall framework (not revenues), then identify the current and future cost savings
- The candidate should then ask what are the initial costs associated in creating this reusable interface. Candidate should explore each of the parts (greenfield, partnership, acquisition)
- Candidate should then, before doing any calculation, eliminate acquisition because it won’t allow the client to leverage it into the near-term proposals
- Candidate should evaluate the cost savings of the other two as well as the risk of going with both

Math Questions and Solutions

Math Question

Extra cost associated with acquisition, partnerships, and greenfield.

Math Solution

- Acquisition will cost $1 Million and 1.5 years to complete
- Partnerships Option 1
    - $10,000 set up fee
    - $200,000 x .5 years = $100,000 labor cost to finish the project
    - $100,000 x .5 years = $50,000 in maintenance cost
    - Total to $10,000 + $50,000 + $100,000 = $160,000 the first year, $100,000 the second year, etc

Math Questions and Solutions

Math Solution Continued

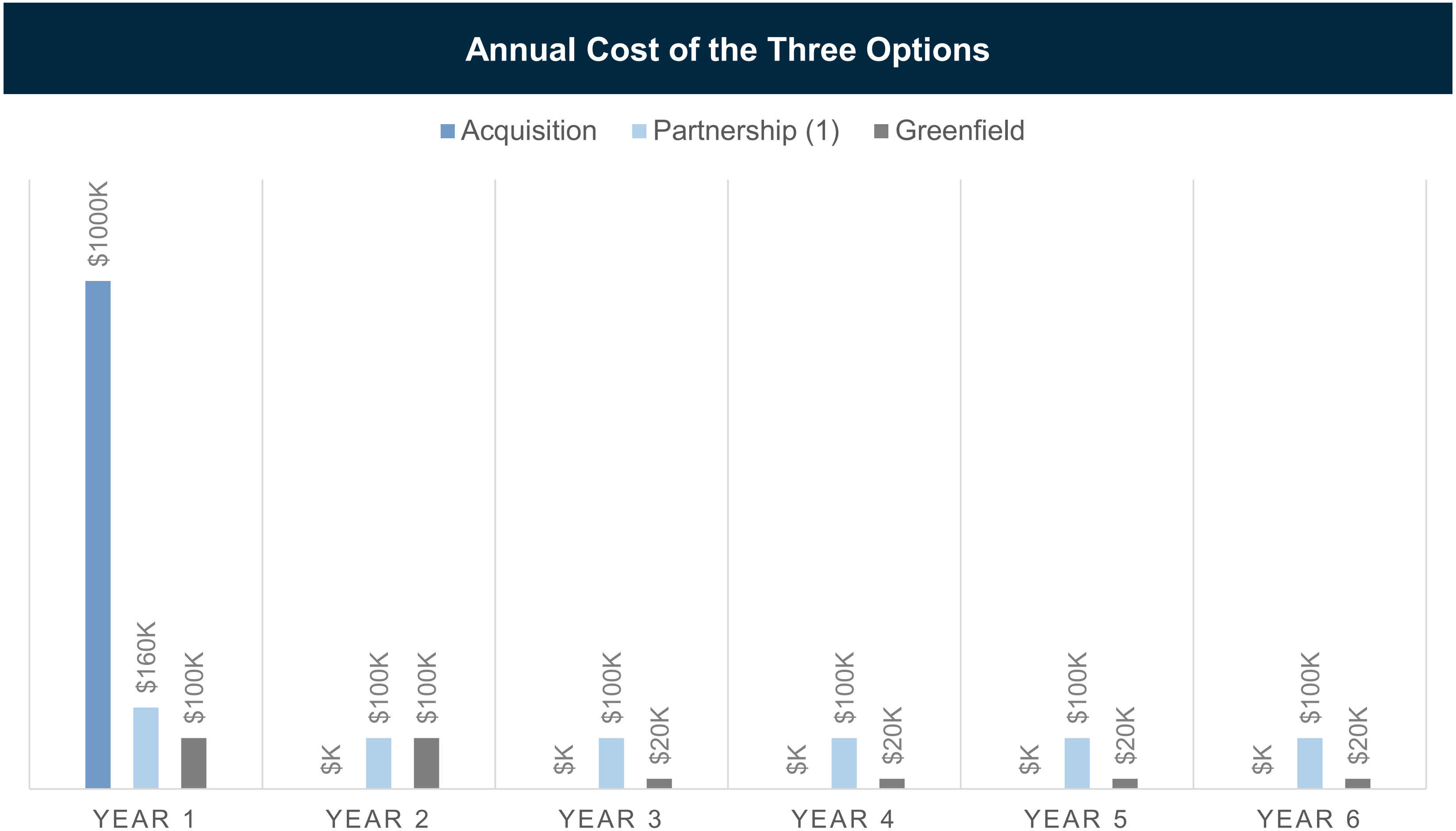
- Partnerships Option 2 (users can be changed to what customers believe should be the optimum
  - $10,000 set up fee
  - $200,000 x 0.5 years = $100,000 labor cost to finish the project
  - $2,000 x 0.5 years x 5 users (estimated minimum, adjustable) = $5,000 in maintenance cost
  - Total to $10,000 + $5,000 + $100,000 = $115,000 the first year, $5,000 the second year, etc (need to understand that users will increase year over year and can result in becoming more expensive)
- Greenfield
  - $100,000 first year (development), $100,000 second year (development), $20,000 third year (maintenance), etc

Exhibit 1: Table Exhibit

Costs	Acquisition	Partnership Enterprise (1)	Partnership Individual (2)	Greenfield
Set Up Fee	$1,000,000	$10,000	$10,000	$0
Labor	$0	$200,000/year	$200,000/year	$100,000/year
Time Frame to Completion	1.5 years	0.5 year	0.5 year	2 years
Increase in Maintenance Cost	$0	$100,000/year	$2,000/ year per user	$20,000
Number of Users 1st Yr	0	Unlimited	?	0

- Both Acquisition and Greenfield have too long of a timespan to use for near term proposals, so the candidate should eliminate them immediately.
- Candidate needs to fill in the “?” number for use in calculation
- Labor with Partnership exists because it requires integration and support services from partners

Exhibit 2: Bar Chart Exhibit



Conclusion

Recommendation (Sample: choose either partnership structure with sound reasoning)

- **Recommendation**

  Choose partnership structure (2) because of the lowered costs. Given the uncertainty of this product and it is the first time the company is doing this, it is imperative the investment is small. The company can always move to the enterprise edition later

- **Risks**

  Chosen company for partnership does not live up to its reputation

Next Steps

- Move to enterprise edition once users have exceeded 50 people
- Use the result of this project in the immediate proposals to put forth competitive bids

Excellent Case Answers

- A star would be able to see that it is not necessary to only go with one option, and will do minimal math to pick the partnership (assuming good clarification questions were asked).

Case 6: Athelas Insurance, Round 2

Problem Statement

- Athelas Insurance company is the leading provider of health insurance in its state. The company has consistently been the lowest cost player in that state. This has enabled them to capture 70% of the state's insured population (4 Mn insured individuals).
- Recently, Athelas' senior management has been looking at growth opportunities, and they do not think geographic expansion is a viable option given their expertise. That said, they have been looking to acquire one of the state's largest hospitals, Apollo Inc., which they think is an attractive target.
- Athelas Insurance has hired you to evaluate the investment and suggest a future course of action.

Type of Case

- **Industry:** Healthcare
- **Difficulty:** Hard
- **Format:** Interviewee led
- **Concepts Tested:** Basic Valuation, M&A, Health industry knowledge

Interviewer Guidance

- This case is designed to test the candidate's ability to perform a basic valuation, understand the financial interests of both sides in an acquisition and evaluate ways of creating value from an acquisition
- Allow the candidate to lead the interview, but ensure they don't jump the gun to value creation (synergies) without understanding the current position.

Clarifying Information and Case Guidance

Clarifying Information on Request

- *What was Athelas' aim in pursuing the deal?* They don't have a particular aim, they are looking to you to evaluate all synergies.
- *What does Athelas want to know?* They want to know how much to bid and what to do post-acquisition (if they do it)
- *Background of Apollo Inc.* - Is among USA's most reputed general hospitals, known for it's high quality of care and expertise across all major areas of care. Most patients are extremely loyal and rarely use other hospitals.
- *Does Athelas have a financial goal? -* They are looking for a 3 year ROI of 30%. Ignore discounting for this calculation.
- *Questions on Athelas financials* – We will get into it later

Interviewer Guide to Case and Exhibits

Framework - This case's aims are – how much should they be willing to pay, why, and what they should do post-acquisition. Push back when frameworks don't address it.

Valuation (Exhibits 1-3) - Interviewees could start the case with any aspect of Apollo's stand-alone value (Revenue, costs, growth, discount rate). In this case, please show them one of **Exhibits 1,2 or 3** depending on what the question is.

Post-valuation – Once the candidate figures out the $4 Bn valuation and therefore the $1.2 Bn profit needed over 3 years, we need to go to synergies which will need to be at least $450 Mn.

Once we get there, we brainstorm the various synergies and evaluate the one that is feasible. This is when we go to exhibit 4; push the candidate to try and calculate **how many procedures they need to convert to get to $450 Mn**

Math Questions and Solutions (1 of 2)

Math Question

- How much should Athelas offer for Apollo hospitals Inc.?
- How much do they need in synergies for the ROI to make sense?
- How many procedures do they need to convert to Apollo for the deal to make sense?

Math Solution

1. The amount they should offer is **$4 Bn**
   - $Firm\ Value = \frac{2015\ Free\ cash\ flow}{(Discount\ rate - Growth\ rate)}$ = $\frac{\$\ 400\ Mn}{12\% - 2\%}$ = **$4 Bn**
   - $Firm\ Value =$ EBIT * Average multiple = $750 Mn * 5.33 = **$4 Bn**
2. They need $1.2 Bn over 3 years. On a standalone basis they expect to get $750 Mn over 3 years ($250 Mn * 3). So they will need $450 Mn in synergies over 3 years to meet their ROI target.
3. Assuming the premiums and the hospital's costs to serve patients don't change. They need to convert **112.5k** new procedures over 3 years for them to hit their ROI limit. Refer Calculations on next page

Math Questions and Solutions (2 of 2)

Math Solution

		Current Pricing scheme			Proposed Pricing scheme		
		Revenue	Cost	Profit	Revenue	Cost	Profit
Apollo patients	Apollo Hospitals	$10.0 K	-	$10.0 K	$10.0 K	-	$10.0 K
	Insurer	-	$8.5 K	-$8.5 K	-	$9.0 K	-$9.0 K
	Total	**$10.0 K**	**$8.5 K**	**$1.5 K**	**$10.0 K**	**$9.0 K**	**$1.0 K**
Converted patients	Hospital	-	-	-	$10.0 K	$2.0 K	$8.0 K
	Insurer	-	$7.0 K	-$7.0 K	-	$9.0 K	-$9.0 K
	Total	**-**	**$7.0 K**	**-$7.0 K**	**$10.0 K**	**$11.0 K**	**-$1.0 K**

Loss on current patients	**$ 500 lost per procedure** Times **150k Patients** times **3 years**	**$ 225 Mn**
New patients needed to Reach ROI target	**($450 Mn needed to meet Target + $225 Mn losses)** divided by **($6.0 K in gains per patient)**	**112,500 Patients over**

Brainstorming Questions and Solutions

Brainstorming Question

- How can they make up the additional $450 Mn that they need to meet the ROI target for 3 years?

Brainstorming Solution

- There are three broad options:
  - **Reduce costs at the hospital** – Is probably not realistic, why would an insurance company be the best to reduce costs of providing service at a hospital?
  - **Reduce costs for the insurance company** – They could pay the hospital less, but this equally reduces revenues at the hospital. Will it attract new consumers either? Probably not given they don't see any of the benefit.
  - **Increase revenues for the insurance company/hospital** – We can do this by setting more attractive pricing at Apollo Hospital which can bring in new lives, it can also convert current procedures insured by Athelas to Apollo. The second part can be evaluated, the first is valuable but we don't have the numbers.

Exhibit 1: Apollo Hospital – Valuation analysis

Approach 1 – Cash Flows

Apollo Hospital Inc. – Free Cash flows (2015)	
Net Income	**$250.0 Mn**
EBIT	$750.0 Mn
Taxes	$300.0 Mn
NOPAT	**$450.0 Mn**
Depreciation and Amortization	$175.0 Mn
Change in Net Working Capital	$25.0 Mn
Capital Expenditure	$200.0 Mn
Free Cash Flow	**$400.0 Mn**

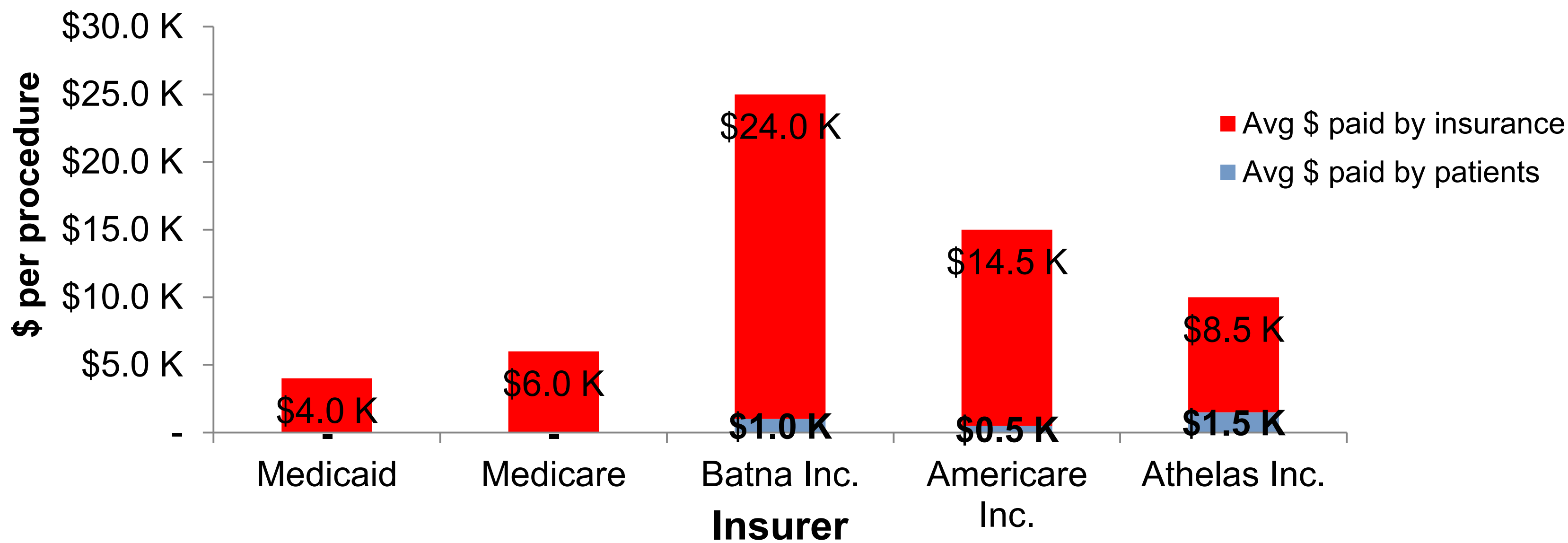
Discount Rate	Growth Rate
10%	**0%**

Approach 2 – Multiples

Recent Hospital acquisitions	EBIT Multiple
Alpha Hospitals Inc.	6.11
Beta Hospitals Inc.	4.44
Gamma Hospitals Inc.	5.33
Delta Hospitals Inc.	5.45
Average	5.33

Exhibit 2: Apollo Hospital – Revenue breakdown

Average $ per procedure received by Apollo Hospital



Total # of procedures	75 K	75 K	100 K	100 K	150 K
Total Revenue	$0.30 Bn	$0.45 Bn	$2.50 Bn	$1.50 Bn	$1.50 Bn

Exhibit 3: Apollo Hospital – Cost breakdown

Apollo Hospital 2015 costs

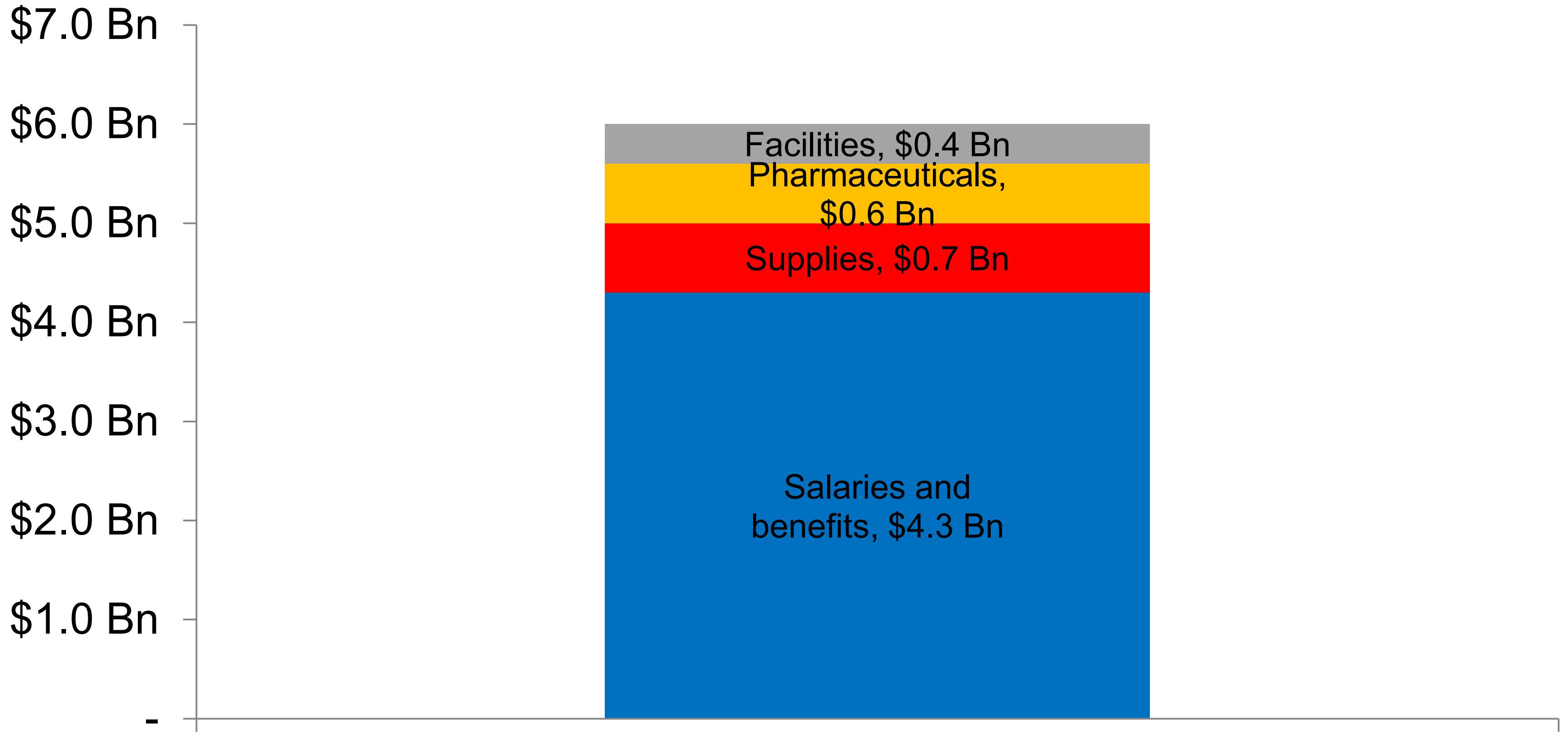


Exhibit 4: Apollo hospital – Occupancy data

Research highlights

- Apollo Hospital has significantly excess capacity, they can absorb up to 200k excess patients without having to expand their facilities.
- At current capacity, it costs Apollo a marginal $2,000 to perform every incremental procedure
- We are investigating the below pricing scheme to convert non-Apollo procedures to Apollo

	Current contract	Proposed Contract	Average at Non-Apollo facilities
Amount Contributed by Patient	$8.5k	$9.0k	$7.0k
Amount paid to Apollo Hospital by Athelas	$1.5k	$1.0k	$0.5k

Conclusion

Recommendation

- **Recommendation**

  Bid $4.0 Bn for Apollo hospital

  Change the contract to convert procedures to Apollo

- **Risks**

  We need to increase procedures performed by ~20% over 3 years; response from medical staff

  What is the nature of these new patients? Do we have the right capacity? Different specializations, etc.

Next Steps

- Investigate the surgeries that are most likely to convert
- Investigate if the better contract with Apollo will attract more people to the insurance products

Excellent Case Answers

- Completing the case in 30-40 minutes requires excellent structure and math ability
- Brings out the best opportunities to create value through the acquisition
- Recognizes the risks involved in expanding the services offered by a high-quality hospital
- Recognizes the cultural implications of asking doctors to perform 20% more surgeries

Case 7: Spare Parts, Bain (Round 1)

Problem Statement

- Our client is a dominant spare parts distributor in Europe and they want to enter the US market at end of this year. Our client collects spare parts from the manufacturers and distributes it further within the region. The client has approached Bain to determine the US market size for next year.

Type of Case

- **Industry:** Automotive
- **Difficulty:** Easy
- **Format:** Interviewee led
- **Concepts Tested:** Market Sizing, Back-of-the-envelope estimation

Interviewer Guidance

- Candidate should focus only on the Market Sizing
- This case tests the candidate's logic and reasoning

Clarifying Information and Case Guidance

Clarifying Information on Request

- Client has strong relationships with all the spare parts manufacturers in USA, and distributes all possible spare-parts in the market
- Client distributes the spare-parts to retailers, car manufacturers, workshops etc.
- Focus on passenger car market for this case

Interviewer Guide to Case and Exhibits

- Help candidate understand that this is a pure market sizing problem, and the framework should be focused on the question asked
- Help candidate understand that the overall market size is asked for, and presence of competitors does not affect the overall market size

Possible Framework:

- Number of passenger vehicles in US
- Frequency of maintenance
- Number of spare parts used per vehicle per maintenance
- Number of repair workshops in US
- Average price per spare part

Math Questions and Solutions

Math Question

How many passenger vehicles you think are there in US?

Math Solution

- Break down the US market size by household income levels: High, Medium and Low
- Take into account non-household passenger vehicles as well.
- Assumption: High-income households make up 20% of the total households, medium income make up 50% and the low income households make up the remaining 30% of the total households
- Assumption: US population: 350M -> 3.5 members per household on average -> 100M households
- Refer to Ex 1 for detailed calculations
- Total number of passenger vehicles in US = 250M

Brainstorming Questions and Solutions

Brainstorming Question

- If you were told that you need to estimate the market size using three more variables, what would those be?
- Write down the complete equation

Brainstorming Solution

- Number of spare parts per vehicle
- Frequency of maintenance
- Price per spare part

- Total Market Size = # vehicles* # spare parts per vehicle* frequency of maintenance* $ per spare part

Brainstorming Questions and Solutions

Brainstorming Question

- How would you go about collecting that information/data?

Brainstorming Solution

- There are 50 states in the US with varying demographics, and I'd interview the repair workshops across each city since they will have the information on # spare parts per vehicle per year and average price per spare part.
- Assuming 40,000 cities and towns in USA, I believe that conducting a survey for repair workshops across 10,000 cities and towns will give us a good representative sample size to assume the aforementioned data points.
- Frequency of maintenance: I have owned a car for 5 years, and I take my car to the repair workshop twice a year, and I would assume it would be the same across the target market.

Math Questions and Solutions

Math Question

We conducted the survey and with the following results, calculate the total market size:

- # spare parts per vehicle per maintenance: 1
- Frequency of maintenance: 1.5
- Average price per spare part: $10

Math Solution

- Total Market Size = # vehicles* # spare parts per vehicle per maintenance* frequency of maintenance* $ per spare part
    - 250M*1*1.5*$10
    - 3.75B USD

Even if our client can capture 5% market share in the first year, their market share will be $187.5M – a pretty good figure.

Exhibit 1: Total number of passenger vehicles in US

Income category	# households	# cars per household	Total Cars per category
High	20%*100M = 20M	4	80M
Medium	50%*100M = 50M	2	100M
Low	30%*100M = 30M	1	30M

Total number of household passenger vehicles in US, therefore, is (80+100+30) = 210M.

To this number, add another 40M representing taxis, limos, government cars and rental cars.

Therefore, the total number of passenger vehicles in US is 250M

Conclusion

Recommendation

- **Recommendation**

The total market size in US is 3.75B USD

- This number is calculated based on number of passenger vehicles in US and information gathered from the repair workshops across the country.

- **Risks**

The total market size, in itself, does not give a complete picture as to how much market share can our client capture and about the upfront investment of entering the new market and costs in general.

Next Steps

- Assess how much market share can our client capture within first year and thereafter
- Assess the profits and return-on-investment for our client
- Include the analysis of the non-passenger vehicles into our estimation

Excellent Case Answers

- Strict focus on the market sizing and not getting distracted
- Logical reasoning behind the estimations throughout the case

Case 8: Dallas Foundation, FSG (Round 1)

Problem Statement

- Our client is a private foundation operating in the Dallas Metro Area.
- Historic focus on health, education, economic development, arts and culture
- New Executive Director, Mary, needs help in refining strategy and identifying 1-2 focus areas

Type of Case

- **Industry:** Private Foundation
- **Difficulty:** Easy
- **Format:** Interviewer led
- **Concepts Tested:** Strategy development, Market sizing

Interviewer Guidance

- This case is focused on developing a strategy for a Foundation and is testing the interviewee's basic understanding of how Foundations strive to create impact as well as the interviewees ability to structure ambiguous, open-ended questions in a logical manner

Clarifying Information and Case Guidance

Clarifying Information on Request

- Endowment of the foundation is $200 million
- Annual budget for making grants to organizations is $10 million
- Wide variety of work done currently among impact areas with no specific focus

Interviewer Guide to Case and Exhibits

- If interviewee asks for this information provide it after narrating the case prompt
- If not, move ahead to brainstorming questions
- If interviewee never asks for annual budget during the case this is a red flag

Brainstorming Questions and Solutions (1 of 4)

Brainstorming Question

- In preparing for our upcoming trip to Dallas, what broad areas would you explore to help Mary? What questions would you ask and where would you get this information?

Brainstorming Solution

- Interviewee should demonstrate structure and logic in answering this question.

Social indicators

Key indicators for health (BMI), education (drop out rates), employment etc.

Source: City data, health centers

Donor landscape

Other foundations in Dallas, their investment areas to assess overlap/opportunities

Source: Secondary research

Partner NGO landscape

Quality and types of grantee org's, confidence in leadership, operations and impact. Source: Primary interviews with non-profit leaders

Internal capabilities

Talent quality and expertise across investment areas, Current partnerships. Source: Interviews with Texas Foundation staff

Government/Policy outlook

Policy push, subsidy or service fee awarded in certain impact areas

Source: Secondary research, interviews with Foundation staff

Brainstorming Questions and Solutions (2 of 4)

Brainstorming Question

- Based on initial research, three areas of impact emerged as frontrunners – childhood obesity, high school drop outs, and shortage of affordable housing
- What factors or selection criteria could be applied to help assess which of the three areas to focus on?

Brainstorming Solution

- Interviewee should be encouraged to discuss these investment areas and how they may differ from each other, what kinds of investments they would require, what impact they could have
- One possible method is to rank order the options (Low, Medium, High) across key criteria and develop a hypothesis for which investment area would be most viable

	Childhood obesity	HS dropouts	Affordable housing
Investment requirement	M	M	H
Time horizon to realize impact	M	L	H
Availability of good grantee org's	M	M	M
Internal capability	L	M	L
Effort to develop internal capability	M	L	H
xx			
xx			
Overall propensity for impact	M	H	L

Brainstorming Questions and Solutions (3 of 4)

Brainstorming Question

- While researching several indicators, one stakeholder provided us a 10 year longitudinal data set of high school students in Dallas with the following information: Test scores, Lunch program status, Zip code, Race, Attendance record
- How could you use this data to identify sub-segments within the Dallas area to improve the high school drop out rates

Brainstorming Solution

- One possible solution is to propose running a regression on this data
- Dependent variable (Y) = Attendance
- Independent variables (X) = Test score, lunch program status, zip code, race
- Results from the regression may show that attendance is significantly impacted by zip code – this could help identify school districts that need most help.

Brainstorming Questions and Solutions (4 of 4)

Brainstorming Question

- Assume that after further analyses and interviews childhood obesity came out as the frontrunner
- Estimate the number of Hispanics born in 2016 in Dallas at risk for obesity when they turn 5 years old
  - Candidate should have sense for high Hispanic population in Texas (actual % is 38.2%)
  - Candidate should be able to identify sensitivity factors. e.g. % at risk for obesity

Brainstorming Solution

- There are several ways to approach this estimation question. One potential solution is outlined below

Population of Dallas Metro Area = 10 million   Population Growth Rate = 1%

Population Growth = 100,000

What % of 100,000 are newborns (vs. older populations living longer due to higher life expectancy) → Assumed 90% are newborns

Number of Dallas newborns = 900,000   x Percent of newborns that are Hispanic = 20%

Number of Hispanic newborns = 18,000   x Percent that live in low socio-economic neighborhoods = 50%

Hispanic newborns in low socio-economic neighborhoods = 9,000

Percentage at risk for obesity = 100%   **Number at risk = 9,000**

Conclusion

Recommendation

- **Recommendation**

  Focus investment portfolio to decrease childhood obesity in the Dallas Metro Area because of a sizeable potential for impact (9,000/year), moderate investment requirements, and high quality grantee organizations that have demonstrated their ability to make this impact

- **Risks**

  Reaction of current/future donors, negative impact on other program areas due to budget reallocation

Next Steps

- Continue data collection to validate hypothesis that childhood obesity is the most impactful intervention area
- Develop communication strategy for internal and external stakeholders
- Internal capability development plan to implement this shift in focus

Excellent Case Answers

- An excellent case answer will go beyond providing recommendations and risks and discuss a communication/internal buy-in strategy. Several impact consulting firms look for consensus building as opposed to the conventional ‘answer-first’ approach
- The interviewee will also demonstrate ability to source data and information creatively since industry reports and documented data not often available in impact consulting projects

Case 9: Laundry Investment, Ross Original

Problem Statement

- We are in the 1990s, and you are a consultant working for a respected Private Equity fund interested in consolidating the on-site coin laundry business in the state of Michigan.
- The client has pre-negotiated acquiring four thousand locations at a multiple of five times their current annual Net Income.
- The client wants to know whether or not they should move forward with the deals.

Type of Case

- **Industry:** Private Equity
- **Difficulty:** Hard
- **Format:** Interviewer led
- **Concepts Tested:** Market Sizing; Turnaround; Operational Improvement; Pricing Strategy

Interviewer Guidance

- This case is focused on Private Equity techniques for value creation through consolidation and turnaround, over the background of the peculiar on-site laundry industry.

Clarifying Information and Case Guidance

Clarifying Information on Request

- Financial target: payback in two years.
- The turnaround should be based on a minimal or zero investment strategy (aside from the initial acquisitions).
- The client has no previous experience nor other portfolio companies in the coin laundry business or related businesses.
- Highly fragmented industry: the current largest player manages 3,000 locations and has 3% market share.
- The 4,000 locations were pre-negotiated with multiple owners and together will represent 4% market share for the client.
- There are 100,000 locations in the state of Michigan.
- The facilities are often unattractive, unclean, and unorganized.

Interviewer Guide to Case and Exhibits

- To start, hand Exhibits 1 and 2 to the candidate and explain the on-site coin laundry business.
- This case involves the acquisition of multiples companies with the ultimate goal of consolidation. Those companies are referred in the case as “target companies”.
- The word “location” is used to refer to one laundry unit containing on average ten coin-operated laundry machines.
- In the Exhibits, Supply and Demand are given in a per-location basis, in terms of the number of laundry machines demanded and/or available.

Exhibit 1: Target segment: on-site coin laundry business

On-site coin laundry is the target segment of this deal

Laundry industry

Laundry shop / Dry cleaning

Laundry stores where customers drop their laundry and pick it up in a later time. Store staff runs the laundry process

Coin laundry

Self-operated laundry machines made available for customers in exchange for coins

Off-site coin laundry

Self-operated off-site laundry stores

On-site coin laundry

Facility installed in community areas, such as student housing, apartment buildings, hospitals etc.

Exhibit 2: On-site coin laundry business Industry Profile

Revenue Model	The target companies own the laundry machines and negotiate installing them in community areas, such as student housing, apartment buildings etc. They get a share of the inflow of cash from the laundry machines and negotiate a **revenue split agreement with landlords**. Average **revenue split agreement is 50%**. Concession of space and revenue-split agreements are generally **renewed annually.**
Operational Model	The target companies are responsible for all aspects of operations. Major costs include coin **collecting staff**, **equipment and maintenance** of laundry machines. The landlords grant free use of the space, in return for their share of revenue and assurance of minimal service level.
Financials	Cash business, no inventories, no working capital. **Profit margins are 40%** of **Net Revenues** (Gross Revenues deducted of landlord's share). Virtually no growth expected for the industry.

Question 1

Math Question

- Estimate the Purchase Price.

Math Solution

- Working hours per day: 19
- Average utilization: 60%
- Cycle time: 60 minutes
- Price per cycle: $1.5
- Machines per facility: 10
- Working days per year: 350
- # of facilities: 4,000
- Revenue split agreement: 50%
- Profit margin: 40%

Purchase price estimate		
Working hours per day (5am to 12am)	19	
Average utilization	60%	
Cycle time [minutes]	60	
Price [$/cycle]	$1.50	
Revenue per machine per day	**$17.1**	
Machines / facility	10	
Revenue per facility per day	**$171**	
Working days per year	350	
Revenue per facility per year	**$60,000**	Round-up
# of facilities	4,000	
Gross Revenue	**$240 M**	
Revenue split agreement	50%	
Net revenue	**$120 M**	
Profit margin	40%	
Total cost	**$72 M**	
Net income	**$48 M**	
Multiple	5	
Purchase price	**$240 M**	

Question 2

Brainstorming Question

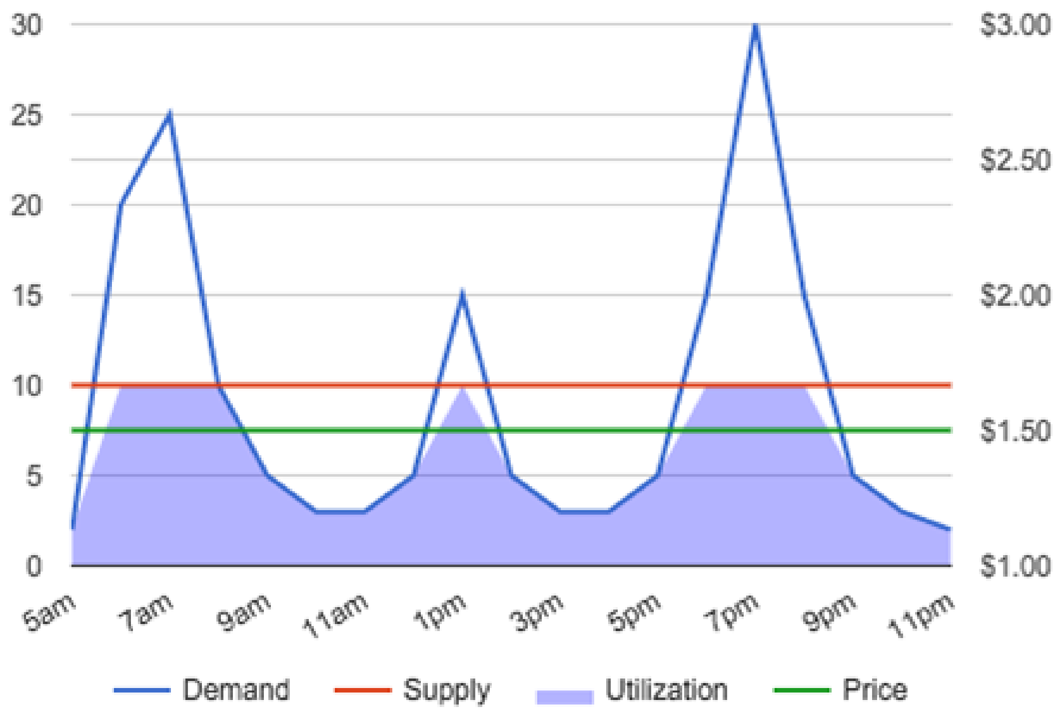
- Hand candidate Exhibit 3.
- What are the main issues?
- How can the client increase revenues?

Brainstorming Solution

- Peaks of demand in some periods of the day and idle periods during others are leading to unattended demand and low utilization (60%).
- Crests occur right before and right after general working hours.
- Candidate should realize that since there is no control over demand, and supply is fixed (low investment strategy) **changing the pricing strategy is the only way to increase revenues**.

Exhibit 3: Demand, Supply, Utilization, and Price

Demand, Supply, and Utilization [machines in use/demand per hour] vs. Price [$/cycle]



Question 3

Brainstorming Question

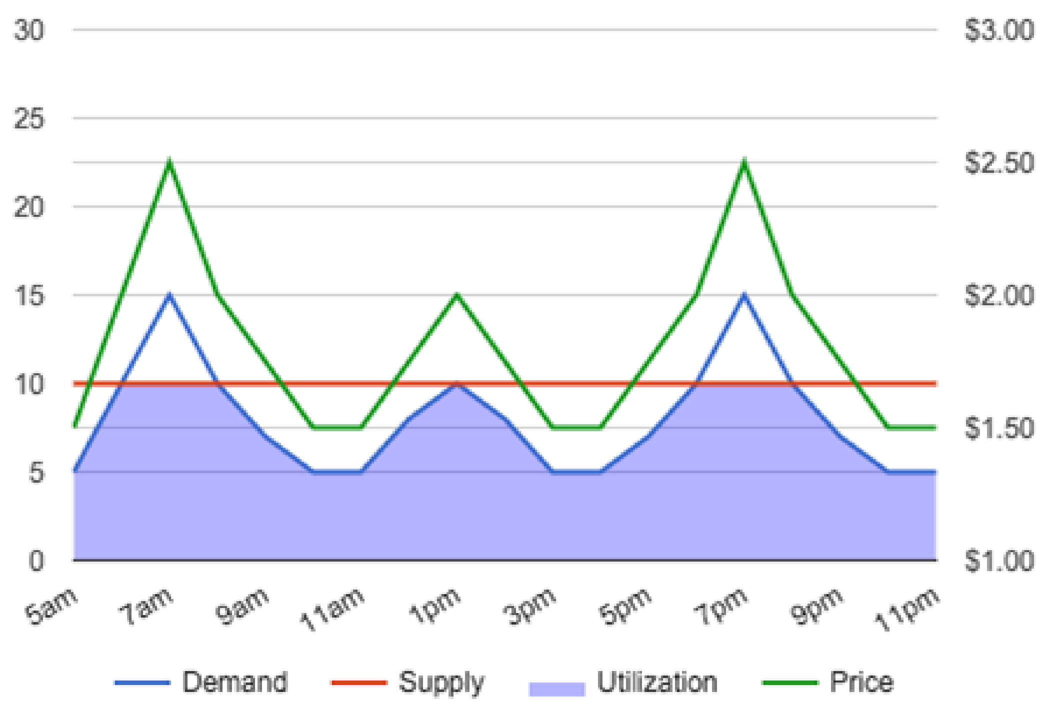
- Propose a new pricing strategy.
- What are the expected impacts of the proposed pricing strategy?

Brainstorming Solution

- New pricing strategy should include a variable pricing model, with higher prices during peaks of demand, and lower prices during the troughs.
- Expected impact:
  - Higher price will negatively impact customer experience.
  - The demand should very inelastic (within a reasonable range people will still use the on-site machines; other alternatives are much more expensive).
  - People generally care more about the convenience of the on-site machine than about price.

Exhibit 4: Demand, Supply, Utilization, and Price - New Pricing Model

Demand, Supply, and Utilization [machines in use/demand per hour] vs. Price [$/cycle]



Question 4

Math Question

- Hand Exhibit 4 to candidate.
- What is the new pricing model's expected impact on revenue?
- After the candidate successfully identifies **Higher Capacity Utilization** and **Higher Average Price** as the main impact from the new Pricing Model, provide the estimates below.

Math Solution

Main conclusions from Exhibit 4

- Higher capacity utilization
  - Provide impact: +25%
- Higher average price
  - Provide impact: +20%

Impact on revenue

Average utilization → 25% increase

Price per cycle → 20% increase

Total impact = (1+20%)*(1+25%) - 1 = 50% increase

Initial Gross Revenue = $240M

New Gross Revenue = $240M * 1.5 = **$360M**

Question 5

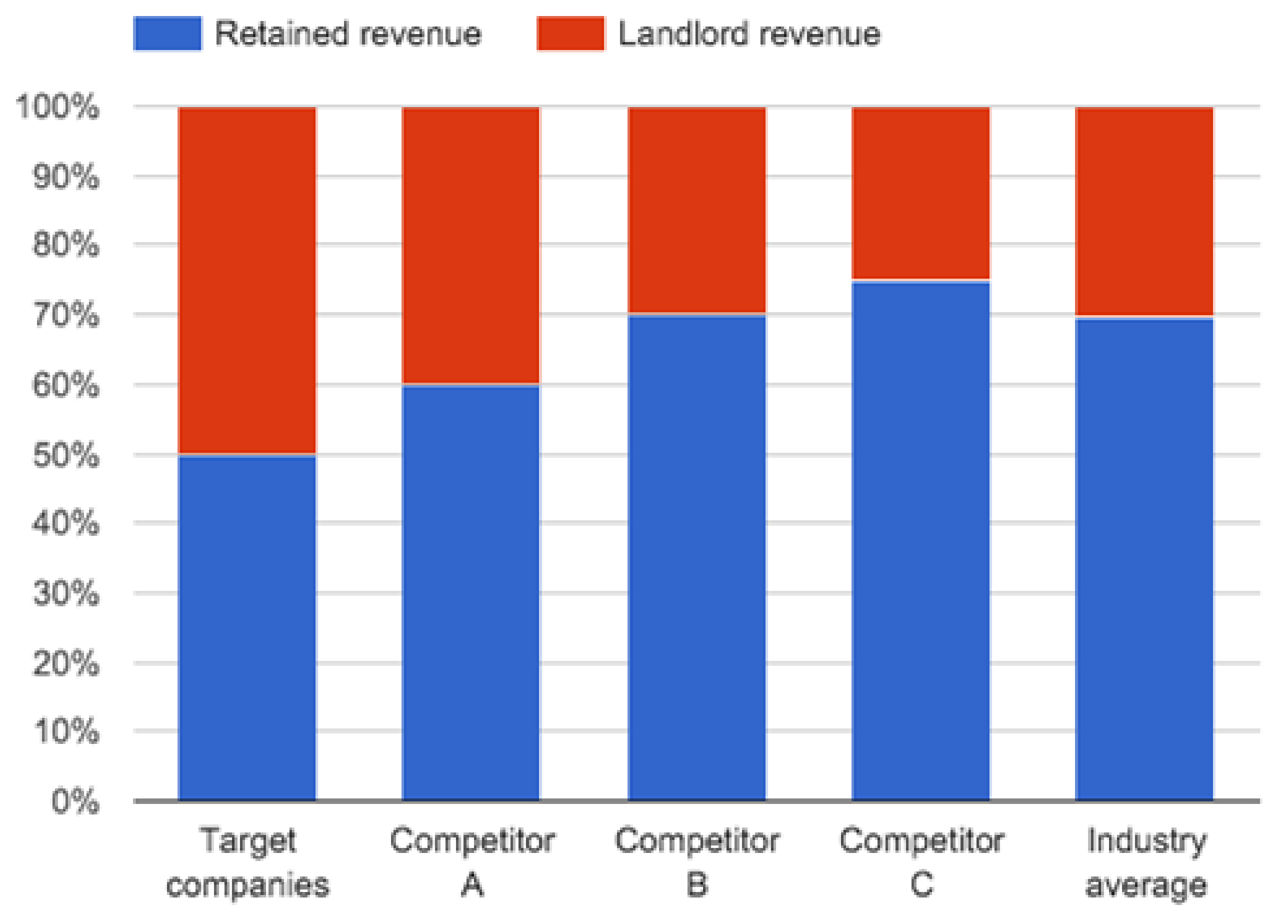
Brainstorming Question

- Analyze Exhibit 5.

Brainstorming Solution

- Candidate should realize that the target companies have the worst negotiation results in the industry; matching Competitor A's rates would increase Net Revenues with minimum risk of loss of market share.
- Candidate should first choose a conservative approach to the analysis and confirm that the deal would be attractive under the safest renegotiation strategy possible (60%).

Exhibit 5: Revenue Split Agreement Benchmark



Question 6 (optional)

Brainstorming Question

- How else could you increase revenues?

Brainstorming Solution

Potential low-investment new revenue streams:

- Vending machines (partnership)
  - Snacks; Beverages
- Laundry supplies dispensers (partnership)
  - Detergent; Softener
- Entertainment (partnerships)
  - Arcades; Pinball machines; Newspaper dispensers

At the end of discussion, provide candidate with estimates:

- Annual revenue: $60M
- Profit margin: 50%

Question 7

Math Question

- Should the client move forward with the deal?

Math Solution

- Gross Revenue: $360M
- Revenue split agreement: 60%
- Total cost: unchanged: $72M
- Other streams of revenue
  - Revenue: $60M
  - Profit margin: 50%
- **Payback meets the financial target**
- Notice that the initiatives selected do not impact costs, thus the total annual cost should be unchanged ($72M), but the profit margin should be higher.

	Year 0	Year 1	Year 2
Gross revenue from coin laundry		**$360 M**	**$360 M**
Average revenue split agreement		60%	60%
Net revenue from coin laundry		**$216 M**	**$216 M**
Total cost from coin laundry		$72 M	$72 M
Net income from coin laundry		**$144 M**	**$144 M**
Other streams of revenue		**$60 M**	**$60 M**
Profit margin from other stream		50%	50%
Net income from other streams		**$30 M**	**$30 M**
Total Net income		**$174 M**	**$174 M**
Investment	-$240 M		
Cash flow	**-$240 M**	**$174 M**	**$174 M**
Cummulative cash flow	-$240 M	-$66 M	$108 M

Conclusion

Recommendation

- **The client should move forward with the deal.**
  - Potential payback in less than three years.
  - Major opportunities for increase in profits.
  - Turnaround plan is not CAPEX intensive.
- **Risks**
  - Revenue split renegotiations can take up to one year to be completed depending on each contract due date.
  - Landlords may try to claim a share of the new streams of revenue.

Next Steps

- Propose to analyze the due dates of the current contracts and lay down a timetable for the client.
- Make sure the legal department will analyze the new contracts and protect the new revenues from the split agreements.
- Find suppliers to install and/or manage the dispensers in the facilities.

Excellent Case Answers

- Candidate should note that here is further potential for:
  - Further improve revenue split agreements (industry average = 70%)
  - Cost savings due to economies of scale.

Sample Framework

- Purchase Price
  - (Current Revenue)*(Current Profit Margin)*(Negotiated Multiple)
- Potential for revenue improvements
  - Maximization of capacity utilization
  - Price increase
  - Renegotiation of revenue split agreements
  - New revenue streams
    - Vending machines
    - Laundry supplies dispensers
    - Entertainment
- Potential for cost optimization
  - Economies of scale
  - Best practices
  - Standardization

Case 10: Dr. Rossman's Magic Eye Drops, Ross Original

- Your client, Dr. Rossman, has invented an amazing product; he has discovered the chemical formula for Magic Eye Drops. One drop in each eye will cure short or long-sightedness in any patient.
- However, Dr. Rossman is a scientist, not a businessman, and has come to our firm because he wants to sell the rights to his Magic Eye Drops to a business that will commercialize the invention. What should his asking price be?

- **Industry:** Pharmaceutical/ Medical Devices
- **Difficulty:** Easy
- **Format:** Pricing/Valuation
- **Concepts Tested:** Net present value, Estimation

- Candidate should ask about patent duration and describe some implications.
- Candidate should ask about any known side effects or risks.
- Brainstorm other competitors or substitutes

Clarifying Information and Case Guidance

Clarifying Information on Request

- Dr. Rossman has secured an exclusive, worldwide patent for the next 20 years. After the patent expires, generic versions will quickly be developed
- No obstacles to regulatory approval
- No known side effects or risks
- Extra points for identifying laser surgery as the closest competitor. But ask candidate to focus on corrective lenses (glasses and contacts) as competitors for this case
- Focus on US market
- Assume the discount rate is zero

Interviewer Guidance to Case and Exhibits

- Help candidate understand this is a valuation problem. The candidate will develop a structure to estimate NPV of future expected revenues and costs.
- To develop revenue projections, the candidate will have to estimate the market size and the optimal price. An illustrative example of market sizing is given on next slide and an estimate of revenue, including pricing, is given on next slide.
- Make the candidate brainstorm cost drivers. Once the candidate has listed cost drivers, provide him with the figures listed the following cost/math slide.

Possible Framework

Possible Framework

Profit = Revenue – Costs

Revenue:
- Direct Sales
- Partners - hospitals, eye care, pharmacies, eye care product manufacturers
- Market Size
  - Existing Customers
  - Industry Growth
- Price:
  - Cost
  - Competition
  - Value

Competition:
- Laser Therapy
- Contact Lens
- Glasses

Costs:
- Fixed Cost
  - Facility and Equipment
  - Approval and Licensing
  - Distribution
  - Marketing
- Variable Cost
  - Materials/Production
  - Testing

Customers:
- Age Range
- Market share
- Adoption Rates

Math Questions and Solutions

Market Sizing

Age Group	Population	Rate of Sight Problems	Rate of Adoption	Market Size
0-15	50M	20%	10%	1M
16-30	50M	30%	50%	7.5M
31-40	50M	40%	50%	10M
41-60	50M	50%	50%	12.5M
61-75	50M	60%	40%	12M
75+	50M	75%	20%	7.5M
				~50M

- Give candidate bonus points for thoughtful and creative explanations of the assumed rate of sight problems and assumed rate of adoption within each segment (e.g., adoption among young and old patients will be lower because parents will be unwilling to test out a new technology on young children whose eyes are still changing and elderly patients with fewer years to live will realize fewer years of savings from not having to purchase new corrective lenses).

- Give candidate bonus points for recognizing that the market will grow over the course of the 20 year patent. If the candidate raises this point, provide a projected annual growth rate of 3.5%. By the rule of 70, this means that the market will double before the patent expires, resulting in a true market estimate of 100M consumers.

Math Questions and Solutions

Pricing and Revenue Estimation

- Candidate should weigh different pricing strategies: competitive, cost based and value based. For example use competitive pricing, using corrective lenses as the relevant comparison price point.

Solution

- Based on personal experience, general knowledge or interviewer-provided information, the candidate should assume an annual cost of corrective lenses at ~$200
- Revenue over the life of the patent can be calculated as shown below:

  Market Size * Annual Value of Magic Eye Drops * Patent Life = Total Revenue

  ~100M Patients * $200 * 20 years = $400B
- The candidate may suggest factors that alter the price point – such as convenience (suggesting a higher price point) and riskiness (suggesting a lower price point). The interviewer should accept reasonable alterations.
- The solution's assumption of 20 years of revenue assumes that all customers will purchase as soon as the product comes on the market. The candidate may reasonably adjust the years of revenue downward to account for some customers waiting several years before purchasing.
- **Make sure that the candidate understands that we will disregard discount rates for the purposes of this case. In other words, assume a discount rate of 0%.**

Math Questions and Solutions

Costs

- Candidate should brainstorm types of costs. Then interviewer should provide the below details

Solution

Interviewer should provide		Candidate should calculate	
		Cost	**Total**
• Operating Costs		$100M * 20 yrs	2B
• Marketing	$150M/year for first 10 years $50M/year for last 10 years		
• Production	$20 per drop	$20 * 2 eyes * 50M Patients	2B
• Distribution	$100M per year	$100M * 20 yrs	2B
• Management/Overhead	33% of operating costs (i.e. 33% of Marketing + Production + Distribution)	1/3 * 6B	2B
	Total = 8B		

Conclusion

Recommendation

Recommendation
- Dr. Rossman should put the invention up for sate at ~392 B (400 B -8B in costs). Sales could however continue even after patent expiration

Risk Factors
- Another substitute/improved product may be invented
- Exclusive patent wont' stop pirating in all countries

Next Steps

- Solicit buyers
  - Focus on strategic acquirers
- Attempt to start a bidding war
- Speak at conferences

Excellent Case Answers

- Star candidates will drive the estimations and justify their reasoning
- Excellent candidates will also hit all the side points such as realizing there is a discount rate, a growing population and rule of 70, free market generics after the patent expires. r

1)

Our client is a national shipping company that focuses on ground transportation of commercial freight. For the past 15 years, it has been using diesel engines to power its fleet of vehicles, but now wants to explore the possibility of switching to electric powered engines (EV technology) due to rising fuel costs. The CEO has approached us for guidance and wants to know how to proceed.

- **Industry:** Transportation
- **Difficulty:** Medium
- **Format:** Cost Reduction
- **Concepts Tested:** Quantitative Analysis,

- This is a case heavy on numbers and deals with adoption of new technology.

Clarifying Information and Case Guidance

Clarifying Information on Request	Interviewer Guidance to Case
• Our client has identified a supplier to provide the electric vehicle technology since it does not have in-house capabilities. • Candidate can assume that the current supplier offers the best EV opportunity in terms of price and efficiency. • Since it has an extensive fleet of vehicles, our client wants to retro-fit existing vehicles instead of buying new ones. • No other ground transportation company has used EV powered engines. If our client proceeds with the conversion, it will be the first in the industry to do so. • EV technology has the potential to double existing fuel efficiency.	• The candidate should explain his/her overall framework, then identify that the current and future costs of ground transportation will determine feasibility of project. • The candidate should then ask questions to determine the initial investment required for EV retro-fitting and consider this cost along with the cost savings of the entire project. • The candidate should now ask questions about the current costs of transportation and determine potential cost savings. • See additional cost information on following page

Possible Framework

Framework

Diesel engines and EV technology engines costs

- Initial costs of retrofitting
- Costs of fuel (mileage of each engine type and cost per gallon)
- Labor costs (drivers, technicians etc.)
- Maintenance costs
- Insurance costs

Switching benefits

- Cost savings (calculate from components in the cost bucket for both technologies)
- Better positioning of the company due to usage of innovative and environmentally friendly technology

Switching hurdles

- Efficacy of new technology
- Repair and maintenance network (especially on highways and sparsely populated areas)
- Downtime of vehicles while retrofitting
- Supplier negotiations

Other

Further Cost Information to be Provided

Breakdown of Current Costs with the diesel engines

Provide the following cost data as the right questions are asked but do not give them away freely.

# of vehicles: 2000
Fuel tank size: 50 gallons
Average mpg: 10
Insurance: 1K / year
Cost of fuel per gallon: $3.00
Average miles travelled per week: 1000
Average annual maintenance and repair: $500
Labor: 20K / year

Breakdown of Future Costs when EV technology is adopted

Of the costs listed below, ask the candidate which would change and why. *(good answers would be mileage (as it is a new technology) and maintenance and repair (possibly higher insurance costs as the technology is untested and thus a higher insurance premium would be charged)*

# of vehicles: 2000
Fuel tank size: 50 gallons
Average mpg: 20
Insurance: 3K / year
Cost of fuel per gallon: $3.00
Average miles travelled per week: 1000
Average annual maintenance and repair: $3500
Labor: 20K / year

Math Questions and Solutions

Math Question 1

Find the current and future annual fuel costs and savings per vehicle.

Math Solution – Fuel Savings per vehicle

Current fuel costs

- Miles driven per tank = 10 mpg * 50 gallons = 500 miles
- Miles traveled per week = 1000 miles
- # of times tank is filled per week = 2
- Total cost of fuel per week = 2 * 50 gallons * $3.00 per gallon = $300
- Average yearly fuel costs (~50 weeks) * $300 = $15K

Future fuel costs (candidate can perform calculations again or receives a bonus for realizing that doubling fuel efficiency reduces fuel costs by half for the year)

- Miles driven per tank = 20 mpg * 50 gallons = 1000 miles
- Miles traveled per week = 1000 miles
- # of times tank is filled per week = 1
- Total cost of fuel per week = 50 gallons * $3.00 per gallon = $150
- Average yearly fuel costs (~50 weeks) * $150 = $7.5K

Annual fuel savings per vehicle: $15K – $7.5K = **$7.5K**

Math Questions and Solutions

Math Question 2

Find the total annual costs and savings for the entire fleet.

Math Solution – Total Costs and savings for entire fleet

Total current costs
- Fuel: $15K
- Annual maintenance: $500
- Labor: $20K / year
- Insurance: $1K / year
- Total: $36.5K

Total future costs
- Fuel: $7.5K
- Annual maintenance: $3.5K
- Labor: $20K / year
- Insurance: $3K / year
- Total: $34K
- Switching to EV thus saves $2.5K per year.
- The current vehicles have a remaining useful life of 10 years.

- Thus, switching to EV saves: **$25K – $5K (retrofit cost) = $20K** over the lifetime of each vehicle.
- At a fleet level, this would save the company $20K * 2K vehicles = **$40M** over the lifetime of the vehicles.
- Candidate can ignore time value of money/discounting, but should receive bonus points for considering it.

Conclusion

Recommendation

Recommendations
Our client should proceed with retrofitting its vehicle fleet to EV since it would save $40M over the remaining useful life.
Risks
- Our client would be the first in the industry to use EV technology, therefore its effectiveness in commercial transportation is untested.
- The vehicles need to commute 1000 miles per week and current EV technology is limited to short range use.
- There are limited recharging stations
- There may be unanticipated costs in using the new technology.

Next Steps

- Work with suppliers to test the effectiveness of the new technology.
- Run a pilot test to determine whether EV technology works and does not negatively impact normal transportation operations.
- Gain input from drivers on efficacy of EV technology.
- Perform research to determine whether there are government incentives for EV adoption.
- Perform research to determine whether EV adoption grows customer base/revenue.

Excellent case answers

Candidate would identify issues with adoption of new technology. Candidate would recommend conducting pilot tests for launching the program. This case would also test the candidate's capabilities to complete calculations more efficiently.

Case 12: Chef’s Best Cutlery and Co., McKinsey (Round 1)

Problem Statement

- Our client is an international manufacturer of medium and high quality kitchen knives. Chef’s Best sells knives in more than 20 countries, with a focus on Latin America, US & Canada, and global emerging economies.
- Chef’s Best produces five types of knives: Steak Knives (used at the table), Butcher Knives (used for chopping meat), Carving Knives (used for carving slices from large pieces of meat), Paring Knives (used for cutting small fruits & vegetables), and Chef’s Knives (large all purpose knives).
- Chef’s Best has experienced slowing sales growth in the past few years. How can Chef’s Best increase revenue growth for the next 5-10 years?

Type of Case

- **Industry:** CPG
- **Difficulty:** Medium
- **Format:** Market Growth
- **Concepts Tested:** Market Share Analysis, Competitive Analysis, Sales channels, Distribution channels

Interviewer Guidance

- This is an interviewer led case consisting of three exercises whereby the interviewer will let the interviewee know they have certain information and will hand out the exhibits one-by-one.

Clarifying Information and Case Guidance

Clarifying Information on Request

- Chef's Best sells primarily through a direct sales method (individual sales people throughout each region).
- Chef's Best sales are largest in Mexico, the US, and Brazil.
- Phase 1: Ask candidate to brainstorm and tell you how they would approach the problem. Prod for depth/creativity in framework then move the candidate on to Exhibit 1 after 7-10 minutes.
- A good framework should include major areas (e.g. product, customer, company, competition) but this is really a test of creativity and ability to derive a logical framework & brainstorming for this question with only ambiguous information. See a possible framework on the next page.
- The framework will not be important for the next steps.

Interviewer Guide to Case and Exhibits

- After interviewee prepares and explains framework, interviewer will prompt the interview to move forward with Exhibit 1, which covers growth and profitability. (Guidance on following pages)
- After the interviewee has answered the math question in Exhibit 1, the interviewer will lead to Exhibit 2 and Exhibit 3.
- After synthesizing the information in Exhibit 3, the interviewer will prompt for a recommendation.

Possible Framework

Framework

Market

- Market size and growth (Across geographies, product segments, customer segments)

Competition

- New players: capturing share due to better distribution channels/marketing efforts
- Low-cost competitors: More competitive prices offered in market
- Substitutes (e.g., electronic choppers and food processors)

Customer

- Segmentation of customers (e.g., chef’s knives to be sold more to restaurants and not households)
- Price sensitivity of customers

Product

- Product mix (Is our product mix aligned with consumer preferences?)
- Complimentary products and services (e.g., napkins with steak knives)
- Quality of products/brand image (Has quality of our products gone down or brand image suffered?)

Company

- Insufficient coverage due to limited distribution channels
- Inadequate cross-selling for different kind of knives
- Sales force effectiveness

Exhibit 1 Guidance: Market Overview Exhibit

Exhibit 1 Exercise

- Tell candidate that you have some information to answer their question on growth and profitability. Hand out Exhibit 1.
- See if the client has a keen eye for details and if he notices the footnotes and multiple details on the graph
- Ask the candidate to tell you what they have learned from this and what this information means.

- Look for:
  - Identification of largest profit centers (Mexico & Brazil)
  - Identification of poor growth in Mexico
  - Candidate should be able to confidently reach conclusions about important areas and risk areas.
  - Ask Math question. This is a test of the candidates ability to do math (with minimal rounding) under pressure. To pass this question the candidate must correctly calculate the answer with minimal mistakes and quickly recover from any mistakes. If the candidate does a good job of sharing their calculations, you may offer corrections.

Math Question and Solution

- If we have 23% market share in Mexico, and we grow at the same rate as last year in the next year, what will our market share be in 1 year? (Follow calculations and ask candidate to calculate to 1 decimal place)
- Approach is to calculate Chef's Best growth first. This is done using the formula for index to market in the footnote.
- Chef's Best Growth = (-70/100) = (x/7 -1) => -.7 = x/7 -1 => -.7+1 = x/7 -1 +1 => .3 = x/7, x = 2.1
- Next part is to find the market share
- Market share = (23%*1.021) / (100% *1.07) = 23.5/107 = 21.9%

Exhibit 2 Guidance: Product Category Overview Exhibit

Exhibit 2 Exercise

- Tell candidate that you have some information to answer their questions about what is driving market share changes. Give them Exhibit 2.
- Look for:
  - Identification of share losses in all categories
  - Highlight of both channel and share losses in the butcher knives category
  - Prioritization of areas for focus

- When the candidate identifies their focus areas (or ask them to if they do not), move on to Exhibit 3. This exhibit may only take a few minutes.

Exhibit 3 Guidance: Product Category Overview Exhibit

Exhibit 3 Exercise

- Tell the candidate that you have some information to answer their questions about the Butcher Knives category. Ask them to look at Exhibit 3
- Look for:
  - High overall growth rate (correlating to poor market share performance in Exhibit 2)
  - Acknowledgement of potential of retail distribution vs. direct sales model that currently accounts for majority of sales
  - Development of recommendations to invest behind the butcher knives category and drive increased distribution, focus on expanding Recycled Steel distribution, Japanese & General Purpose distribution
  - Generally drawing upon earlier exhibits to developer broader recommendations

- After about 5 minutes with this slide move the candidate and ask them to prepare the recommendation slide to present to the Chef's Best CEO.

Conclusion

Recommendation

Recommendation
- Focus on growing share in Mexico, US, to retain the core business and avoid losing share and scale economies to competitors
- Invest in emerging markets but recognize that top 3 markets are 60% of sales and cannot be ignored
- Invest in Butcher Knives to expand distribution and address any weaknesses in marketing
- Begin to shift more of the business away from costlier and lower growth potential direct sales model to retail sales (diversify away from declining sales channels)

Risks (Make sure the interviewee mitigates)
- Shift in sales method will lead to layoffs that need to be addressed
- Trends in the past may differ from future trends

Next Steps

- Open negotiations with additional retail distributors to identify next steps towards gaining additional distribution
- Conduct a competitive analysis in Mexico and the US to identify specific causes for lower than market share growth
- Prepare financial plans for increasing investment plans in Butcher Knives

Excellent Case Answers

- A star caser will provide a recommendation encompassing all three exhibits.
- Candidate should think creatively, in addition to identifying the most obvious recommendations. The 3 exhibits provide 3 tests of their ability to interpret data, and include one medium-difficulty math problem.

Exhibit 1: Overview of Major Markets

	Revenue	Profits	Market Growth	Chef's Best Index to Market
Mexico	345	69	7	-70
US	242	17	3.2	-53
Brazil	133	28	6.6	21
Poland	106	16	7.9	-75
Argentina	74	19	16.2	48
Russia	60	7	22.1	-59
Malaysia	54	8	10.2	-12
Japan	43	12	4.5	22
Colombia	39	7	13.2	14
Venezuela	33	5	25.8	5

Index to Market Calculated as [(Chef's Best Growth/Market Growth)-1]*100

Exhibit 2: Overview of Product Categories

Market Category	Revenue	Change in Rev. Past 5 Years	Market Driven	Channel Driven	Share Driven
Steak Knives	366	128	136	22	-30
Butcher Knives	243	27	186	-46	-113
Carving Knives	226	59	55	7	-3
Paring Knives	165	36	48	-2	-10
Chef's Knives	97	49	35	19	-5
Total	1096	298	460	0	-161

Exhibit 3: Details of Butcher Knives Category

Chef's Best not Distributed	
10-20% Share	
Over 20% Share	

	General Purpose	Japanese Design	Ever-Sharp	Titanium Edge	Light Weight	Recycled Steel
Chef's Best Sales by Product	25%	23%	14%	9%	18%	11%
Annual Market Growth (past 5 years)	9%	11%	6%	7%	1%	12%
High End Mass market						
Mass Market						
Discount						

Case 13: Fertilizer Innovation, McKinsey (Round 1)

Problem Statement

- Your client is an agricultural products manufacturer. They invented a product called "Green Nutrient". This is going to help the farmers by allowing a variable fertilizer rate. The company is interested in a pricing strategy and go-to-market options.

Type of Case

- **Industry:** Industrial Goods
- **Difficulty:** Medium
- **Format:** Pricing
- **Concepts Tested:** EVC, Price Discrimination, Market Segmentation

Interviewer Guidance

- In this case the candidate should first focus on understanding the product followed by a quantitative assessment of the product's benefits to various customer segments
- This should be followed by a qualitative discussion of the various pricing mechanisms and other components of the go-to-market strategy, such as placement and promotion

Clarifying Information and Case Guidance

Clarifying Information on Request

- "Green Nutrient" measures the amount of fertilizer required, allowing for a "variable fertilizer rate"
- Two main benefits: Reduces over-use (reduce costs) and increase under-use (increase yield)
  - Benefit #1: 20% reduction in fertilizer cost per acre. 1 bag / acre @ $15/ bag.
  - Benefit #2: Improve yield 2%. Current average yield: 100 bundles/ acre @$ 2.5/ bundle
- No competition
- Farm size average about 400 acres
  - 1,000 Large farms: 1,000 acres
  - 3,000 Medium farms: 400 acres
  - 6,000 Small farms: 200 acres
- Product lasts 10 years
- Product production cost: $10K per unit
- Unit works the same regardless of farm size
- Discount rate: 0%

Interviewer Guidance to Case and Exhibits

- Provide information only when asked
- Candidate should clarify if the product is a device or the fertilizer itself

Possible Framework

Framework

Different pricing methods
- Economic value to customer – savings from reduced fertilizer use, increased revenue form yield improvement
- Cost plus – variable cost per unit, margin of similar product
- Competitor based (market) – price of similar product, margin of similar product

Go-to-market strategy
STP Analysis
- Market size and segments by size of farm
- Value proposition for each segment
- Profitability analysis for each segment to decide targeting

4P Analysis
- Placement – Agriculture product retailers, direct to farmers, big box retailers, online etc.
- Promotion – Trade journals, trade shows etc.

Interviewer guidance: candidate should argue the pros and cons of each pricing method and decide that EVC is the best way to go.
Give bonus points if candidate mentions price discrimination or price skimming.

Math Questions and Solutions

Math Question

- Pricing analysis (Interviewee led)

Math Solution

- EVC/Acre
  - $3.00 fertilizer savings per acre (20% * $15)
  - $5.00 yield increase ($2.5 * 100 * 2%)
  - Maximum WTP per acre: $8.00 per acre
  - WTP for each farm type: Small - $16K ($8 * 200), Medium - $32K, Large - $80K
- Customer segment analysis:
  - Large: If we price the product at $80k we sell 1000 profit $70M
  - Large & Medium: If we price the product at $32k we sell 4000; profit $88M ← **BEST OPTION**
  - All farms: If we price the product at $16k we sell 1000 profit $60M

Conclusion

Recommendation

Recommendation
- Our client should price the device at $32K/unit and target the large and medium farm. This will allow our client to maximize profits.

Risks (Make sure interviewee mitigates)
- New entrant comes to market in next 10 years who may price more competitively
- Customers may not be willing to pay EVC

Next Steps

- Market analysis on actual WTP and competitive response
- Research on channels and promotion schemes

Excellent Case Answers

- Skimming: start by pricing at $80k and then $32k and then $16k
- Offer a service to the farms at up to $8/acre that will achieve a price discrimination based on acreage (perfect price discrimination)

Case 14: Airport Parking, McKinsey (Round 1)

Problem Statement

- Our client is a provider of parking services in major metro areas around the United States. The CEO recently was driving to DTW airport and noticed a rise in private providers of parking. She thought to herself, should we enter this space? She has asked you to help her think about this and wants to brainstorm with you.

Type of Case

- **Industry:** Airlines
- **Difficulty:** Medium
- **Format:** Market Entry
- **Concepts Tested:** Market Size, Threat to Entry

Interviewer Guidance

- This case is focused on estimating the market size of airport parking lots by taking into consideration the flight details
- After market sizing there is a brainstorming exercise to identify possible threats to entry into the market
- The case ends without looking into the costs so the interviewee should consider in next steps

Clarifying Information and Case Guidance

Clarifying Information on Request

- The ultimate goal is based on the attractiveness of the opportunity and the measure is open to the interviewee to decide
- Airport opportunity to be analyzed is O'Hare in Chicago (although candidate should recognize the ability to scale this)
- We are a US based firm with parking lots located in the cities and not the airports
- When interviewee asks you the differences between what we currently do and what the opportunity is, have them brainstorm
  - New service will have attendants, may need shuttle service, valet service, etc.

Interviewer Guide to Case and Exhibits

- Candidate should have mentioned the market size within the framework
- Ask the candidate to estimate the market size for O'Hare in Chicago
- After candidate realizes that there is an opportunity ask them to brainstorm possible threats to entrance

Possible Framework

Framework

Market Size (we will come back to this)
- Existing customer base
- Industry growth

Competition
- Existing parking structures (local at airport)
- Other offsite parking
- Public transit (train, taxis, shuttles, etc.)

Existing Capability
- What are the differences between running urban parking lots from those at an airport?
  - Busing/shuttle system, to drive customers to and from the airport
  - Is customer service a major factor?

Revenue
- Number of spaces sold
- Add on services (car wash, newspaper sales, etc.)
- Pricing (consider probing about unique pricing – frequent park programs, packages, etc.)

Costs
- Land (rent or own)
- Labor (bus drivers, ticket attendants, maintenance and security)
- Insurance
- Promotion (e.g. coupons)
- Fuel

Math Questions and Solutions

Math Question

- What is the market size for O'Hare in Chicago?

Provide the following facts as the right questions are asked but do not give them away freely:

- Flights per day
- Average passengers/flight
- % of fliers that drive to the airport and hence need to park at the airport
- Average parking stay
- Average price/day for parking

Math Solution

- Total Passengers / Year = 2600 X 80 X 360 = ~ 75M
- Divide by 2 to avoid double counting departing and arriving passengers = 37.5M

- Airport parking market size
- Passengers/Year = 20% of 37.5M = 7.5M
- Parking Days/Year = 7.5M X 3 = 22.5M
- $/Year = 22.5M X $10 = $225M

Brainstorming Questions and Solutions

Brainstorm Question

Brainstorm possible threats to the attractiveness of this opportunity…

Brainstorm Solution

Decline in airline travel growth caused by
- Higher fuel prices
- Security concerns (e.g. terrorism)
- Substitutes (high speed rail network)

Alternative travel to the airport such
- New public transit
- Improved ride sharing possibly the result of social networking

Number of competitors and their response to client's entry into the market

Conclusion

Recommendation

Recommendation
- There is about $225M of parking business at O'Hare
- Take advantage of our knowledge gained from urban parking, this large, and probably growing, market could present a real opportunity for our growth
- Appears an opportunity to explore further

Risks (Make sure interviewee mitigates)
- Those gained from brainstorming
- Costs could outweigh the benefits
- Certain markets may be oversaturated

Next Steps

- We need to look carefully at the competitive landscape and the economics at each airport and evaluate local competition and costs
- Determine if any new transportation substitutes are in the pipeline
- If candidate does say go forward, piloting before full scale implementation would be ideal

Excellent Case Answers

- Star candidates will realize that this is an opportunity to explore further before determining if the company should implement the idea or not
- Start candidates will also point out benefits of diversification with their current portfolio offsetting declines in business travel
- Candidates should not forget that we are in many cities and are able to scale beyond this airport

Case 15: German Luxury Car Maker, BCG (Round 1)

Problem Statement

- The German luxury car maker wants to grow business and is looking into selling cars in Bangladesh. The GDP growth in Bangladesh is 5% per year. Currently, the only luxury car sold in Bangladesh is Mercedes-Benz and they have been in the market for the past 10 years.
- The CEO wants to find out if the company enters the market, can they break even in three years?

Type of Case

- **Industry:** Automotive
- **Difficulty:** Medium
- **Format:** Market Entry
- **Concepts Tested:** Market entry, Customer Lifetime Value, Competition, Economy

Interviewer Guidance

- Interviewer should ask candidate how to estimate market size if the candidate does not bring this up on their own
- A break-even analysis will follow the market share calculation

Clarifying Information and Case Guidance

Clarifying Information on Request

- Mercedes-Benz imported and sold 10,000 cars in this market over the past 10 years, and has their own dealership in Bangladesh
- There are 1,000 new buyers each year
- The price Mercedes-Benz charges is $100,000 per car
- Existing owners replace their car every 10 years (the interviewee should calculate how many new cars are sold to existing owners – 1000 per year, and therefore the total market size per year is 2000 new cars)
- We will have 30% market share (don't give this info out right away, ask candidate to brainstorm how to estimate market share) each year
- Assume the discount rate is zero

Interviewer Guidance to Case and Exhibits

Ask candidate how to estimate market share

Possible answers:

- Understand customer needs through survey and estimate how well we could meet those needs and therefore how much market share we could gain.

- Find benchmark
  - It turned out that our client already entered Vietnam and other markets similar to Bangladesh and on average gained 30% market share in each of these markets

Math Questions and Solutions

Math Question

- Will the company break-even after within 3 years (Interviewee should determine the need to calculate this after estimating the market share)

Math Solution

- Cost Structure
  - Initial Investment — $7M
  - Variable Cost/Car
    - Manufacturing — $20K
    - Transportation — $24K = 120% (manufacturing cost)
    - Customs/Taxes — $41.8K = 95% (manufacturing + transportation)
    - SG&A — $10.296 = 12% (all the above costs)
  - The variable cost per car rounds up to $96K/car
  - Therefore the profit on each car is $4K.
  - With 30% market share, the client's annual profit will be $2.4M and will break even in 3 years

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Brainstorming Questions and Solutions

Brainstorming Question

- Evaluate potential risks of entering this market

Brainstorming Solution

- Assumptions might be inaccurate
- Bangladesh is not stable politically and economically, therefore our client will bear more risk
- There could be other new entrants
- Mercedes-Benz could react to our entry by
  - Reducing price (the best answer might also mention that with the low income level in the country, customers who can afford luxury cars might not be price sensitive)
  - Ask candidate what price Mercedes-Benz will reduce their car to.
    - Answer: $96K/car or less
  - Improving their services if that's the differentiating factor of our product\
  - Blocking some local resources

Conclusion

Recommendation

Recommendation

- The profit on each car is $4K
- With 30% market share, the client's annual profit will be $2.4M and will break even in 3 years

Risk Factors

- Those gained from brainstorming

Next Steps

- Market analysis on competitive response and target customer
- Determine best way to enter the market (JV, Greenfield, etc.)
- Look into ownership structure (franchise or owned showrooms)

Excellent Case Answers

- Star candidates will inquire on their own about ways to estimate market share
- Should recommend a price sensitivity analysis to determine the correct price

(Round 1)

- Your client is a large retail bank in the U.S. looking to move it's current outsourced call center from India to Africa and is currently evaluating 3 possible countries as a target location
- How would you evaluate each of these sites?

Consulting Club @ Ross

- **Industry:** Financial Services, Outsourcing
- **Difficulty:** Medium
- **Format:** Cost Reduction
- **Concepts Tested:** Payback period, Quant Heavy

- Call center is focused on two types of calls:
  - Customer Service Calls (Account locked, password reset, etc.)
  - Sales Calls (pushing new services to new and existing clients e.g. credit cards)
- Candidate should recognize case is about cost reduction
- Bonus: Candidate should identify inherent upfront risks of moving call center to new market and should question rationale of the African market given availability of infrastructure, political stability, etc.

Clarifying Information and Case Guidance

Clarifying Information on Request	Interviewer Guidance to Case and Exhibits
• This is the bank's first time in Africa and it has no other current operations in the area • Other competitors have moved their operations	• Guide the candidate towards evaluating various aspects of cost reduction.

Possible Framework

Possible Framework

- Candidate should structure the framework to consider the elements for evaluating 3 countries

Financial

- All of the following should be focused on isolating the change from current to future
- Operating costs (Labor, Rent, Utilities, Transport for employees, Overhead)
- Investment Cost (Important that this can be recovered over a reasonable amount of time)

Other Considerations

- Firm
  - Alignment with firm strategy
  - Experience in Africa
  - Opportunity Cost
  - Risk to customers (quality)
- Market (Africa)
  - Availability of Labor (English speaking, Banking knowledge)
  - Political stability
  - Availability of Infrastructure (Internet, Electricity, other basic needs)
- Competitors – have they already done this?

Brainstorming Questions and Solutions

Brainstorming Question

- What are some typical costs associated with running a call center?
- Which of these would be lower in Africa?

Brainstorming Solution

- Key insight is to identify (push candidate to drive towards Exhibit 1) that labor will be the key savings from the initiative (all other costs will remain the same)
- **Share with candidate that existing cost is $60M per year**
- Candidate should move towards the labor costs to isolate the differences by using the utilization rate and number of calls made by each call center to calculate number of employees.
- Strong candidate will recognize that new call centers will not be effective but interviewer should push candidate in that direction and share Exhibit 2
- Candidate should work through solution to determine that financially, Country B is the best option. A strong candidate will note this immediately, as the effectiveness of A and B are the same, but the cost is lower by $2/hr
- Strong candidate will recognize that Utilization should increase over time (ignore during calculations)
- Bonus: Security may be an added cost given political environment in some countries – acknowledge but inform candidate it is included
- Bonus: Cost of infrastructure may be higher – acknowledge but inform candidate it is included

Math Questions and Solutions

Math Question

- If the investment in each country is $36M, what is the payback period for the country the candidate selected?

Math Solution

- This question will test basic finance concepts of payback period
- Strong candidate will mention discount rate (candidate can ignore it in calculations)
- Are there ways the Call Center can generate revenue?
  - Candidate should brainstorm possibilities for revenue generation from the call center:
  - Cafeteria that sells food to employees
  - Day Care facilities for working parents
  - Alternate use of facilities as a training center
  - Advertising revenue from posters, etc. • Internet café (leverage infrastructure) • On-site bank/ATM
  - Vending machines
  - Gym

Math Questions and Solutions

Math Question

- Calculate total cost for each country and payback period

Math Solution

Call Demand	Current	Country A	Country B	Country C
Employees	400	600	600	1200
Avg Call Duration (Min/Call)	4	4	4	4
Total Working Time (Hours)	8	8	8	8
Utilization	75%	50%	50%	25%
Total Calls	36K	36K	36K	36K
Employee Cost	$24K	$14.4K	$11.52	$17,28
Difference	0	($9.6K)	($12.48K)	($6.72K)
Cost/Employee	$60K	$24K	$19.2K	$14.4K
Employee Cost/Hr	$25	$10	$8	$6
Investment Cost	$36M			
Savings/Year	$12.48M			
Payback Period	2.88			

Brainstorming Questions and Solutions

Brainstorm Question

- Evaluate the potential risks

Brainstorm Solution

- Political Stability in the region
- Quality of Service – will it remain the same?
- No experience in Country B
- Long term ability to ensure low hourly rates

Conclusion

Recommendation

Recommendation

- Client should move it’s call center to Country B as it is the most cost effective based on employee rate and productivity

Risk Factors

- Those gained from brainstorming

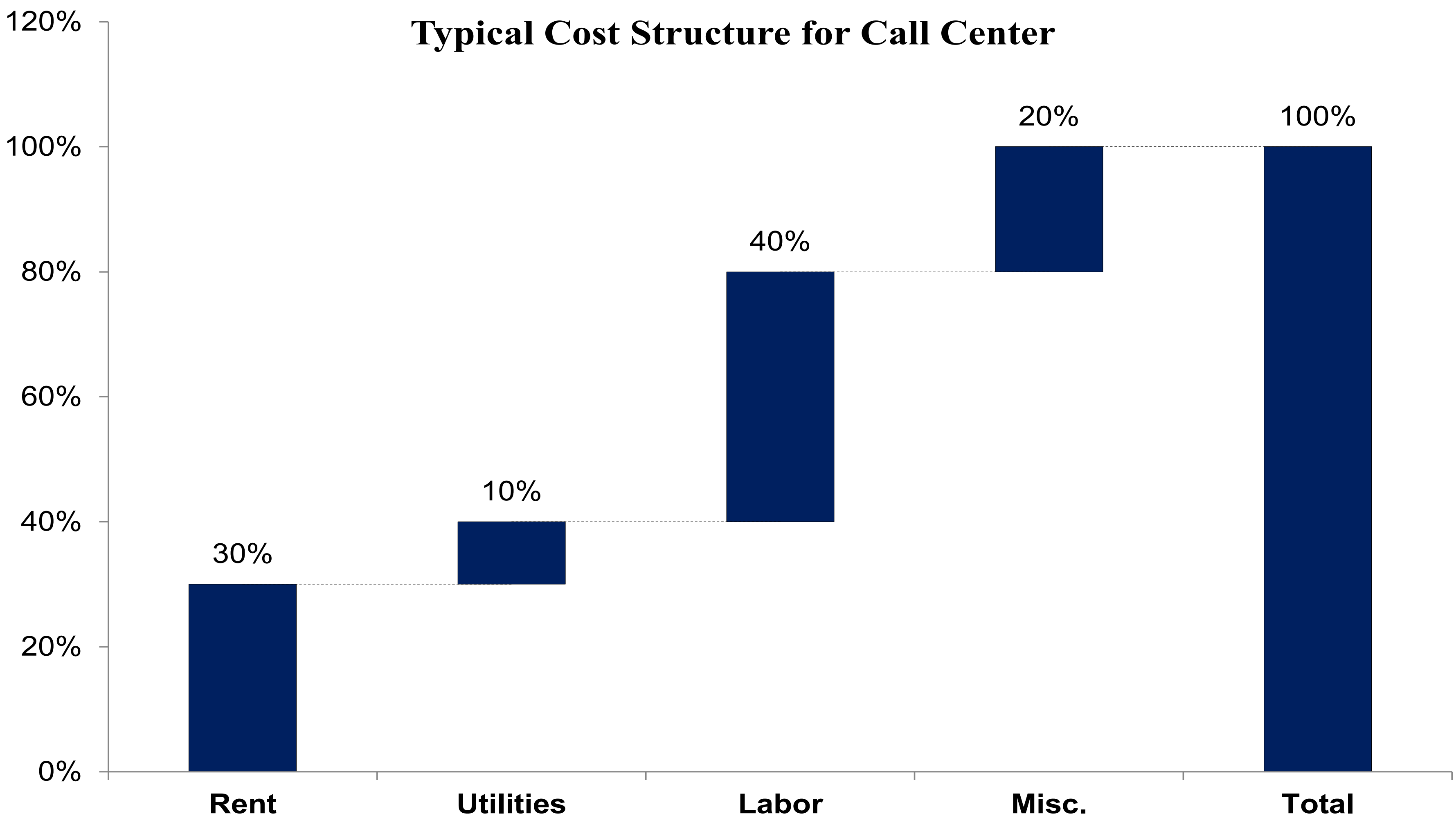
Next Steps

- Work with local governments to gain support for investment
- Consider pilot/phased approach to address service quality
- Work towards identifying other revenue opportunities and cost savings initiatives to offset any rise in labor costs
- Implement measures to increase utilization of Country B employees

Excellent Case Answers

- Candidate should consider the security as an added cost due to political instability in some countries
- Cost of infrastructure may vary by country and will be typically higher in Africa

Exhibit 1



Typical Cost Structure for Call Center
120%
100%
80%
60%
40%
20%
0%
30%
10%
40%
20%
100%
Rent
Utilities
Labor
Misc.
Total

Exhibit 2

Call Demand	Current	Country A	Country B	Country C
Utilization Rate	75%	50%	50%	25%
Labor Rate	$25/Hr.	$10/Hr.	$8/Hr.	$6/Hr.
Avg. Call Duration (Min/Call)	4	4	4	4
Total Working Time (Hours)	8	8	8	8

- Current call center has 400 employees
- Assume 300 days/year in calculating annual cost of labor

Case 17: Little Bud Co - Beer Company, Bain (Final Round)

Problem Statement

- Our client, Little Bud Co, is a beer company in a small country in Latin America. Little Bud and its main competitor, Geineken, are the only players in the market. Geineken's operations are significantly bigger than Little Bud.
- Little Bud's CEO asked us to provide him with strategic options for the company and a recommendation on what he should do.

Type of Case

- **Industry:** Food/Beverages
- **Difficulty:** Medium
- **Format:** Growth Strategy
- **Concepts Tested:** Valuation methods, Growth Strategies

Interviewer Guidance

- If interviewee asks "What are the CEO goals?", turn the question back: What are the goals of a company? Then rapidly lead conversation to the goal of maximizing shareholder's value.
- This case is focused on a discussion on how scale economies create competitive advantage and will touch on valuation principles at the end.
- It's important for the candidate to rapidly start comparing the two companies. For the purpose of this case, other competitors can be disregarded. The analysis should be focused on Little Bud and Geineken.

Clarifying Information and Case Guidance

Clarifying Information on Request

- Market is mature (growth is low)
- 10% of sales are made through large retailers and 90% through bars, restaurants and small retailers
- Focus on market of regular beer; market for small brewers/specialty beers should be disregarded (very small market)

Interviewer Guidance to Case and Exhibits

At the beginning of the case (after candidate presents his framework):

- What are the two most relevant information that you need to start this analysis? Suggested answer: market size and P&L for Little Bud and main competitor
- Once the candidate asks for market size data, present Exhibit 1 and ask for initial insights
- Exhibit 2 provides financial comparison information. What are the margins for each player? What are the possible reasons for the margin differences? (suggested answer: Geineken could have higher margins due to higher prices, lower costs or both).
- When candidate raises the hypothesis of selling the company, hand over Exhibit 3.
- What are the strategies that Little Bud should consider? Suggested answer: go to niche market, go to related markets, sell to competitor

Possible Framework

Possible Framework

Profit = Revenue – Costs

Revenue:
- Market Size
- Distribution
    - Retailers
    - Restaurant/Bars
- Price
- Product Mix

Competition:
- Compare Financials
- Operations
- Pricing
- Buy/Sell

Costs:
- Fixed Costs:
    - Plant and Equipment
    - Distribution
    - Marketing
- Variable Costs:
    - COGS
    - Labor

Company:

- Supply Chain
- Economies of Scale
- Geographies/Related Markets

Math Questions and Solutions

P&L Calculations

- On the basis of the Exhibits, candidate should derive the following results for Exhibit 2

Solution

Pricing

	Little Bud	Geineken
Unit Price	1.00	1.10
COGS	30M	28M
Gross Profit	70%	75%
	10%	

P&L Comparison

	Little Bud	% of Rev	Geineken	% of Rev
Revenues	100M		700M	
COGS	30M	30%	178M	25.5%
G&A		10M	10%	70M
Sales/Dist.	30M	30%	175M	25%
Marketing	25M	25%	127M	18.1%
EBITDA	5M	5%	150M	21.4%

Brainstorming Questions and Solutions

Brainstorming Question

- At this point, the candidate should try to compare the two players, in order to identify the possible sources of competitive advantage.
- The table below presents information on Geineken costs as a percentage of sales (so the candidate can calculate the P&L) and the rational behind the cost differences between Little Bud and Geineken.
- Ask the candidate to provide a hypothesis on the rational before explaining Geineken's competitive advantages

Brainstorming Solution

- **G&A:** Assumption here is that Little Bud operates on a model in which there is no more scale economies in G&A.
- **Sales & Distribution:** Due to market regulations, there is a limit in the truck size. Due to its larger share, Geineken achieves higher asset utilization.
- **Marketing:** Even with lower percentage, the marketing expenses are much higher in the absolute terms.

Brainstorming Questions and Solutions

Brainstorming Question

- Evaluate potential options for Little Bud

Brainstorming Solution

- Increase market share:
  - Product innovation: consumer taste is already well defined. There is no room for new products.
  - Price war: it's virtually impossible for Little Bud to enter a price war against Geineken.
  - Marketing: Geineken spends 5x more in marketing. Trying to compete against this big player on marketing expenditures is not a good strategy.
- Reduce costs: There are no opportunities for further reducing costs.
- Focus on niche market: Interviewer should say that niche market for beer in this country is very small.
- Move into related markets (e.g.: carbonated soda, juices, etc.): interviewer should say that the company has already conducted analysis and decided it's not a good alternative, due to competition
- After comparing both companies, the candidate should understand that scale economies are a major source of competitive advantage in this market and propose some strategic alternatives to Little Bud. The interviewer should rapidly move the discussion towards selling the company.

Math Questions and Solutions

Valuation of Little Bud

- The interviewer should propose to focus on the valuation of the business
- Ask the candidate to propose how to value the company

Solution

- The candidate should be able to propose at least the two most common valuation methods: DCF and multiples (multiples are use for quick assessments and we have EBITDA figures). Once asked for it, the interviewer should give the multiple to be used: EV/EBITDA = 10x
- What is the market value for Little Bud?
  - Suggested answer: based on the multiple and EBITDA figures, $50M
- What is Little Bud's value to Geineken?
  - Suggested answer: considering Geineken margins and Little Bud revenues, Little Bud's value to its competitor is $214M (potentially higher, due to the fact that Geineken would become a monopoly and be able to increase price and further squeeze suppliers)
- How to "force" Geineken to pay more than $214M?
  - Suggested answer: Little Bud should open bid to other companies. Geineken has the incentive to maintain its market dominance and doesn't want a big international player to enter the market,

Brainstorming Questions and Solutions

Brainstorming Question

- Evaluate potential risks

Brainstorming Solution

- There might be legal issues by the anti trust agencies that would prevent a transaction
- Loyal customers might not perceive it positively
- Jobs may be lost due to the realized synergies and this may cause friction
- Company cultures could clash/cause problems

Conclusion

Recommendation

- Recommend the CEO to sell Little Bud
- The company has no competitive advantage. Geineken has margins high enough to enter a price war that would lead Little Bud to bankruptcy
- Also, through an open bid to the market, Little Bud could achieve a higher valuation

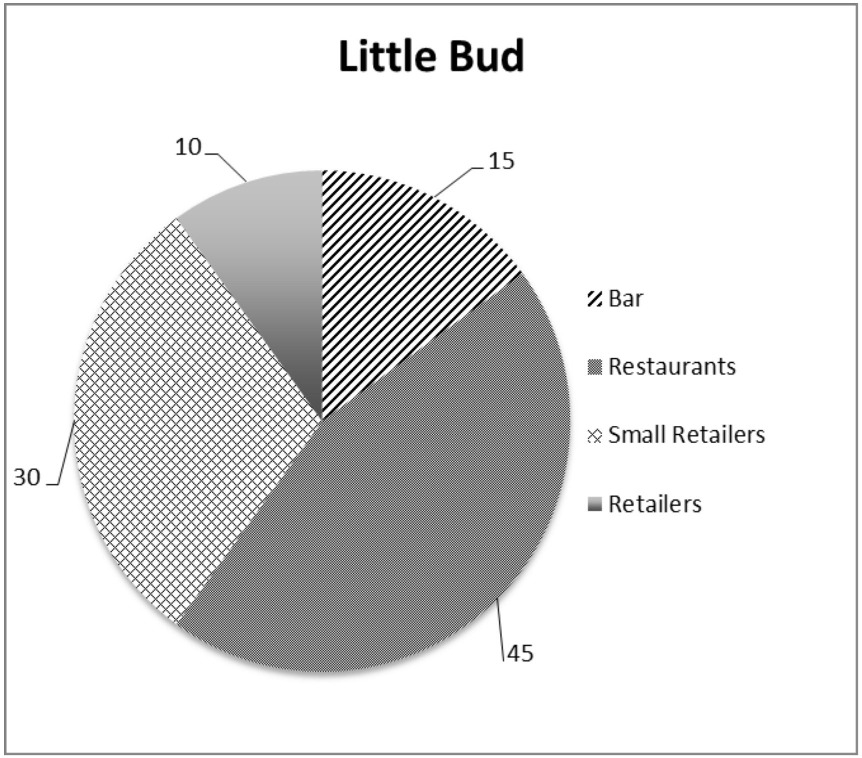
Next Steps

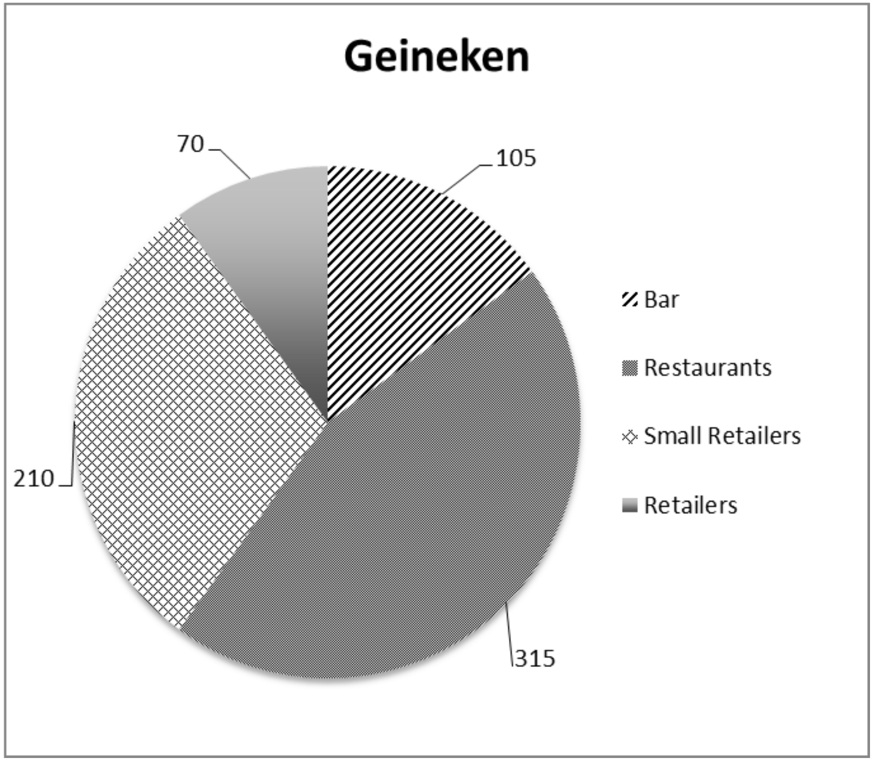
- Hire an investment bank to structure the deal
- Evaluate risk of ruling from antitrust agencies
- Identify potential cost saving opportunities in case Geineken responds by reducing prices

Excellent Case Answers

- Star candidates will showcase business skill in identifying the correct valuation model and price
- Should justify reasons on selling the company and why not increase price or reduce cost
- Realize that a price war may not offer as high a valuation as discussed as Geineken is the only other potential candidate at the moment and more analysis must be done to determine if there are other prospective companies that would be interested in entering the market

Exhibit 1: Revenues by Channel





Figures in USD millions

Exhibit 2: P&L for Little Bud and Geineken

	Little Bud ($M)	Geineken ($M)
Revenues	100	700
COGS	30	
Gross Profit	70	
G&A	10	
Sales & Distribution	30	
Marketing	25	
EBITDA	5	150

Exhibit 3: Gross Profit Detail

	Little Bud	Geineken
Unit Price	100	110
COGS	30	28
Gross Profit		

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Case 18: Midwest Hospital, BCG (Round 2)

Problem Statement

- Midwest Hospital is a research-based hospital and takes pride in its joint replacement surgery department. Recently Midwest Hospital did a P&L analysis for all departments and found that the joint replacement surgery department is providing losses
- The CEO has asked us to help out

Type of Case

- **Industry:** Healthcare
- **Difficulty:** Hard
- **Format:** Profitability
- **Concepts Tested:** Average Variable Cost, Competitive analysis

Interviewer Guidance

- If the candidate asks tell him/her that there are no financial targets.
- Candidate should figure out during the course of the case that there are several levers that can increase profitability:
  - Increase price
  - Change patient mix
  - Increase total number of surgeries
  - Decrease costs
  - Provide post surgery services such as physiotherapy

Clarifying Information and Case Guidance

Clarifying Information on Request

- Give the Exhibits in the subsequent slides only when the candidate asks for the relevant data.
- Focus of this case is only on joint replacement surgery

Interviewer Guidance to Case and Exhibits

- At some point near the start of the case, interviewer should take the lead and ask these questions after Exhibits has been given
- Exhibit 1: Would it be advisable to not cater to Medicare patients (assume no backlash)?
- Exhibit 2: What is the number of surgeries that Midwest needs to conduct in a year to breakeven?
- Exhibit 3: Why is Company D able to stay profitable despite having fewer patients and unfavourable patient mix?

Possible Framework

Possible Framework

Profit = Revenues – Costs

Revenues:
- No. of Surgery
- Complexity of Surgery
- Patient Mix
- Price
- Other Charges eg: Bed, Medicines
- Post Surgery
  - Visits
  - Medicines

Competition:
- Price
- Patient Mix
- Better facilities/Equipment

Costs:
- Fixed Costs
  - Hospital
  - Doctors
  - Equipment
  - Insurance
  - License
- Variable Costs
  - Visiting Doctors/Surgeons
  - Govt. regulation

Customers:
- Age Group
- Paying with Insurance

Math Questions and Solutions

Math Questions

- Exhibit 1: Would it be advisable to not cater to Medicare patients (assume no backlash)?
- Exhibit 2: What is the number of surgeries that Midwest needs to conduct in a year to breakeven?
- Exhibit 3: Why is Company D able to stay profitable despite having fewer patients and unfavourable patient mix?

Math Solutions

- On a fully cost allocated basis Medicare patients are unprofitable but they are still paying $1K above the variable cost (marginal cost). This helps cover the fixed costs of the department. So, it is not recommended to stop conducting surgeries for Medicare patients
- Average revenue per patient is 19K. Average variable cost is 14K. Gross margin per patient is 5K. Fixed costs are 7M, so 1400 surgeries are required for breakeven. Assuming same proportion as in Exhibit 1 the hospital requires 140 commercial, 420 insurance, and 840 Medicare patients
- Comp D might have a lower cost structure or may be able to negotiate better pricing from payers

Brainstorming Questions and Solutions

Brainstorming Question

- Evaluate potential risks to increasing the number of surgeries

Brainstorming Solution

- There might not be enough market demand and increasing surgeries would mean stealing market share from competitors
- The competitors might reduce the price and enter a price war

Conclusion

Recommendation

Recommendation

- Increase total number of patients to cover
- Change mix of patients to have a higher proportion of commercial and insurance customers
- See if you can negotiate with insurance and gov.

Risk Factors

- Those gained from brainstorming

Next Steps

- Analyze scope for cost reduction, starting with competitive benchmarking
- Analyze scope for increase in price, starting with competitive benchmarking
- Analyze profitability of post care services provider
- Start conversations with reimbursement providers

Excellent Case Answers

- Star candidates quickly identify the competitor D has a similar patient mix but is still profitable
- Candidate should provide a reason as to why the client should not eliminate Medicare patients
- Candidate should bring up idea that joint replacement department may be a loss leader and provides synergies with other department offerings

Exhibit 1: Patient Mix

Payer Type	# Surgeries	List Price	Invoiced Price
Commercial (Enterprises)	100	$40,000	$40,000
Insurance	300	$40,000	$20,000
Medicare (Government)	600	$40,000	$15,000

Exhibit 2: Joint Replacement Department P&L

		$M
Revenue		**19**
VC	Physician	5
	Materials	5
	Others	4
FC	Facilities	3.5
	Others	3.5
Total Costs		**21**
Profit		**($2)**

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Exhibit 3: Competitive Benchmark

	Surgeries	Commercial	HMO	Medicare	Profitable
Midwest Hospital	1000	10%	30%	60%	No
Comp A	1200	20%	20%	40%	Yes
Comp B	800	30%	20%	50%	Yes
Comp C	900	10%	20%	70%	Yes
Comp D	1000	5%	25%	75%	Yes

Case 19: Apache Helicopters, Bain (Round 1)

Problem Statement

- Our client is a US defense contractor and one of its divisions manufactures Apache helicopters for military operations. The company is considering setting up a new plant to meet increasing demand in the attack helicopter space. These helicopters are fully equipped with guns and ammo when delivered to the client. The client has considered three sites to setup operations: Brazil, France and the US.
- How would you go about defining the parameters for decision and where should they setup the plant based on that analysis?

Type of Case

- **Industry:** Defense
- **Difficulty:** Hard
- **Format:** Market entry
- **Concepts Tested:** Quant heavy, Synthesis

Interviewer Guidance

- Help the candidate only when he/she asks for information
- The critical thinking around how a country might alter purchases based on country of origin is a thought that good interviewees will bring up.
- The other key aspect is the interviewee’s ability to capture data and not get lost in it

Clarifying Information and Case Guidance

Clarifying Information on Request	Interviewer Guidance to Case and Exhibits
• The client has 3 plants in the US; 2 in Kansas and 1 in Michigan • The plants operate at full capacity today • One of the US plants can accommodate an additional assembly line at the cost of $500M; the other 2 are landlocked in residential areas and cannot be expanded	• NA

Possible Framework

Possible Framework

- Candidate should structure the framework to consider the elements for evaluating 3 countries
- Export control restrictions between the US and FR & BR; this is important because if the transfer of technology is disallowed, then the only option is to setup the plant in the United States
- Financial analysis of operating up the plant in different locations
  - Costs (FC, VC)
  - Revenues that accrue from sales
  - Where are the profits?
- Customers
  - Where are they based?
  - Need to be close to the customer for design inputs
- Suppliers
  - Spare Parts
  - Raw materials
- Logistics
  - What’s it going to take to get the product to the customer?
- Manpower (availability of skilled managers, technicians)

Math Question

Information to be provided to candidate when requested

Cost Information
- Initial plant setup costs are $500M (US), $2B (BR), $3B (FR)
- Fixed Costs are $100M annually in all three countries
- Variable costs are $15M (US), $20M (BR), $25M (FR)

Market Size and Revenue Information
- Defense Budget for next 5 years: $100B (US), $15B (BR), $10B (FR)
- % of Defense Budget to be spent on our helicopters over the next 5 years

Sales information
- The helicopter sell for $100M a piece, but if they are imported into the US, then the US Govt. require them to be certified and the certification process costs $15M per chopper.

Math Solution

Math Solution

If plant in US

- US revenues over 5 years = 20% of 100B = 20B
- # of choppers = $20B / $100M = 200 helicopters Total Cost = 500M + 500M + (200) x ($15M) = $4B
- PROFIT = $16B

If plant in Brazil

- US revenues over 5 years = 20% of 100B = 20B
- BR revenues over 5 years = 50% of 15B = 7.5B
- # of US-bound choppers = $20B / $100M = 200 helicopters
- # of BR-bound choppers = $7.5B / $100M = 75 helicopters
- TOTAL COST = 2B + 500M + {(# of US bound units) x ($20M + $15M} + {(# of BR bound units) x ($20M)}

  = 2B + 500M + (200) (35M) + (75) (20M) = 2B + 500M + 7B + 1500M

  = $11B

PROFIT = $16.5B

Having the plant in Brazil will give us profits higher than the US by $500M

Brainstorming Questions and Solutions

Brainstorming Question

- Evaluate the potential risks to acquiring helicopters in the selected location

Brainstorming Solution

- Political stability in the country
- Quality of products may be different
- Cultural customs are different and may affect business relationships
- Export/Import implications
- National security may be an issue as helicopters/defence equipment will be manufactured outside of the US
- Know how in other countries

Conclusion

Recommendation

Recommendation
Based on the financials, Brazil appears to be a more attractive candidate for setting up the new plant because:

- Our profits over 5 years will be higher by $500M
- We won't be entirely dependent on one single country (US) for sales

Risk Factors

- Those gained from brainstorming

Next Steps

- What is the potential for selling choppers outside of these 3 countries to the worldwide market
- What will labor reaction at our existing plants be if we off-shore production to Brazil
- Are US relations with Brazil likely to be cordial over the next 5 years for us to benefit from
- Export control laws and sales to both nations

Excellent Case Answers

- Star candidates will realize that calculations relating to France are unnecessary due to the relatively lower revenues and higher costs
- Excellent candidates will also not get lost in the data and will cleanly set up tables to make calculations

Case 20: Lawn Co., Bain Original

Problem Statement

- Lawn Co. specializes in residential lawn fertilization, weed control, and disease prevention. Lawn Co. is a large US residential lawn care company with ~20% market share. Lawn Co is highly profitable with margins driven through an aggressive focus on cost
- However, Lawn Co. has seen little top line revenue growth in recent years
- Should Lawn Co. focus on organic growth or should it pursue inorganic acquisitions to grow?

Type of Case

- **Industry:** Industrials
- **Difficulty:** Hard
- **Format:** Growth
- **Concepts Tested:** Customer lifetime value, profitability

Interviewer Guidance

- This question is heavy on exhibits. Show Exhibit 1-6 as the interviewee asks for information.
- When the interviewer asks for industry trends, show exhibits 1-2. Show exhibit 3 when they ask about industry growth.

Possible Framework

Framework

Market
- Industry growth
- Competitive landscape (share of market, number of competitors)

Growth
- Acquisition
- Gain new customers (New geographies, marketing channels)
- Existing customers (Promotions, loyalty programs)

Profit
- Costs (acquisition costs of other firms or customers, marketing spend, SG&A spend, labor, PP&E etc.)
- Revenue

Customer
- Price sensitivity
- Customer lifetime value
  - Cash flows over years from customers
  - Acquisition costs

Exhibit 1-3 Guidance

Question

- What are the key insights from these exhibits?

Solution

- Market is growing faster than the client
    - Possible reasons could be better product, better reach, better pricing
- Market is very fragmented
    - Easy to make acquisitions
    - Will need to make many to result in substantial growth

Exhibit 4-5 Guidance

Question

- How much does it cost to acquire one new customer organically?
- How much does it cost to acquire on new customer inorganically?
- Why might inorganic customers cost more to acquire?

Solution

- Cost to acquire in both cases is total acquisition costs / number of new customers acquired. Interviewees should round both the number of customers and total costs to numbers easy to work with
- Reasonable answers are $360 for inorganic customers ($18M / 50K) and $100 for organic customers ($100M / 1M)
- The best candidate here might discuss purchase premiums or customer attrition during the sales process (e.g. don't want to be a Lawn Co customer)

Exhibit 6 Guidance

Question

- How much does each type of customer spend over the course of their tenure?
- Given the information you know, which type of customers are better for Lawn Co.?

Solution

- Total spend in both cases is average spend per year * total lifetime. Interviewees should round all numbers to numbers easy to work with
- Reasonable answers are $800 for organic customers ($400 * 2 years) and $760 for inorganic customers ($380 * 2 years)
- Interviewees should calculate the “profit” or “contribution” for each customer type by subtracting the acquisition costs they calculated from the potential revenue Yields $700 for organic customers and $360 for inorganic customers
- The strongest candidates here might first ask if the cost to serve both types of customers is the same to see if subtracting the two values gives you a good proxy for relative attractiveness
- Interviewees should identify organically acquired customers as more attractive

Conclusion

Recommendation

Recommendation
- The client should pursue an organic strategy for growth as profit/customer is 2x in organic vs. inorganic ($700/customer)
    - High control premiums
    - Quality of organic customers is better
    - No M&A integration costs

Risks
- Time taken is longer
- Stealing market share can be difficult if competitive response is strong

Next Steps

- Understand changing customer preferences to identify opportunities for growth
    - Product/Service
    - Geography
    - Marketing channel

Excellent Case Answers

- Identify that customer "profitability" (lifetime value) is key to understanding which growth option is better. Strong interviewees should lay out a profit tree-like framework.
- Strong interviewees will ask about clients past M&A experience as a factor to consider when evaluating inorganic growth strategy.

Exhibit 1: Growth at 5% p.a. of overall market since 2004

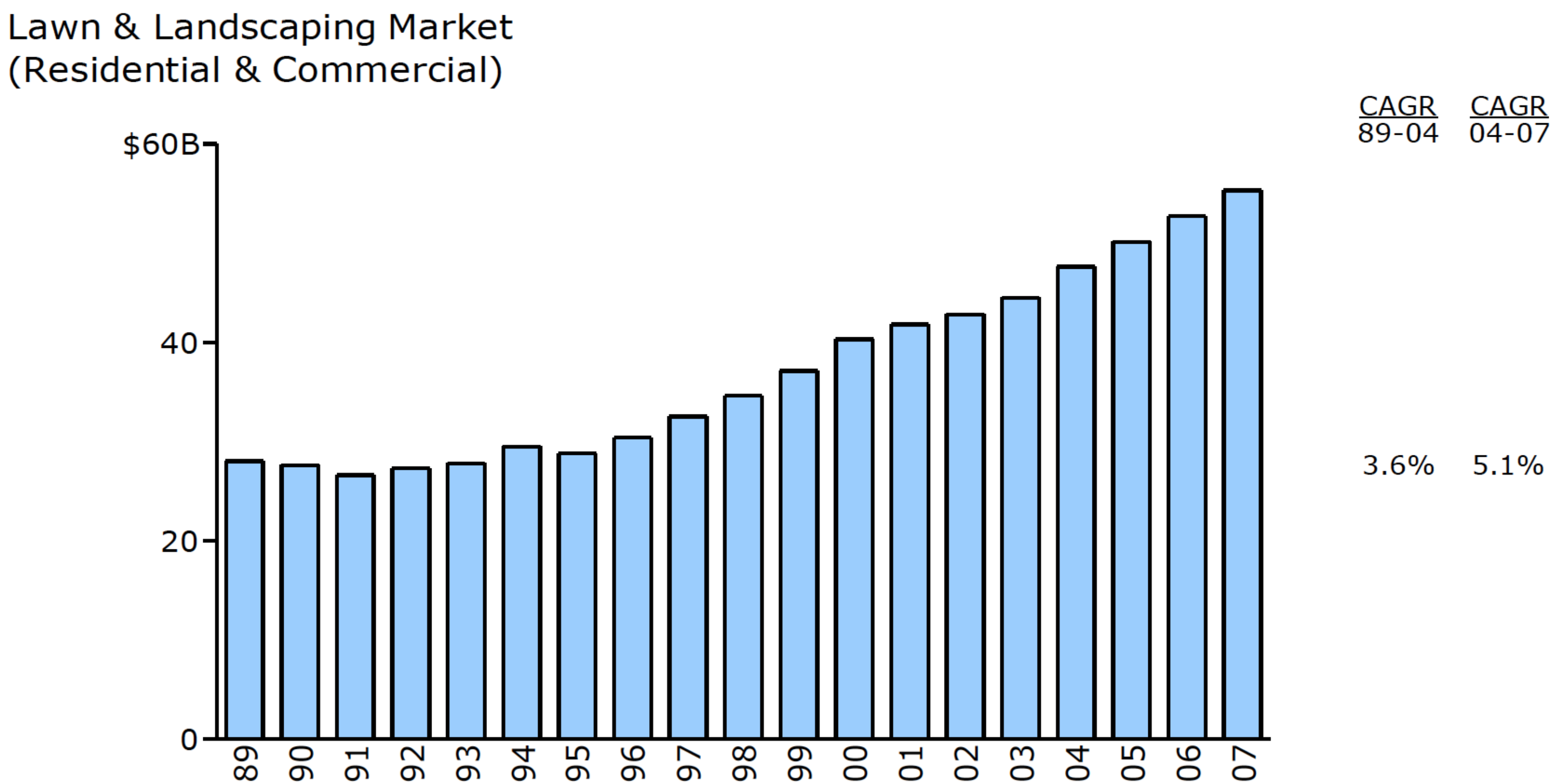

Exhibit 2: Growth of 4% p.a. of Lawn Co since 2004

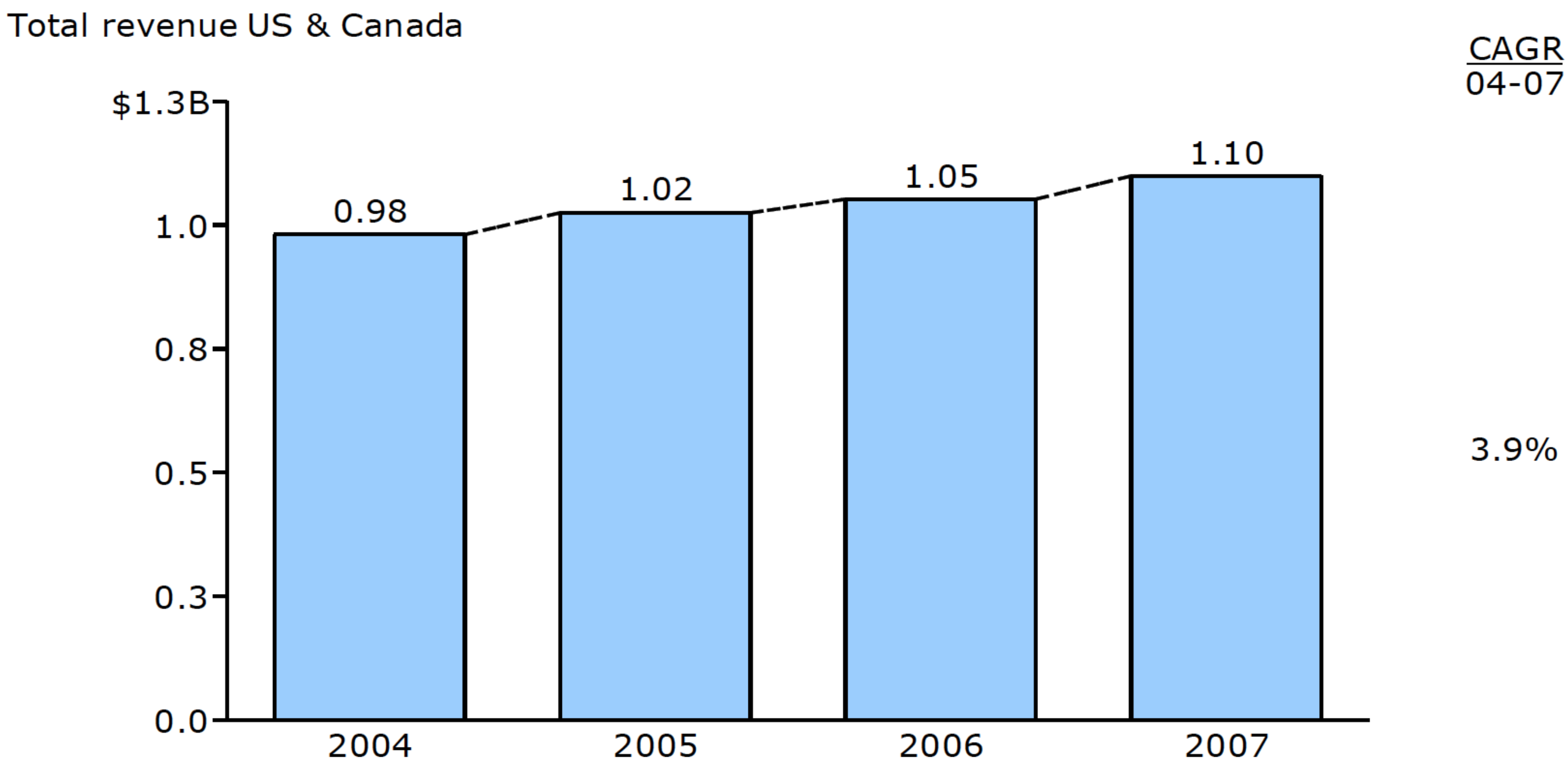

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Exhibit 3: Lawn Co. leads lawn services market with ~20% share

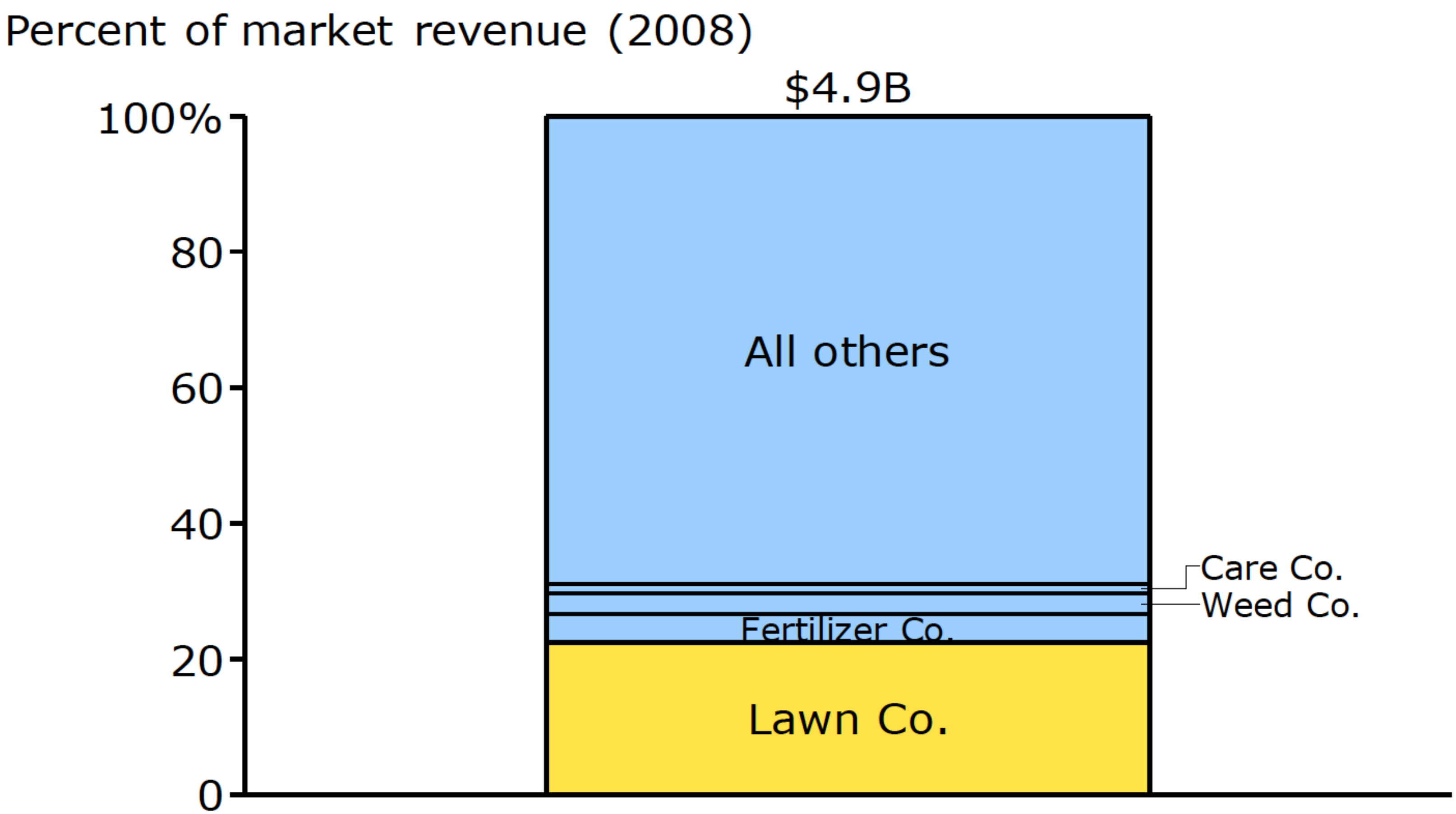
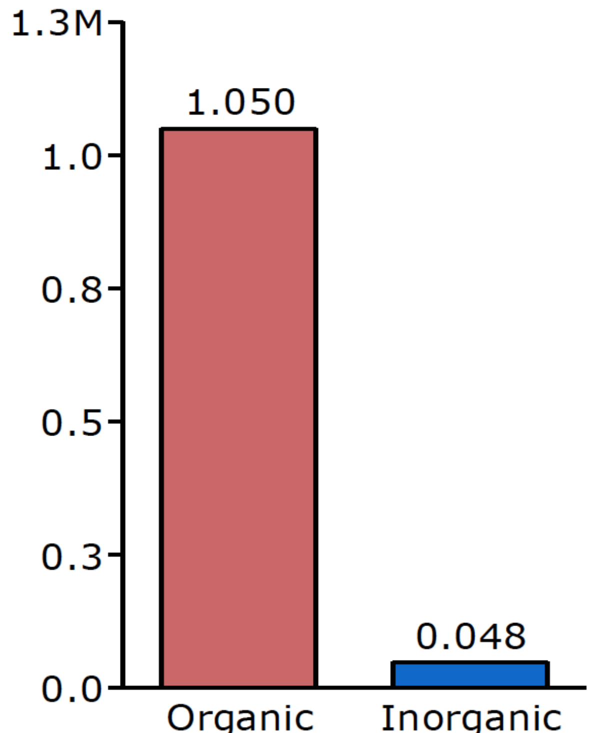


Exhibit 4: Lawn Co. spent $120M to acquire ~1.1M new customers

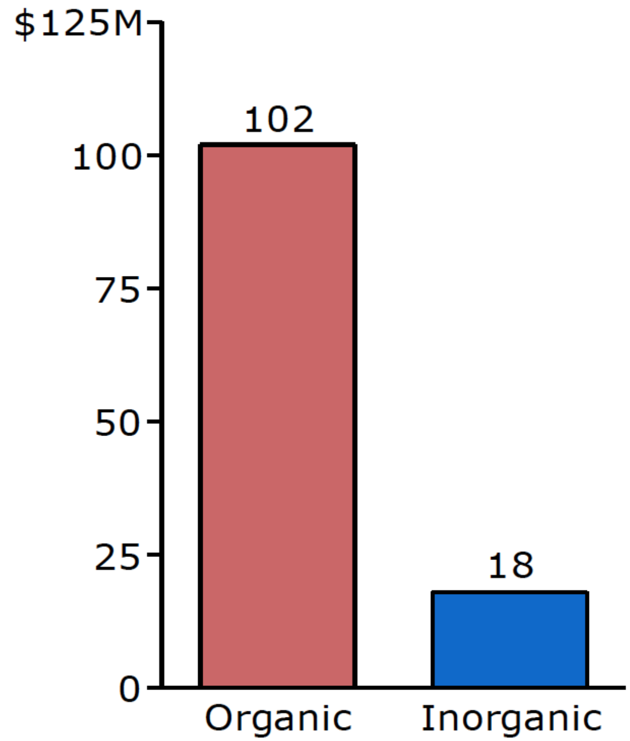
New customers in 2007

Number of new customers



2007 customer acquisition costs

Total cost to acquire new customers



Source: Bain & Co.

- 50 -

Exhibit 5: Customers acquired inorganically spend less per year than organic customers

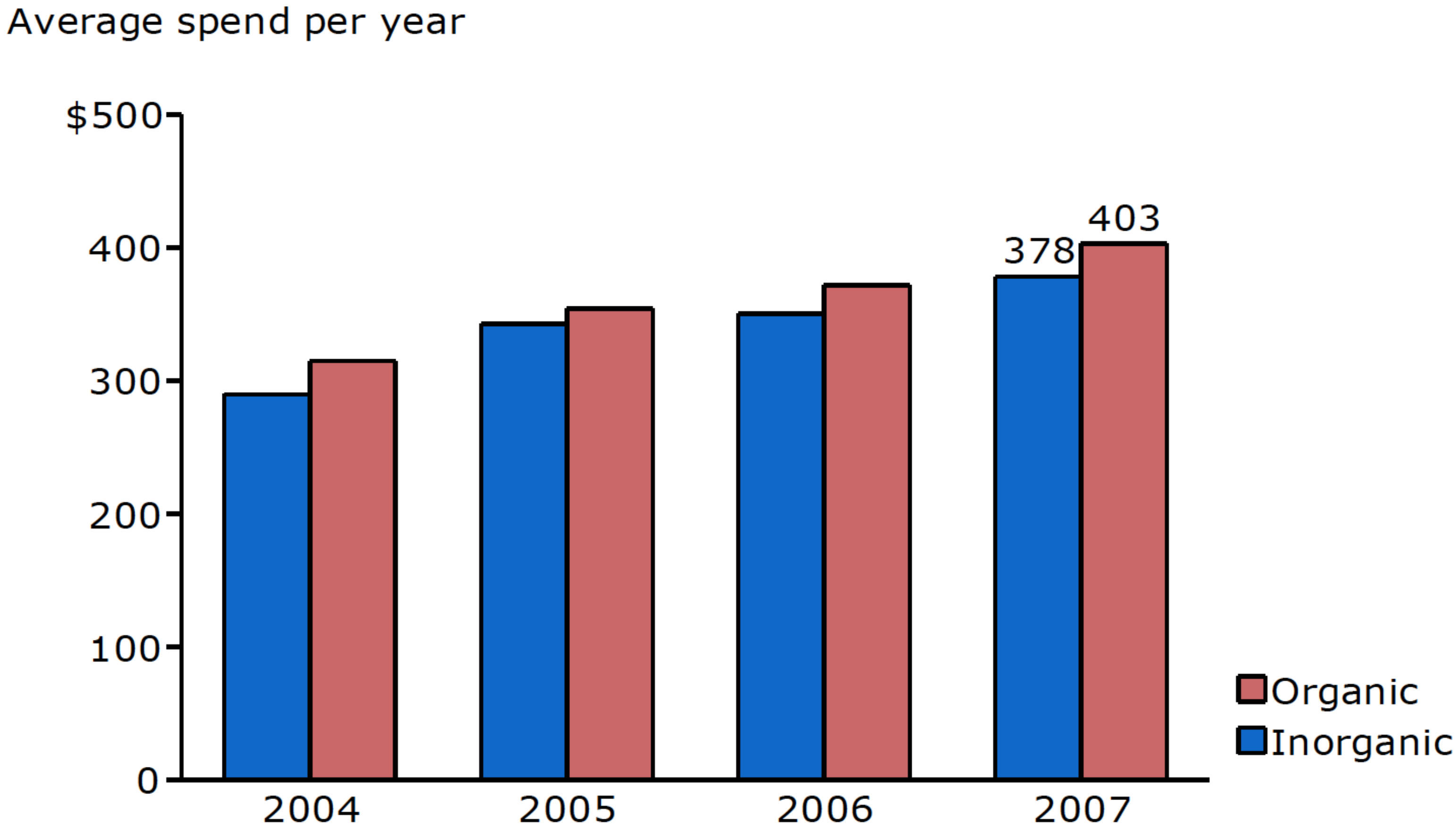
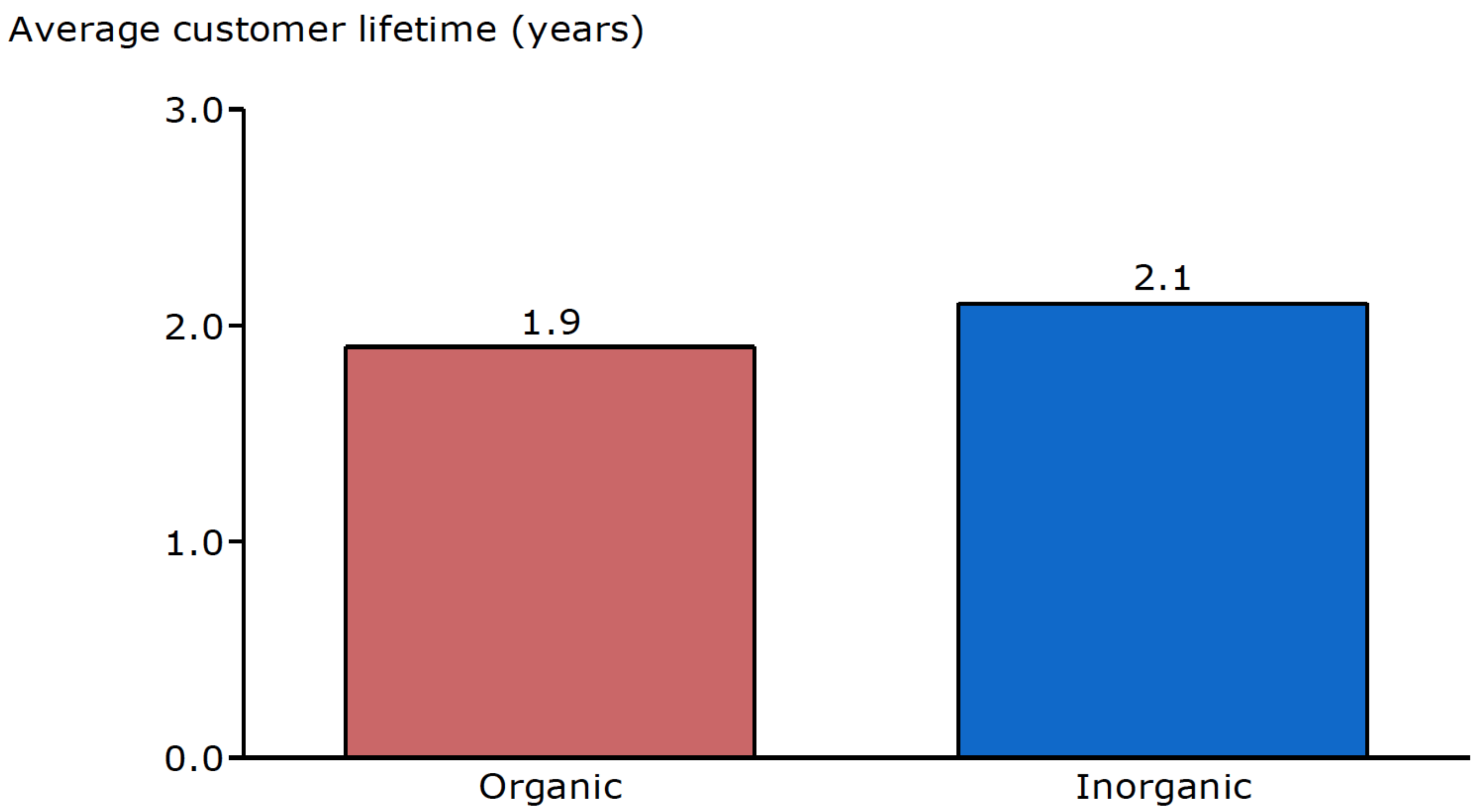


Exhibit 6: Customers acquired inorganically stay Lawn Co. customers for slightly longer



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Case 21: Marie’s Café, McKinsey (Round 1)

Problem Statement

- Marie’s Café is a small local coffee shop that serves coffee and latte. Marie’s has been around for decades and is known for its high quality drinks and cozy atmosphere. The café has seen declining profits over the last few quarters, and the owner has hired you to increase its profits.

Type of Case

- **Industry:** Hospitality
- **Difficulty:** Hard
- **Format:** Profitability/Operations
- **Concepts Tested:** Profitability, Operations, Process Optimization

Interviewer Guidance

- This is an interviewer led case. It is a case heavy on quant and has certain elements of brain-storming.

Clarifying Information and Case Guidance

Clarifying Information on Request

- There are two other coffee shops in the nearby area that sell coffees and pastries. (There is no further information on these competitors.)
- Café currently serves two items (coffee and latte) in three different sizes.

Interviewer Guide to Case and Exhibits

- If the candidate touches on prices or costs, show Exhibit 1 and ask to calculate avg. profit/customer
- Next give candidate the relevant data points including Exhibit 2 and ask to calculate avg. profit/day

Possible Framework

Framework

External factors
Market
- Market growth
- Changing consumer preferences (Product, atmosphere)

Competition
- New low cost competitors
- New substitutes (restaurants or fast food chains close-by)

Internal factors
Company
- Foot traffic in the coffee store (Increase number of customers)
- Process Efficiency (average time to cater to each customer)
- Capacity of the cafe

Product
- Product Diversification (limited product range)
- Price sensitivity of customers
- Complimentary products and services (wireless services)
- Quality of products/brand image (Building on brand)

Math Questions and Solutions

Math Question

- How much profit Marie's café currently makes per customer?
- Each customer only purchases one drink per visit.

Math Question and Solution

- Strong candidates will point out the larger sizes yield larger profit margins, and suggest new profit increasing strategies (like promoting sales of larger sizes, introducing a 20 oz size, eliminating 8 oz sizes, etc.). Profit here does not include the baristas
- Average Profitability = $1.5/customer. See calculations below in the table.

Product	Price	% Customer Purchases	Cost	Profit	Profit per Customer
Coffee (8)	$1.00	15%	$0.50	$0.50	$0.08
Coffee (12)	$1.50	15%	$0.70	$0.80	$0.12
Coffee (16)	$2.00	15%	$0.90	$1.10	$0.17
Latte (8)	$3.00	20%	$1.30	$1.70	$0.34
Latte (12)	$4.00	20%	$1.90	$2.10	$0.42
Latte (16)	$5.00	15%	$2.50	$2.50	$0.38
				Average Profit	$1.50

Math Questions and Solutions

Math Question

Ask the candidate, what is the average profit that Marie's café earns per day?

- Each customer purchases exactly one beverage.
- Two baristas are working at any given time. Baristas are paid $15 per hour.
- Hours: 7 am to 10 pm, Monday through Friday. Closed on weekends
- The number of customers per hour is listed below. Customers leave if they cannot be served quickly
- On average, it takes 2 minutes for a barista to complete an order. Coffee is served fairly quickly while latte takes significantly longer to make.

Candidate should realize that the café is losing money in the evening hours. Candidate should suggest adding or

Math Solution

Candidate should realize that the café is losing money in the evening hours. Candidate should suggest adding or subtracting baristas based on demand. Assuming 2 baristas per hour, the average profitability would be $607.50. By adding a third barista in the morning shifts and reducing one at night, the new profit would be $787.50. See the next page for the complete solution.

Math Questions and Solutions

Math Solution

Time	Demand per Hour	Served	Current Profit	Optimal Baristas	Optimal Served	Optimal Profit
7AM to 10AM	100	60	180	3	90	270
10AM to 1PM	80	60	180	3	80	225
1PM to 4PM	60	60	180	2	60	180
4PM to 7PM	40	40	90	1 or 2	30 or 40	90
7PM to 10PM	15	15	-22.5	1	15	22.5
			$607.50			**$787.50**

Brainstorming Questions and Solutions

Brainstorming Question

- Marie's Café does not offer wireless access for its customers. Should the café add this service?

Brainstorming Solution

Positives
- More customers
- Potentially charge customer for services
- Customers may order larger size of drinks

Negatives
- Cost of wireless setup, outlets
- Sufficient room for customers
- Customers stay longer, slowing sales during busy period
- Image of café – may change current atmosphere

Brainstorming Questions and Solutions

Brainstorming Question

- If candidate mentions that competitor sells pastries, while Marie's café does not. What factors should Marie's café consider before purchasing an oven to sell pastries?

Brainstorming Solution

Revenue

- Doughnut sales, increased synergies with coffee/volume of customers

Costs

- Fixed costs – purchasing/maintaining oven, setting up display case, storage, advertising.
- Variable costs – ingredients, hiring/training staff

Capacity

- Rooms in café for oven and ingredients
- Baristas available to accommodate for increase in demand

Brand Image – Marie's is known for its coffee and atmosphere; adding pastries may change image and drive away loyal customers, especially if they are low quality.

Competition – price and quality compared to competitors.

Alternative Opportunities – purchasing doughnuts from somewhere else.

Math Questions and Solutions

Math Question

- A new espresso machine, priced at $2000, can greatly decrease the time it takes to make a latte. The average time it takes to complete an average customer's order decreases from 2 minutes to 90 seconds. How long would it take to pay back the machine?

Math Solution

- Daily Profit shown below, calculated with the optimal number of baristas
- Machine would be paid back in 14.8 days(2000/(922.5 – 787.5) from Question 3)
- 4 Baristas in the 7-10 AM would also yield similar profits with the advantage of turning away few customers.

Time	Demand per Hour	Served	Profit	Optimal Baristas	Optimal Served	Optimal Profit
7AM to 10AM	100	80	270	3	100	315
10AM to 1PM	80	80	270	2	80	270
1PM to 4PM	60	60	180	2	60	180
4PM to 7PM	40	40	90	1	40	135
7PM to 10PM	15	15	-22.5	1	15	22.5
			$787.50			**$922.50**

Conclusion

Recommendation

Recommendation

- Focus on driving profits through larger size of coffee due to higher profit margins
- Hire 4 Baristas during peak time and 2 Baristas during down-time
- Offer complimentary add on services such as wireless services
- Diversify product range. Include food

Risks

- Offering wireless services might make customers stay for longer and the capacity of the café might not be enough to hold the customers.
- Baristas unable to accommodate demands

Next Steps

Next Steps

- Hire 4 baristas for peak time or use the new machine.
- Sell food along with coffee. As baristas are fewer currently, think about buying food/pastries from third-party

Excellent Case Answers

- A star caser will provide both pros and cons of starting wireless services. He/she would also be able to highlight capacity and process optimization issues.

Exhibit 1: Products, costs and customer split

Product	Price	% Customers who Purchase
Coffee (8)	$1.00	15%
Coffee (12)	$1.50	15%
Coffee (16)	$2.00	15%
Latte (8)	$3.00	20%
Latte (12)	$4.00	20%
Latte (16)	$5.00	15%

Product	Cost
Cup (8)	$0.30
Cup (12)	$0.40
Cup (16)	$0.50
4 oz of Coffee	$0.10
4 oz of Latte	$0.50

Exhibit 2: Demand of coffee per hour

Time	Average Demand per Hour
7AM to 10AM	100
10AM to 1PM	80
1PM to 4PM	60
4PM to 7PM	40
7PM to 10PM	15

Case 22: PD Gas Buyout, Based on BCG & McKinsey (Round 2)

Problem Statement

• Your client is PD Inc., a large US based grocery supermarket chain. PD Inc. also runs 999 gas stations next to its retail stores.
• Last week, PD Inc. was approached by a large US based oil and gas distributor which offered to buy out the entire portfolio of 999 gas stations from your PD Inc.
• Your PD Inc. immediately reached out to you and has sought your advice on whether to sell these gas stations or not and what factors to consider when making this decision.

- **Industry:** Retail
- **Difficulty:** Hard
- **Format:** Divestiture
- **Concepts Tested:** Synergy / Revenue Driver Analysis

This is a interviewee driven case in the first half and an interviewer driven case in the second half. A few answers to general questions:
PD Inc. has not been offered a specific price by the buyer. Interviewee can be told to consider price as part of his recommendations though.
The key is to first decide whether the PD Inc. should sell or not.
PD Inc. cannot choose to sell a part of the portfolio of gas stations. It will either sell the entire portfolio of 999 gas stations or nothing at all.
No information on competition is available.
No information on the buyer’s scale, geographic presence or reason to buy is available
PD Inc.'s stores are spread across the United States. All stores have a gas station next to them.

Possible Framework

Possible Framework

Profit = Revenue – Costs

Revenue:
- Direct Sales – Gas station
- Cross-Selling between grocery and gas station
- Price:
  - # of gas stations
  - Price per gallon
  - Any trends
- Loyalty programs

Competition:
- Price war
- Consolidation

Costs:
- Fixed Cost
  - Facility and Equipment
  - Approval and Licensing
  - Insurance
  - Utilities
  - Marketing
- Variable Cost
  - Fuel
  - Labor

Customers:
- Trends in buying – gas because of groceries or vice versa

Clarifying Information and Case Guidance

Information for Candidates to be Provided Upon Request

• A good candidate will identify that initially, PD Inc. needs to value it gas station business based on cash-flows and also identify the synergies with the retail stores. Information to be provided upon request (in Millions):

Revenue for each gas station each year:	**60**
Cost of fuel sold at gas stations (COGS):	**59.98**
Cost of licensing fees paid to distributor:	**3.02**
Cost of rent, land, and equipment:	**2**
Cost of labor, utilities, insurance, and miscellaneous	**1**
Net Profit	**-6**

• Really good candidates identify that that the Gross Margin is extremely low either because it's a very low margin business or because PD Inc. is discount prices on purpose to attract customers. In this case, PD Inc. is using its fuel stations as loss leaders

• Candidate should ideally then enquire about retail revenue and synergies.

Answers to Additional Questions

• PD Inc. has been making losses in the gas station business since the past 3-4 years

•There is no information on the growth of the fuel and the retail business for PD Inc.

•The gas industry as a whole has a similar cost structure

•The gas station has no additional revenue streams (carwash/repair/convenience store)

•PD Inc. has no other business verticals other than fuel and grocery retail

Solution Frameworks/Guides

Revenue Side

- For revenue on the retail (grocery) side, upon request, candidate should be told that fuel station revenue accounts for 20% of overall revenue. Hence, retail revenue will be $240 million per store.
- Upon request, candidate should also be told that we are very proud of the way we manage our suppliers and have fairly high profits margins relative to the retail (grocery) industry. The margins on the retail (grocery) side are 16.66%. Candidates intuitively good with numbers will identify this as the fraction 1/6. if they don't, tell the candidate to consider it as 1/6.
- The consolidated revenue and cost figures for PD Inc.'s business are given below:

	Revenue (in $M)	Cost (In $M)	Profit (In $M)
Gas Stations	60	66	-6
Retail Stores	240	200	40
Total	300	266	34
After Sale	204	170	34

Solution Frameworks/Guides

Synergy Side

• Potential synergies are additional walk-ins to retail stores, joint loyalty program, supply chain synergies (cheaper fuel for PD Inc.'s trucks, same trucks used to deliver goods etc.)
• Additional information on synergies:
-15% of Inc.'s customers on the retail side come to buy groceries only because they came to the gas station to fill up gas
-40% of PD Inc.'s customers on the retail side come to buy groceries but also end up buying gas at the gas stations later (i.e., they don’t really care if there was no gas station next door) Candidate should realize that the 15% of the customers who came to buy gas first are the one which account for synergies on the retail side directly attributable to the gas station

	Revenue (In $M)	Cost (In $M)	Profit (In $M)
15% Synergy Impact	36 (15% of 240M)	30	6 (16.66% or

Solution Frameworks/Guides

Positives and Negatives from Sale

• Now is when you turn the case into a discussion and ask the candidate to evaluate the positive and negatives for PD Inc. if it chose to sell the business. **It is important to keep questioning the candidate's assumptions.**

Positives from Sale

Increased cash flow due to cash received from sale

Lesser working capital (reduced by $5.5 B --- Annual cost of $66Bn divided by 12 months = approx. $5.5 B in working capital)

Increased focus on existing business

Leaner operation with higher margins (refer to next slide for details)

• It is important to keep asking candidate for more positives and negatives and question the candidate. "Are there really any negatives from the sale since there seems to be no impact on profits and for a business, profits are the best metric to gauge impact?", "Why will the 15% customers not come to the stores any more?" Etc.

Negatives from Sale

Drop in economies of scale as PD Inc. no longer buys $30 B worth of goods. This also results in excess warehouse, transportation, store capacity hence downsizing costs

These 15% customers will go to competition which will get economies of scale hence lower prices and this may result in further erosion of our customers

Stock market may react negatively to drop in revenue

May impact inventory turnover etc.

Solution Frameworks/Guides

Loss of Revenue from Transaction

- Most candidates will assume that PD Inc will lose the 15% of the customers once it sells the business but it is important for them to identify the exact reason why PD Inc will lose these customers.
- Question the candidate's assumption by stating that the gas station is still next door so why will the customers stop coming.
- The correct reason is that PD Inc is currently selling the fuel at discounted prices to get customers to come to the fuel station and then buy groceries but the buyer has no incentive for doing so and is likely to raise prices to market levels and hence the customers will stop coming to the gas station.
- You can further question the candidate by showing him the resulting expected impact on margins after selling the business. The actual impact will differ as this margin does not include downsizing and other costs. These figures are given to candidate only to see if he/she can realize that the actual figures may be very different because of the negatives listed in previous slide. The margins as %age of revenue are given below:

	Revenue	Cost	Profit
Pre-Sale	100%	86.66%	11.33%
Post-Sale	100%	83.33%	16.66%

Conclusion

Recommendation

An ideal recommendation is to advise PD Inc to sell the business but contractually obligate the buyer to three conditions:
The buyer will keep all fuel stations open/seek approval before closing stations
The buyer will not open any competing establishment (convenience stores) at the fuel stations
The buyer will keep the prices discounted by allowing PD Inc to subsidize the prices. (the key is to realize that PD Inc does not have to discount so heavily since fuel is highly price elastic. Even if the buyer sells fuel at prices 5% below competition (assuming competition sells to entirely breakeven, i.e., at $66 bn, buyer will sell it at ~ 63 bn) the customers will still come. PD Inc. can reimburse ~ $ 3 B to buyer and hence still end up making a net profit of ~ 3 B on the retail side along with getting benefits from all the positives of selling the business.

Next Steps

1. Conduct a market survey to test price sensitivity of customer
2. Discuss the stipulated conditions with buyer. The 40% of customers that end up buying fuel can be used as a leverage
3. Discuss potential for co-branded loyalty card to further increase customer overlap

Case 23: Office Vending Services, Bain (Mock Case)

Problem Statement

Office Vending Services Inc. (OVS) is the market leader in office vending machine services. The business services provided include sales and delivery of product, restocking of machines, and repair of faulty equipment. Profits are substantially down in the business.
The CEO of Office Vending Services needs Bain to assess the root causes of the profitability decline.

Type of Case

- **Industry:** Retail
- **Difficulty:** Hard
- **Format:** Profitability
- **Concepts Tested:** Profitability decline, competitive advantage

Interviewer Guidance

This is a great case for a candidate to display structured thinking. Candidate is expected to start with the problem on a high level and each exhibit further provides more details to the problem.

Possible Framework

Framework

Profit
- **Revenue**
  - Price
  - Volume of product
  - Product mix (unprofitable products)
- **Costs**
  - Fixed costs (e.g., SG&A, PP&E)
  - Variable costs (e.g., COGS (costs of products in vending machines from suppliers), labor, delivery, maintenance)

Competition
- Competitive prices
- Better sales and marketing
- Better products
- Better delivery and repair services

Customer
- Price sensitivity

Market
- No. of players and share
- Industry growth

Other

Office Vending Services – Exhibit Key Takeaways

Exhibit 1 - 5 insights

Exhibit 1
- OVS revenue decreased over the past 2-years
- Rate of decrease is increasing - Down 8% from ’96 –’97; down 13% ’97 – ’98.
- Interviewee should begin to think about what the drivers of the revenue (e.g., lower volume of sales, lower prices of products) decrease are and may ask for if a revenue breakout is available.

Exhibit 2
- OVS costs decreased over past 2 years
- Rate of cost decrease is increasing, but is not keeping pace with the rate of revenue decline - Down 4% from ’96 - ’97; down 7.5% ’97 – ’98
- Interviewee should begin to think about where the cost reductions are coming from (e.g., lower costs of raw materials, decrease in units manufactured) and what the drivers are. Interviewee may ask for a cost breakout for OVS.

Exhibit 3 - Volume of deliveries are dropping over past few years. Brainstorm for reasons (e.g., better product/prices by competitors)

Exhibit 4 - Average price per delivery has remained stable; so revenue per delivery has not dropped.

Exhibit 5
- OVS is dominant player in market but has been losing market share – 20% over the past 2-years. Interviewee should be able to estimate the competitors’ market size(*Direct them to the correct revenue numbers in the bullet below as it is not very clear in the graph)* as well as the percentage of the market OVS currently has.
- Revenue figures: OVS: $200M (40% of market) ; Vend Int.: $130M (26% of market) ; Candy & Pop: $110M (22% of market) ; $60M (12% of market).
- It is also important for the interviewee to see that Vend has grown the fastest at 40% and explore the possible reasons.

Office Vending Services – Exhibit Key Takeaways

Exhibit 6 – 8 insights

Exhibit 6

- The top two attribute of importance for customers (Price and Delivery Reliability) are where OVS scores the lowest. Conversely, Vend scores the highest in these two categories.
- OVS scores very well in Product Variety and Machine Service/Repair, yet these are not nearly as important to customers.
- Interviewee should begin to make links between what has allowed Vend to grow (meeting customer needs) while OVS loses market share.

Exhibit 7 – Same as Exhibit 6, just in graphical format; same key information should be obtained.

Exhibit 8

- Firstly, interviewee should see that OVS's COGS, SGA and Repair costs are higher (roughly 100%) than the competition. This can correspond to the higher market share. However, OVS's costs for delivery are in line with their competitors, despite higher market share – which would correlate to the poor customer satisfaction when it comes to delivery.
- This may begin to suggest that OVS could reduce costs in COGS (reduce product variety since it isn't as important to customers and get better prices for larger volumes of fewer product types from suppliers and provide customers better prices in return)
- OVS could also reduce repair costs (again, not as important to customers) and reallocate some of this to delivery to increase customer satisfaction.
- SGA may also see a slight reduction as complexity in ordering, labor and other line items as fewer products are ordered and repairs are reduced.
- Also, interviewee can calculate each firm's profit margin in order to compare them in a more direct manner: OVS: 200/200 = 0%; Vend: 117/130 = 10% ; Candy: 98/110 = 11%. This clearly shows that OVS's profit margin is non-existent and that their competitors are running a more efficient operation.

Office Vending Services – Exhibit Key Takeaways

Exhibit 9 – 10 insights

Exhibit 9

- OVS's cost per delivery is 9.5% higher than the competition. Also, the breakout of the overall costs within each delivery differs:
- OVS's COGS and SGA per delivery are higher (roughly 70% of total delivery cost versus 50%)
- OVS's delivery bucket of the overall cost per delivery is roughly half the cost of the competition – again, not meeting customers' need and spending less than other vendors.

Exhibit 10

- OVS has been reducing costs across the board, but the largest reduction has come from deliveries – which is clearly impacting the overall business.
- The small decreases in the other large buckets, has not significantly impacted overall costs.

Conclusion

Recommendation

Recommendations
- Find the product types with most demand and discontinue the product types with lesser demand
- Look to reduce COGS, SGA and repair costs. A reduction in product variety could decrease COGS through economies of scale – OVS would purchase higher volumes of fewer products, lower cost/unit
    - Reduction in variety may also reduce costs of delivery as there would be fewer products to carry in vehicles (more deliveries possible) and may reduce the time/complexity of refilling a machine
- Reduce costs spent on repairing (e.g., modify maintenance clauses)

Risks
- Supplier existing contracts for large number of product types on vending machines might make decreasing product types difficult
- Changing the distribution network for delivery might be a slower change and initial investment would be high

Next Steps

- Increase spend on delivery to improve customer satisfaction (more research needed)
    - More drivers
    - Better vehicles
    - More efficient delivery routes
- Work with suppliers of products in vending machines to discontinue contracts for products with less demand
- Train sales force to get new clients and position OVS as a player with reliable delivery and better prices

Excellent case answers

Candidate would identify how reducing product types could reduce delivery costs and SGA expenses.

Exhibit 1: Office Vending Services revenue ($M)

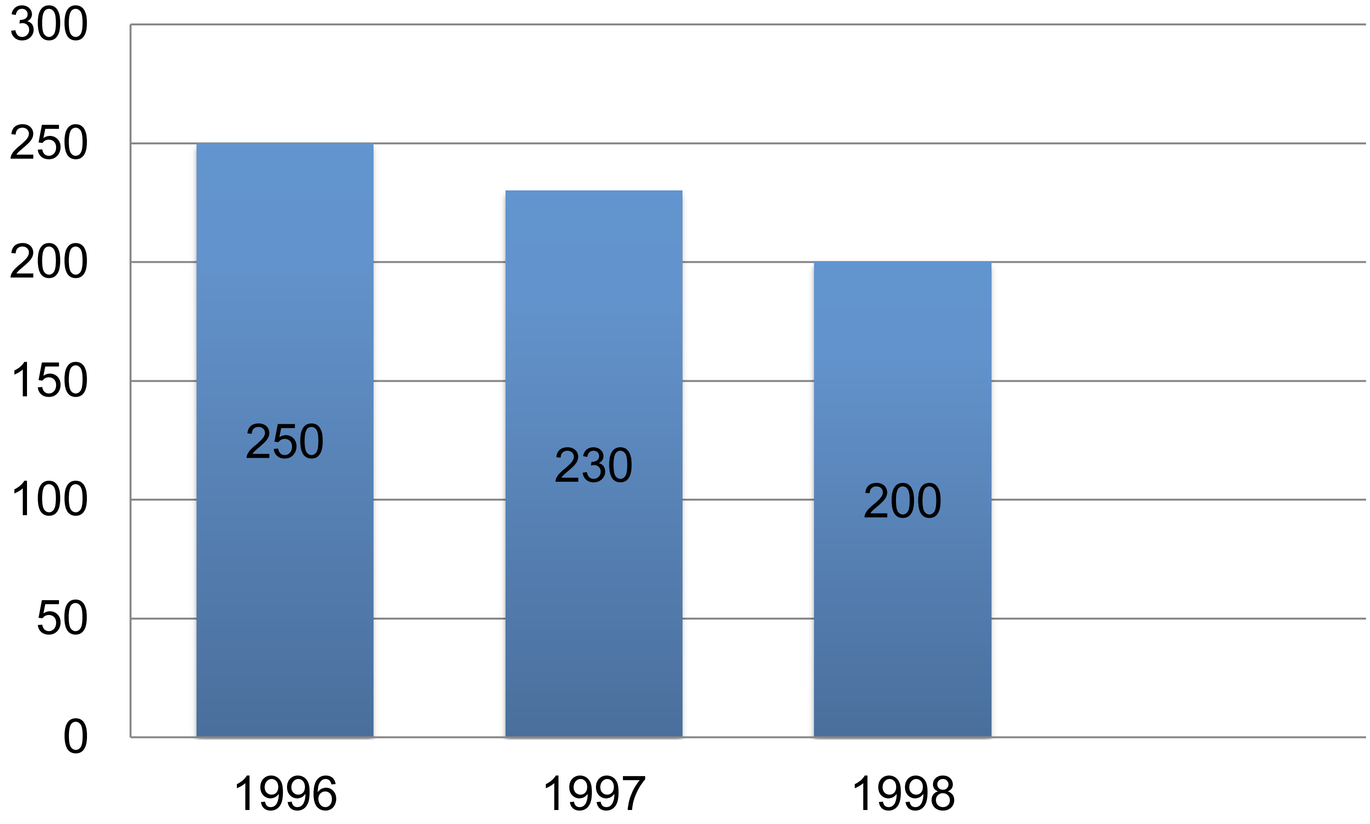

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Exhibit 2: Office Vending Services cost ($M)

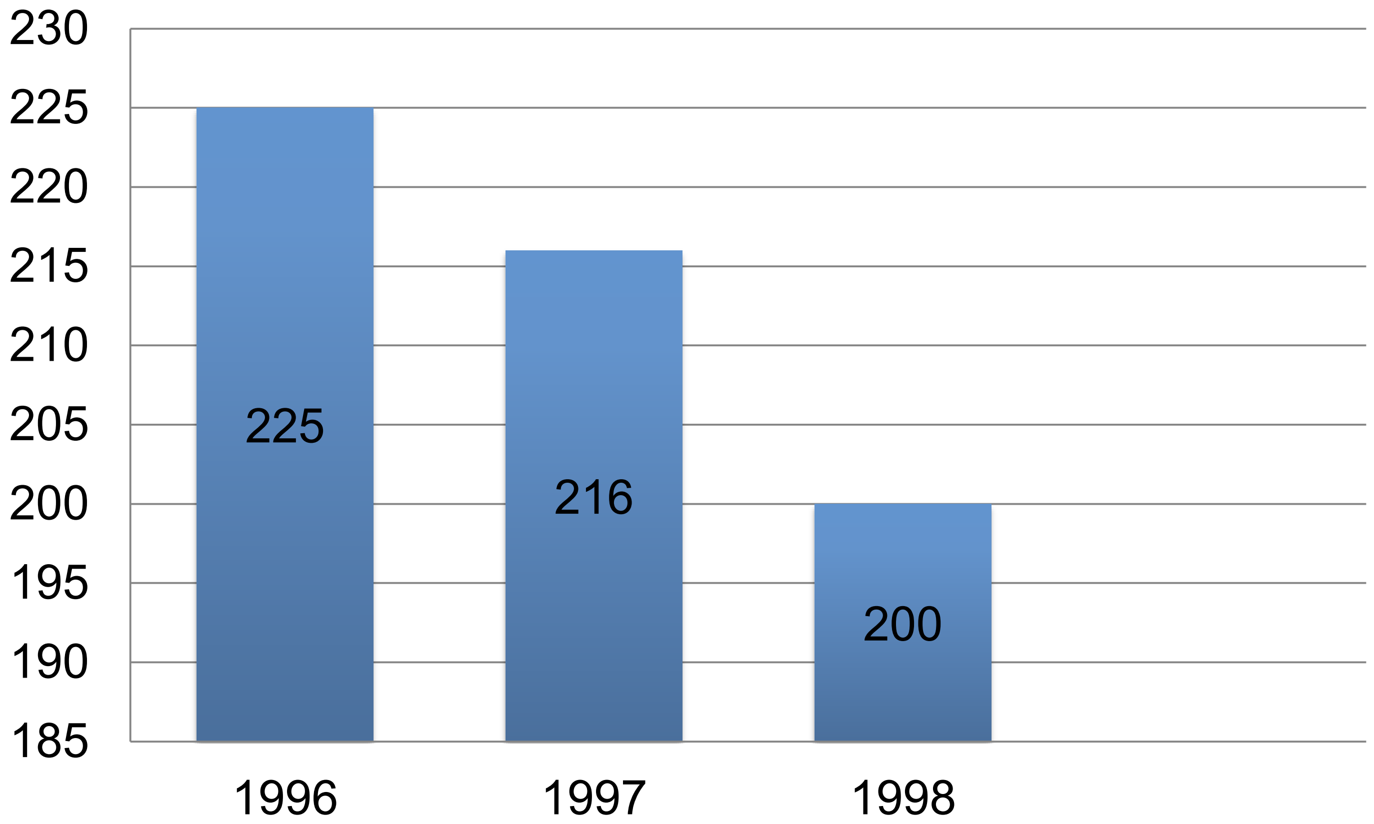
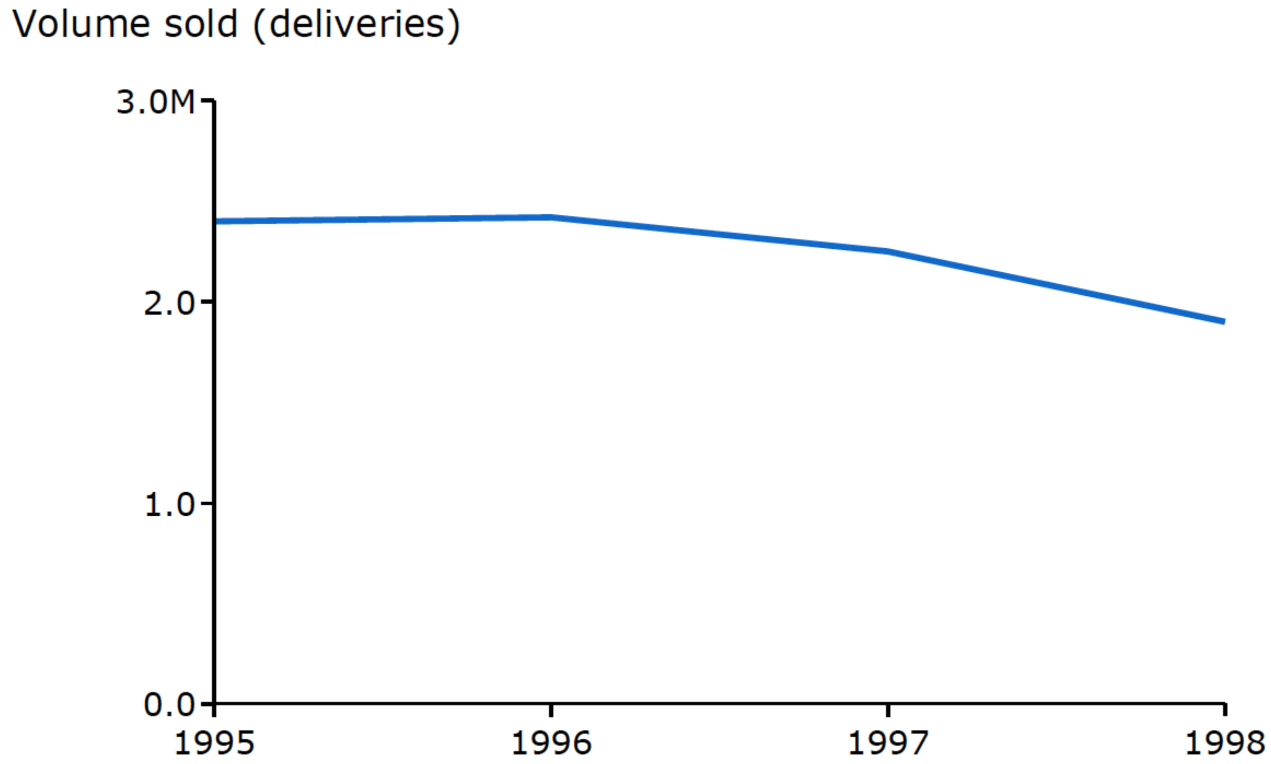


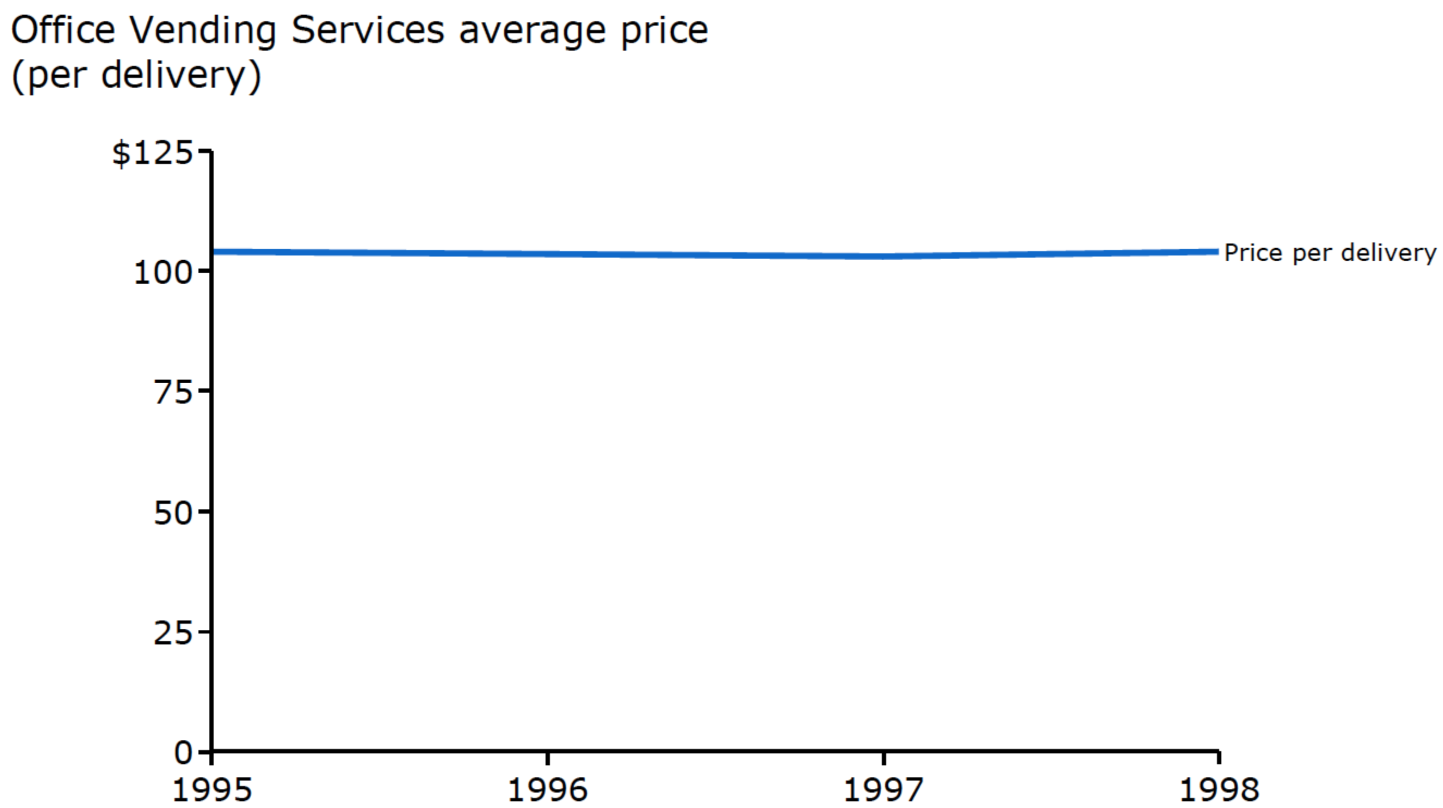
Exhibit 3: Office Vending Services volume sold



Source: Office Vending Services Financial Reports

CHI

Exhibit 4: Office Vending Services historical pricing



Source: Office Vending Services Pricing Data

CHI

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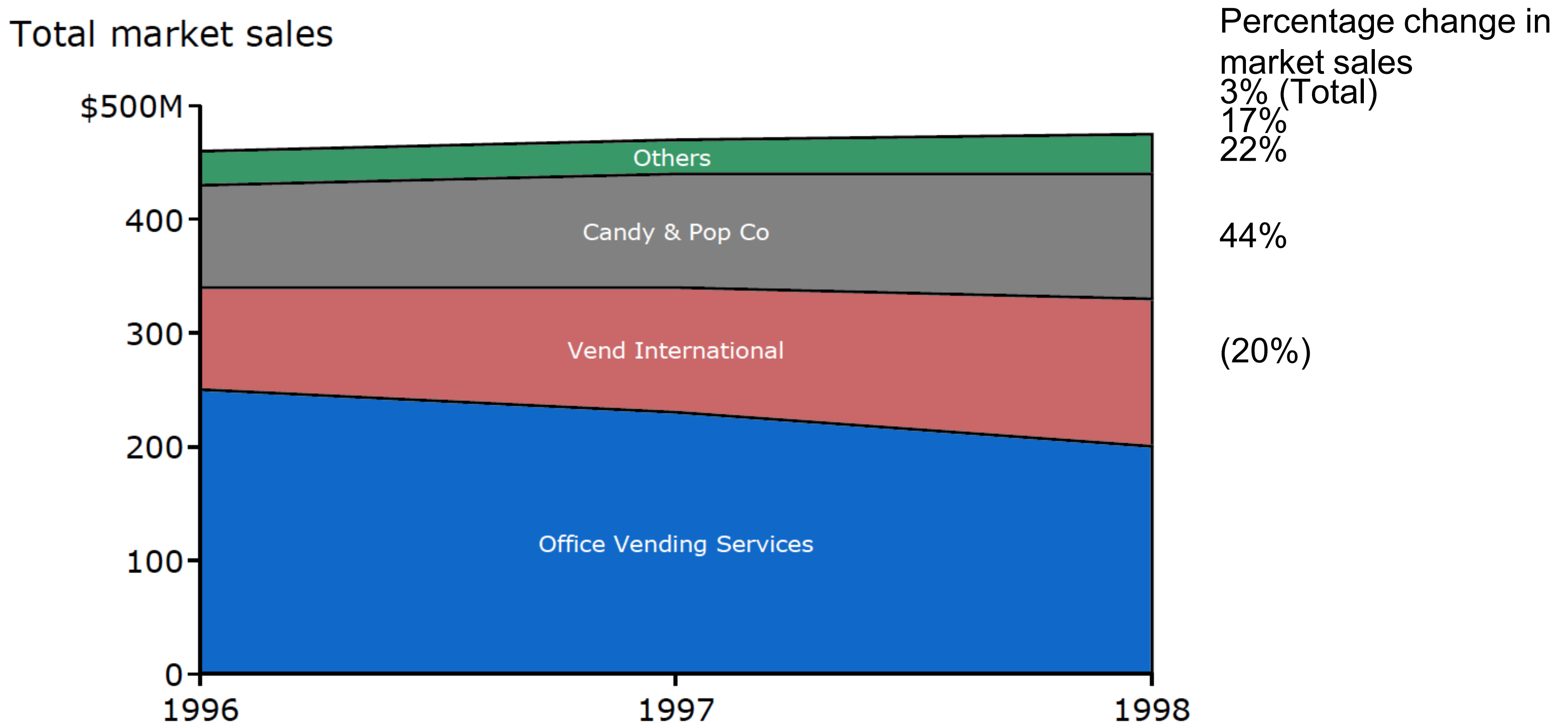
Exhibit 5: Office Vending Services market trend



Source: Market Research; Company Annual Reports; Office Vending Services Financials

CHI

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Exhibit 6: Customer satisfaction

Attribute	Importance	Office Vending Services	Vend International	Candy & Pop Co.
Price	10	4	8	7
Product Variety/Selection	6	10	5	6
Delivery Reliability	9	5	10	8
Machine Service/Repair	3	9	4	5
Complaint Resolution	5	7	5	4

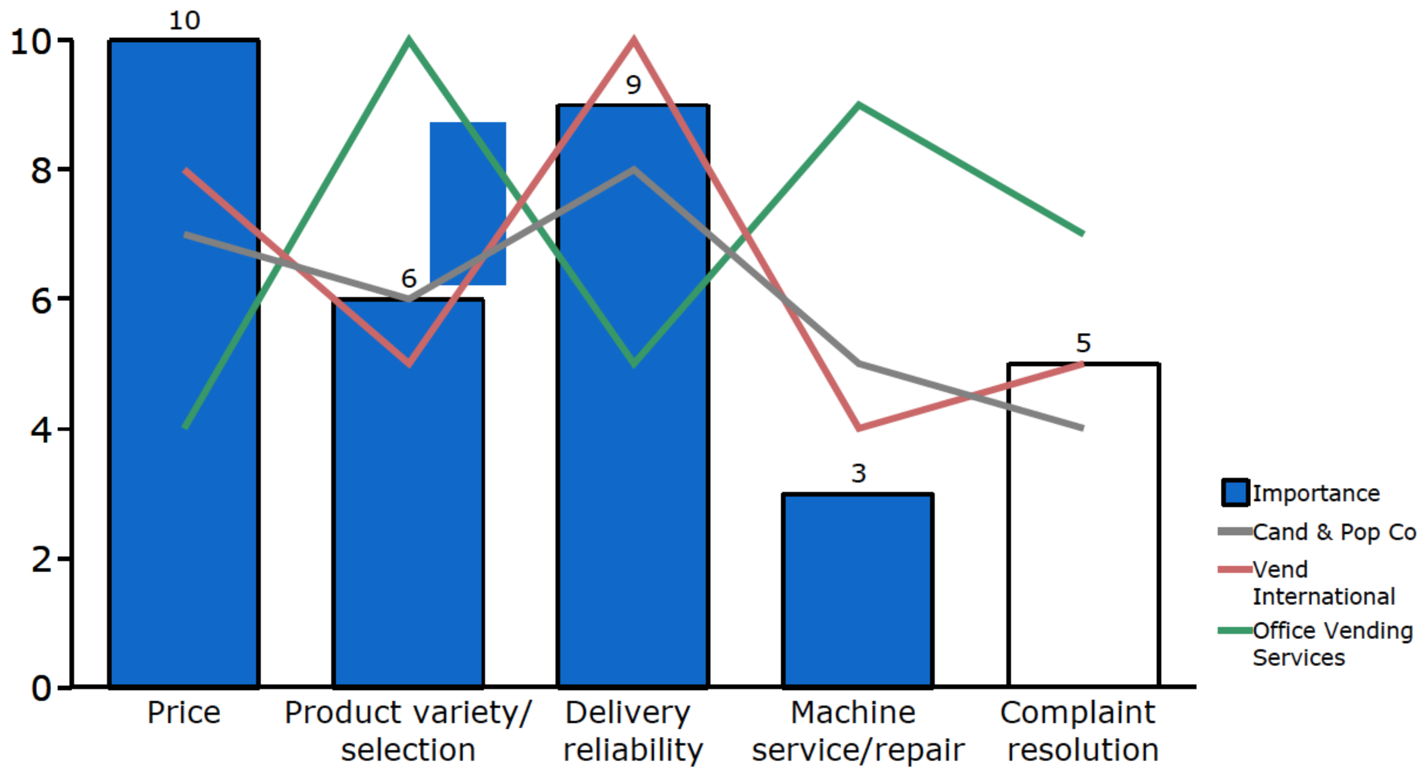
Importance/Performance: 1=Low, 10=High

Source: Bain Customer/Market Research for Office Vending Services (n=3500)

CHI

Exhibit 7: Customer satisfaction

Customer rating of importance/performance



Importance/Performance: 1=Low, 10=High

Source: Bain Customer/Market Research for Office Vending Services (n=3500)

CHI

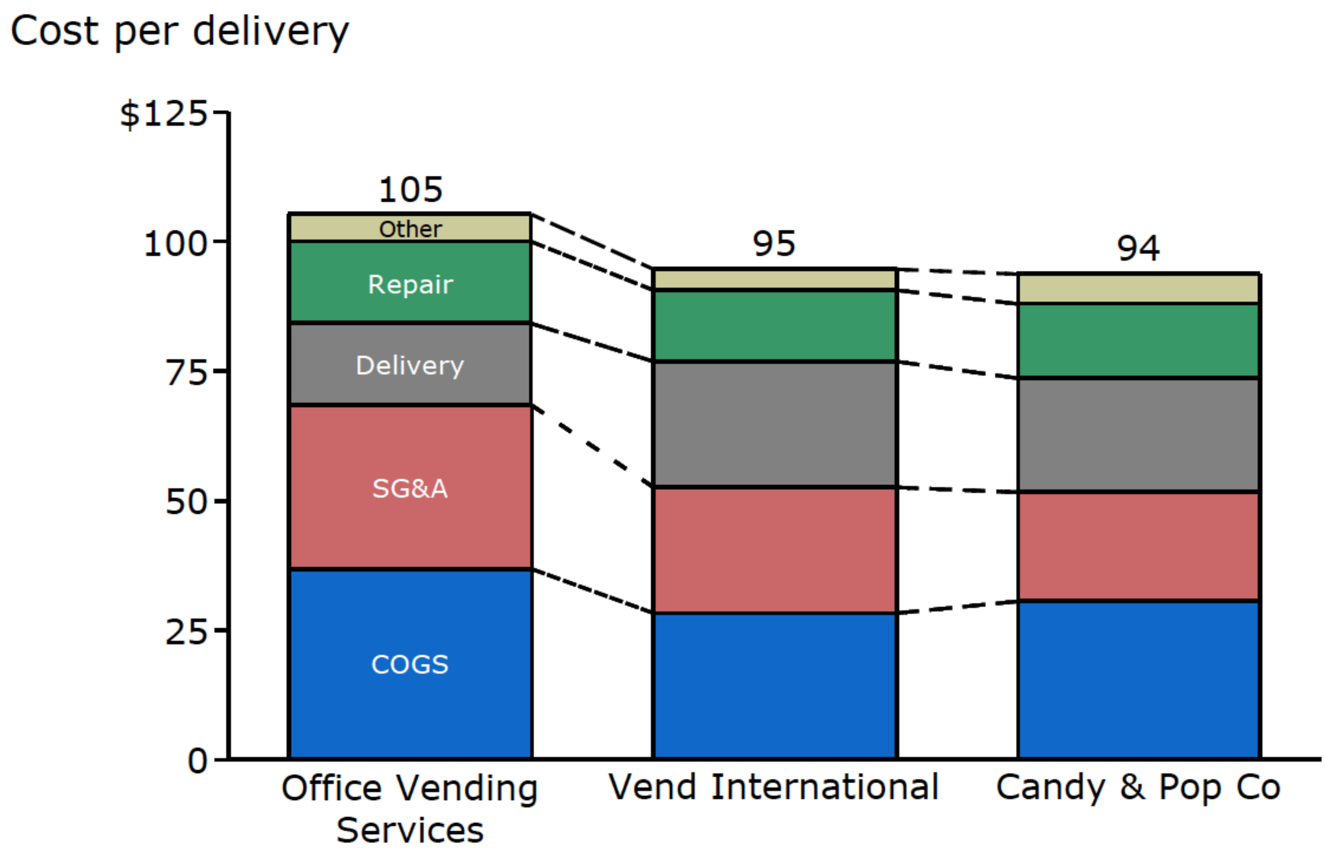
Exhibit 8: Competitor comparison (1998)

Competitor	Revenue	Cost of goods sold	SG&A expense	Direct labor (delivery)	Direct labor (repair)	Other costs
Office Vending Services	$200M	$70M	$60M	$30M	$30M	$10M
Vend International	$130M	$35M	$30M	$30M	$17M	$5M
Candy & Pop Co.	$110M	$32M	$22M	$23M	$15M	$6M

Source: Financial Statements & Annual Reports

CHI

Exhibit 9: Office Vending Services cost per delivery (versus competitors)



Source: Financial Statements & Annual Reports

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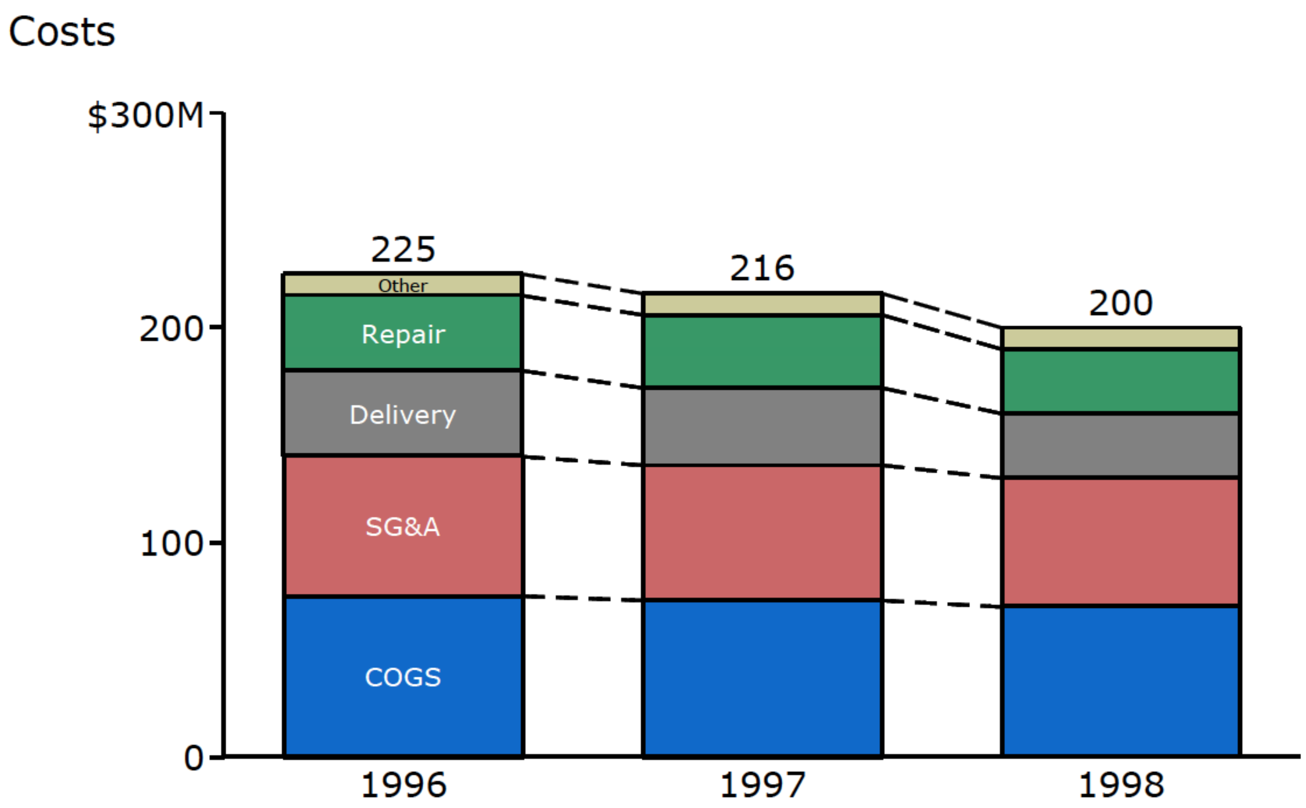
Exhibit 10: Office Vending Services cost structure(historical trend)



Percentage decrease in costs

(11%)

0%

(14%)

(25%)

(8%)

(7%)

Source: Office Vending Services Financial Statements

CHI

Case 24: Acme Packaging, Bain (Sample from Website)

Problem Statement

Gulf Partners, a private equity fund specializing in leveraged buyouts, has asked Bain to evaluate an investment in Singapore-based Acme Packaging. A private equity firm is a company that has raised money from individuals and institutions to invest in companies that may be a riskier investment but offer the promise of higher returns. Acme Packaging manufactures and sells intermediate bulk containers (IBCs), which are metal frame crates stacked within shipping containers for the transport of goods. Acme Packaging has manufacturing operations in Singapore and sales offices throughout Asia. 100% of sales are from Asian markets with 80% of sales from rubber customers - mostly tire manufacturers from Japan and Southeast Asia. Acme Packaging has 65% market share within the rubber IBC market and has increased share in the Asia IBC market by 5% over the past 3 years. Gulf Partners prefers to sell their investments within 5 years with a minimum 40% return on their investment. In order to evaluate whether Acme Packaging can generate high returns, Gulf Partners would like Bain to assess the growth potential for Acme Packaging.

Type of Case

- **Industry:** Private Equity/Packaging
- **Difficulty:** Hard
- **Format:** Investment
- **Concepts Tested:** Revenue Analysis / Business Growth

Interviewer Guidance

This case is a good case for understanding how a B2B business is dependent on the growth of the customer industries. This is also a case which requires inferences and assumptions to get the correct answers.

Gulf Partner wants to know

Question 1: Can Acme Packaging double its operating income by year 5 (2006)?

Question 2: What growth opportunities should

Possible Framework

Framework

Company
- Revenue (Sales by region and customer) trends for 5 years
- Cost trends for 5 years *(Valuation will follow from the revenue and cost trends)*
- Sales force effectiveness

Competitors
- Market share by customer segment and geography

Customers
- Segmentation (tire manufacturers, rubber footwear, industrial goods of rubber, non-rubber customers etc.)
- Growth in the customer industries
- Price sensitivity/Selection of products

Potential Buyers
- IBC competitors looking to expand in Asia or acquire the rubber customers
- Manufacturers looking at vertical integration (e.g., a tire manufacturer wants to manufacture IBCs for shipping)

Private Equity Company
- Players in portfolio (e.g., a manufacturer in the portfolio could have needs for shipping containers and would result in synergies after the acquisition of the company)
- Management expertise

Others – IBC Industry growth rate

Other

Acme Packaging – Exhibit Key Takeaways

Exhibit Insights

Exhibit 1

- The chemical IBC industry in Asia is larger than the rubber IBC industry and is increasing at a faster rate. The market is fairly fragmented, and a fragmented market is easier to penetrate than a market dominated by strong competitors. Acme's presence in the chemical industry, as well as other companies selling across industries, indicates that selling across industries is possible.

Exhibit 2 – Operating income percentage has been steadily increasing.

Exhibit 3 – Any of the companies in the portfolio (e.g., consumer products or manufacturing) which ships bulk of items would result in synergies for the private equity company.

Exhibit 4 – Potential buyers exist and are especially looking for Acme's presence in Asia and the rubber market. In order to keep increasing the value of Acme, opportunities should be pursued in Asia and the rubber industry.

Exhibit 5 – Prices have been increasing in IBC industry

Exhibit 6 – IBC sales in Asia increased at 15% CAGR and now is $180M in 2006 compared to $90M in 2001.

Exhibit 7 – It takes 4 years after setting up the office to generate profits.

Exhibit 8 - Asia is seeing a growth rate of 15% compared to U.S (5%) and

Math Question and Solution

Math Question

Can Acme Packaging double its operating income by year 5 (2006)?

Math Solution

1. Step 1: Determine market size in year 5 – 2006
   - 100% of Acme's sales comes from Asia. As a result, the relevant market to size is the IBC market in Asia
   - According to Exhibit 6, the sales of IBC in Asia in 2006 is $180M
2. Step 2: Estimate Acme's market share in 2006
   - According to Exhibit 2, revenue for Acme is $15M. According to Exhibit 6, total IBC sales in Asia is $90M.
   - Market share in 2001 was $15M/$180M = 17%
   - <u>Assumption: Acme will maintain or increase their share.</u>
3. <u>Step 3: Calculate revenue</u>
   - Based on assumption that share in 2006 will be 17% and using the 2006 IBC Asia sales figure of $180M, revenue of Acme in 2006 = 17% *

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Brainstorming questions and solution

Brainstorming question

What growth opportunities should Gulf Partners pursue to increase the value of Acme Packaging?

Brainstorming solution

1. Expand presence in Asia by increasing sales in non-rubber customer industries

- The chemical IBC industry in Asia is larger than the rubber IBC industry and is increasing at a faster rate. The market is fairly fragmented, and a fragmented market is easier to penetrate than a market dominated by strong competitors. Acme's presence in the chemical industry, as well as other companies selling across industries, indicates that selling across industries is possible.

2. Aggressively increase market share within the rubber IBC market in Asia

- Acme currently has a 65% share in the rubber IBC market. Although Acme could leverage its current position to gain additional market share, the opportunity is not large. The remaining market share is divided between only two companies, and the remaining customers may not be as profitable. The rubber tire sales has been increasing by 30% from 2001 to 2003

Conclusion

Recommendation

Recommendations

- Look to reduce COGS and provide better prices to customers. A reduction in product variety could decrease COGS through economies of scale
- Reduction in variety may also reduce costs of delivery as there would be fewer products to carry in vehicles (more deliveries possible) and may reduce the time/complexity of refilling a machine
- Identify shipping needs and potential customers in the PE portfolio

higher rate. Keep focusing on the rubber industry as well because of the predicted growth in tire sales

- Enter the U.S. market as it is more

Next Steps

- Increase spend on delivery to improve customer satisfaction (more research needed)
  - More drivers
  - Better vehicles
  - More efficient delivery routes
- Define the sales strategy to cater to chemical customers
- Find out variations needed in metal crates to cater to

Excellent case answers

Candidate would identify who the potential buyers would be and explore the concept of leveraging synergies with the existing portfolio. As the case does not have some data points, the candidate would brainstorm ways to use the existing data to get to estimate the operating income.

Exhibit 1: IBC Market in Asia by Industry (Singapore dollars)

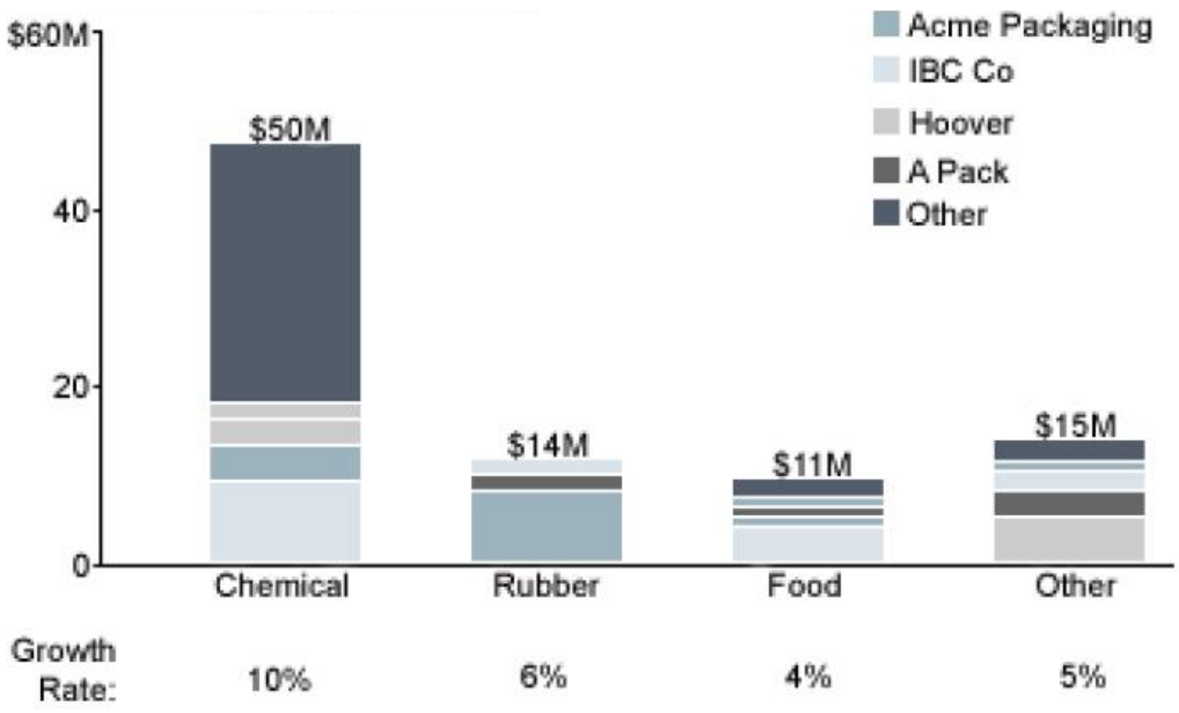

Exhibit 2: Acme Packaging Income Statement ($M)

	1999	2000	2001
Revenue	10.0	12.0	15.0
COGS	5.0	6.0	7.5
Gross Margin	5.0	6.0	7.5
Operating Costs	4.1	4.8	5.7
Operating Income	0.9	1.2	1.8
Net Income	0.8	0.8	1.5
Gross Margin %	50%	50%	50%
Operating Income %	9%	10%	12%

Exhibit 3: Gulf Partners' Portfolio

Consumer products	Financial Services	Manufacturing	Retail	Other
• Lennon • Johnston • Mellon	• Asia Bank	• Astratech Extronics • FX Convers • Medco	• Home Store • Go-mart • Consumer depot	• Instar Services • JNXE

Exhibit 4: Potential buyers

- A Pack sells IBCs in all geographies and has been growing through acquisition. Acme Packaging would fit its' growth strategy and strengthen A Pack's position in Asia
- Hoover sells IBCs primarily in Northern Asia due to its' limited sales and distribution network. Acme would provide it with a larger network as well as entry into rubber IBCs.
- Grief, the leading IBC company in Europe, is investigation entry into Asia, and they have previously expressed interest in acquiring.

Exhibit 5: Worldwide IBC Pricing Trends

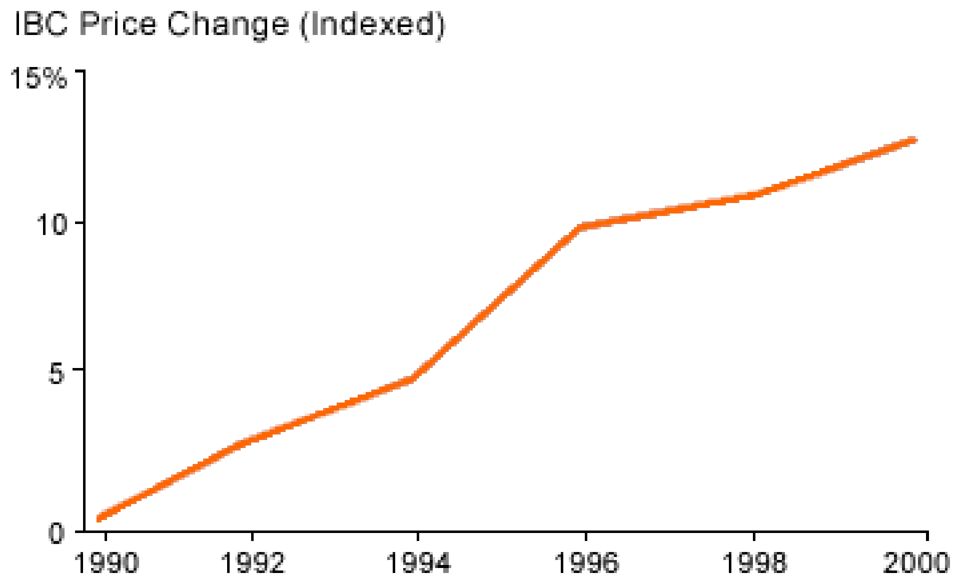

Exhibit 6: Size and growth of IBC Sales in Asia (Singapore dollars)

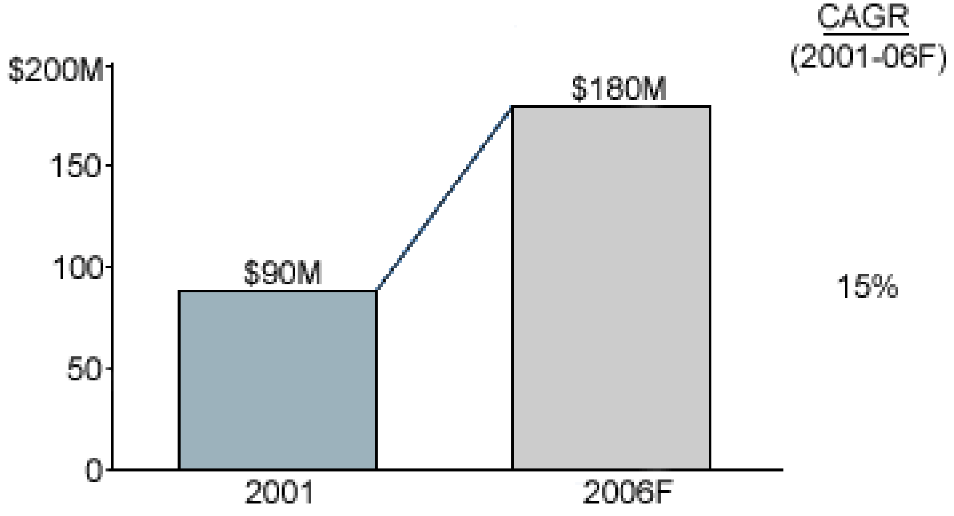

Exhibit 7: Profitability/Average financials of a new sales force office (Singapore dollars)

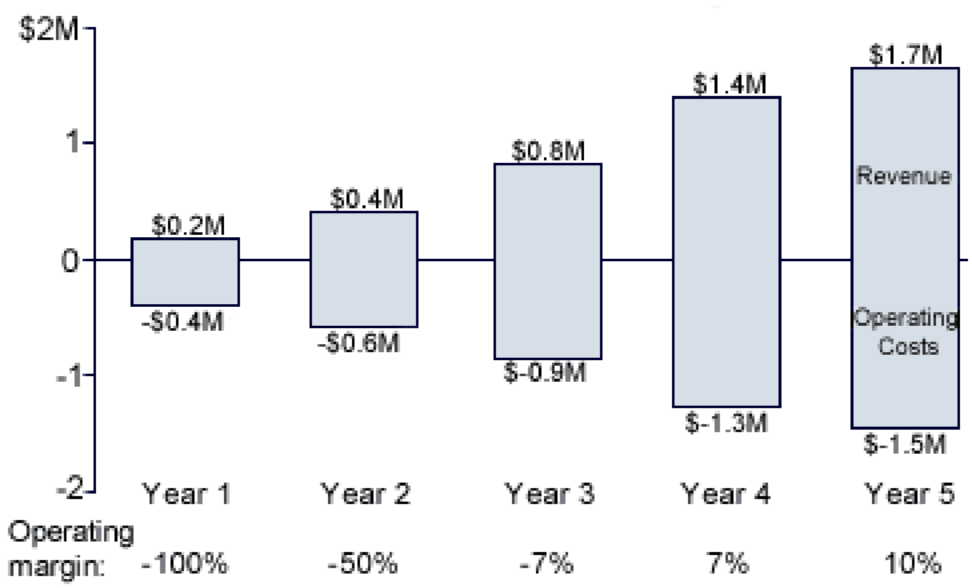

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Exhibit 8: Worldwide IBC Market by Geography 2001 (Singapore dollars)

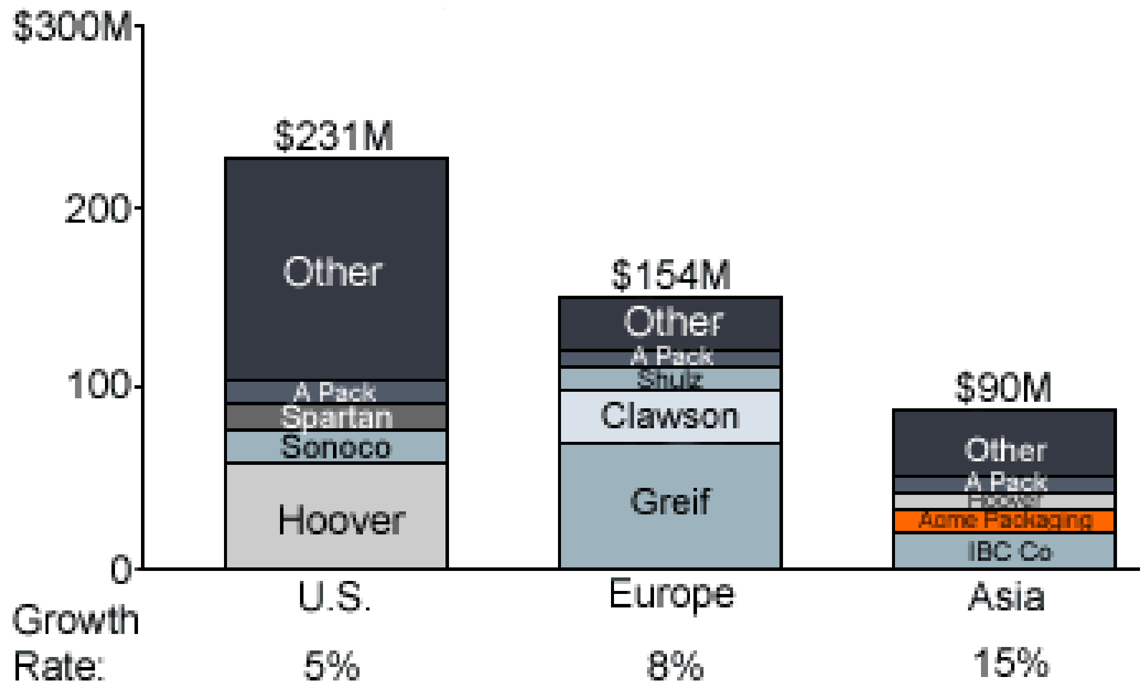

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Exhibit 9: Annual Tire Sales for Asian Tire Market (Singapore dollars)

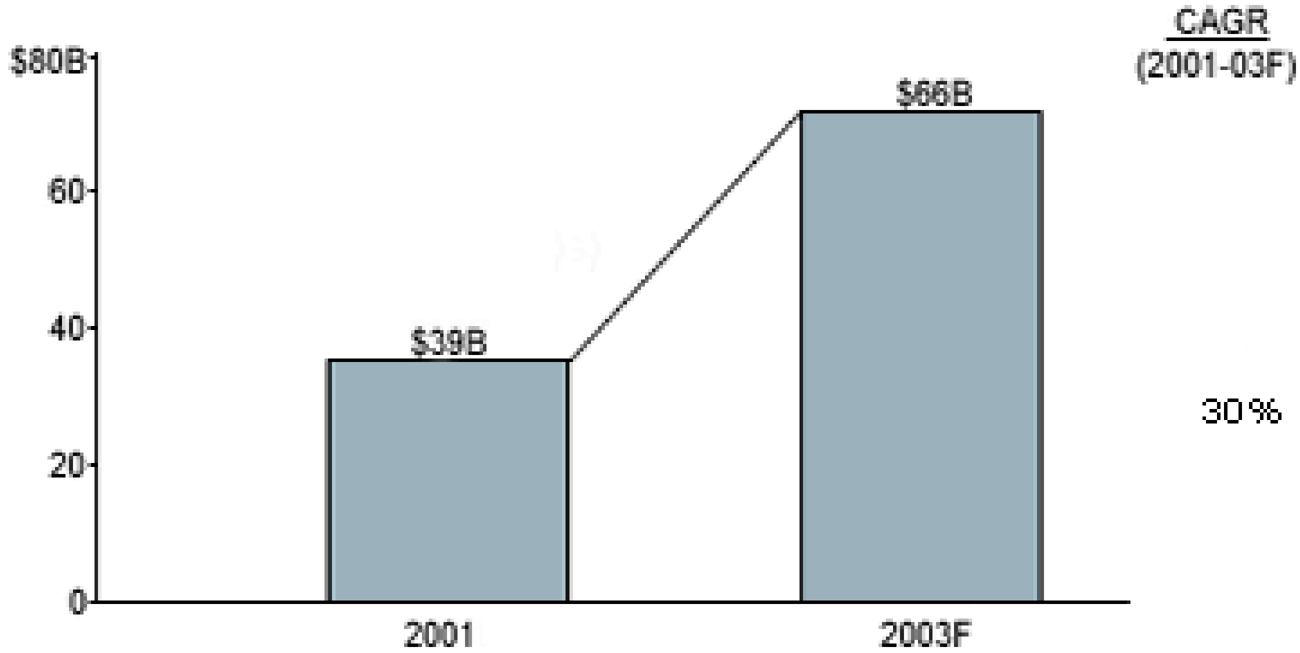

Exhibit 10: Customer acquisition costs indexed to Acme Packaging

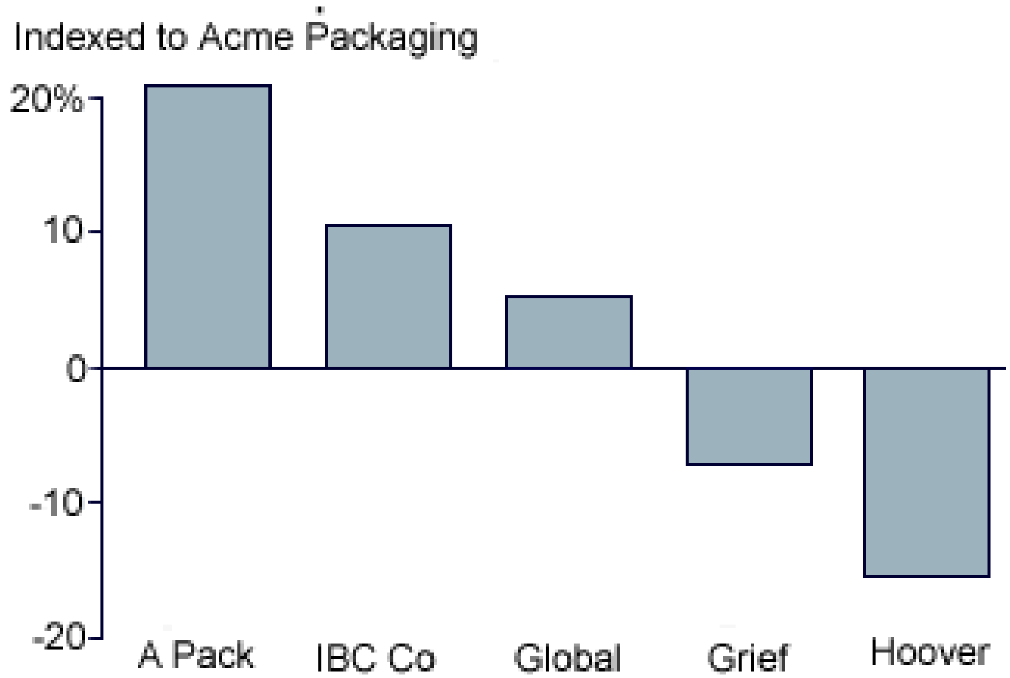

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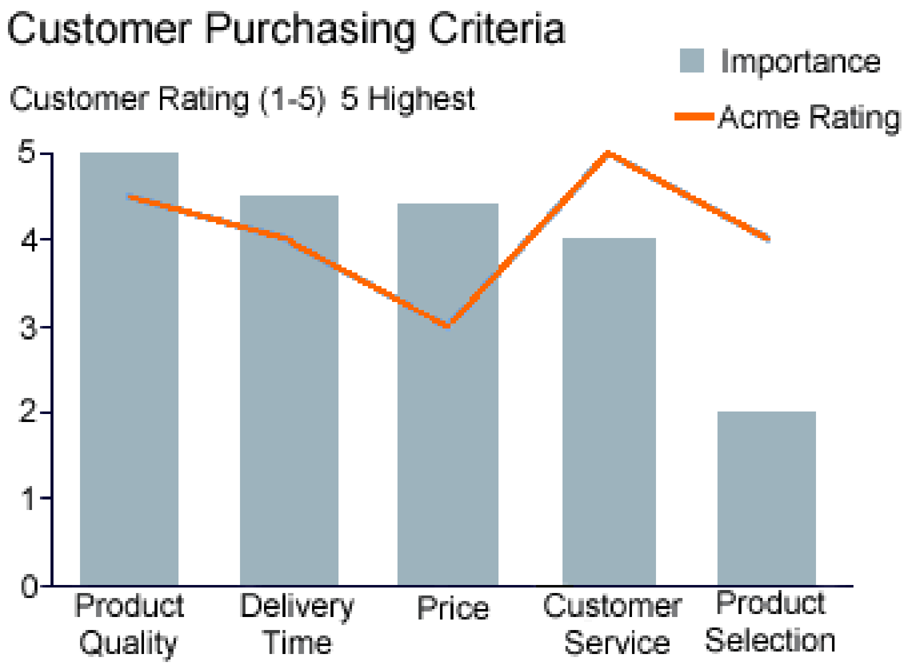
Exhibit 11: Customer Purchasing Criteria



Case 25: Balke-Collender Corp. (Ross Original)

Problem Statement

Balke-Collender Corp. (NYSE: BCC) is a publicly traded chemical company. Several Chinese companies have entered the market since 2008, putting enormous pressure on BCC's bottom line. As a result, BCC stock has stagnated around $48 since 2010. Raider Capital Partners (RCP), an infamous Wall Street activist investor, has taken a 14% stake in BCC and is threatening to change the board and fire the CEO, unless he brings up the stock price. The CEO has asked us two questions:

1. How can we achieve 100% total shareholder return (TSR) within 5 years to get RCP off our back?
2. How can we restore the company's long-term competitiveness?

Type of Case

- **Industry:** Chemicals
- **Difficulty:** Hard
- **Format:** Investments
- **Concepts Tested:** ROI, EPS, other Finance related concepts

Interviewer Guidance

- This case has multiple jargons, candidate should try to understand them all before proceeding to the framework

Note: Do not hand out Exhibit 1 immediately. There is a math question requiring calculation of net income

Clarifying Information and Case Guidance

Clarifying Information on Request

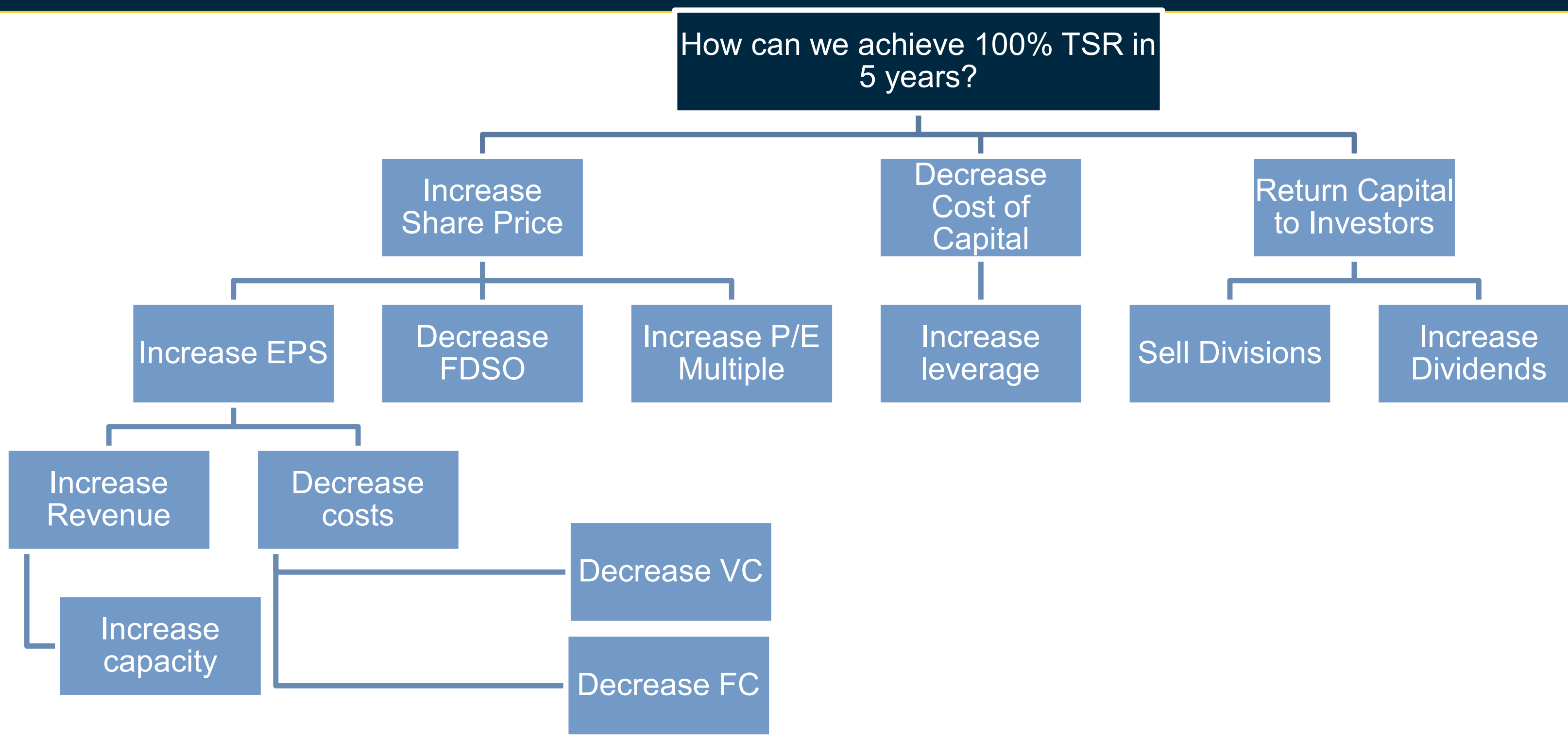
- BCC's is currently trading at $48, and has a P/E ratio of 20.
- BCC has 125M shares outstanding.
- Current demand for ethylene is 210M tons.
- There are no opportunities to cut SG&A.
- All D&A comes from our Ethylene cracker
- Company has the ability to raise debt.
- Ethylene is a petrochemical used in a wide variety of applications. It is made from a variety of hydrocarbons, but the most common feedstocks are naptha (derived from oil production), ethane and propane (both derived from natural gas)

Interviewer Guide to Case and Exhibits

- This case has multiple possible solutions and the candidate should try to explore them through the framework. Do not show the Exhibit 1 till the candidate gets to the answer of the first question.

Possible Framework

Framework



P/E Multiple = Price-Earnings Multiple = Share Price / EPS

EPS = Earnings per share = Net Income / FDSO

FDSO = Fully-diluted shares outstanding

Math Questions and Solutions

Math Question 1

- What is the incremental net income required?

Note: Exhibit 1 has the breakdown of net income. Do not show the exhibit 1 before candidate arrives at the answer.

Math Solution 1

- To calculate the required incremental net income, we start from the share price and PE Ratio to calculate Net Income.

Share Price	48
(/) P/E	20
= EPS	2.4
(x) FDSO	125M
= Net Income	300M
Req. Improvement	100%
Incremental NI	300M

Brainstorming Questions and Solutions

Brainstorming Question

What is the price of Ethylene in the market?

Brainstorming Solution

- Because industry demand is only 210M tons, then BCC is the marginal producer.
    - Therefore prices must be set such that the next producer (Delta Chem) makes zero profit and thus has not incentive to enter the market.
    - The price is therefore just under $750/ton. Candidate may assume $750/ton.
- BCC has a capacity of 20M units, and full utilization (dividing revenue by $750, gives total units of 20M)
- Total VC = Unit VC * Units = 550 * 20M = 11B, however COGS = 13B, so there must be $2B in fixed COGS (labor, overhead, etc).
- Because taxes, interest and D&A cannot be changed, candidate must figure out there are four ways to improve performance:
    - Expand capacity (hand out exhibit #3)
    - Decrease VC (hand out exhibit #3). Candidate should notice Naphta plants are more expensive.
    - Decrease FC (tied to plant layout, goes back to option one)
    - Decrease SG&A (no scope for this)

Math Questions and Solutions

Math Question 3

- What is the value of all three investment options? (Exhibit 4)

Math Solution 3

- If capacity increases by 20M tons then Delta becomes the swing producer and price drops to $650 / tons. Therefore the value of each option is given by:

	Feedstock	Expansion	Both
Plant	10,000	15,000	20,000
Pipeline	15,000	0	15,000
Total Investment	25,000	15,000	35,000
Units	0	20	20
Price	750	650	650
VC	350	550	350
Contribution	8,000	4,000	12,000
FC	-4,000	-2,000	-7,000
Gross Income	4,000	2,000	5,000
D&A	-2,500	-1,500	-3,500
Tax	-600	-200	-600
Net Income	900	300	900

Change Feedstock and doing both expansion and feed stock conversion have the same net income. Since changing feedstock has lower investment than doing both (and hence higher NPV), change feedstock.

Conclusion

Recommendation

Recommendation

- Convert current plant to using ethane feedstock for a $900M improvement in Net Income
- Investment will increase EPS 1.5x, and will therefore increase share price by 150%

Risks

Next Steps

- Determine competitor reaction, e.g. can they and will they also switch to ethane and how will this affect relative cost positions.
- Secure appropriate financing to retool the ethylene cracker.
- Quantify the effects of downtime for all three options and refine calculations.

Excellent Case Answers

The candidate would look at the ratios and reach the income statement. Candidate would realize that there are changes in variable costs as the capacity is expanded.

Exhibit 1: BCC Income Statement

BCC Income Statement	
(In $ Million)	
Revenue	15,000.0
COGS	(13,000.0)
Gross Income	2,000.0
SG&A	(1,000.0)
D&A*	(500.0)
Operating Income	500.0
Interest	0.0
EBT	500.0
Tax	(200.0)
Net Income	300.0

*BCC depreciates its assets over a 10 year period using the straight-line method

Exhibit 2: Ethylene Cost Curve

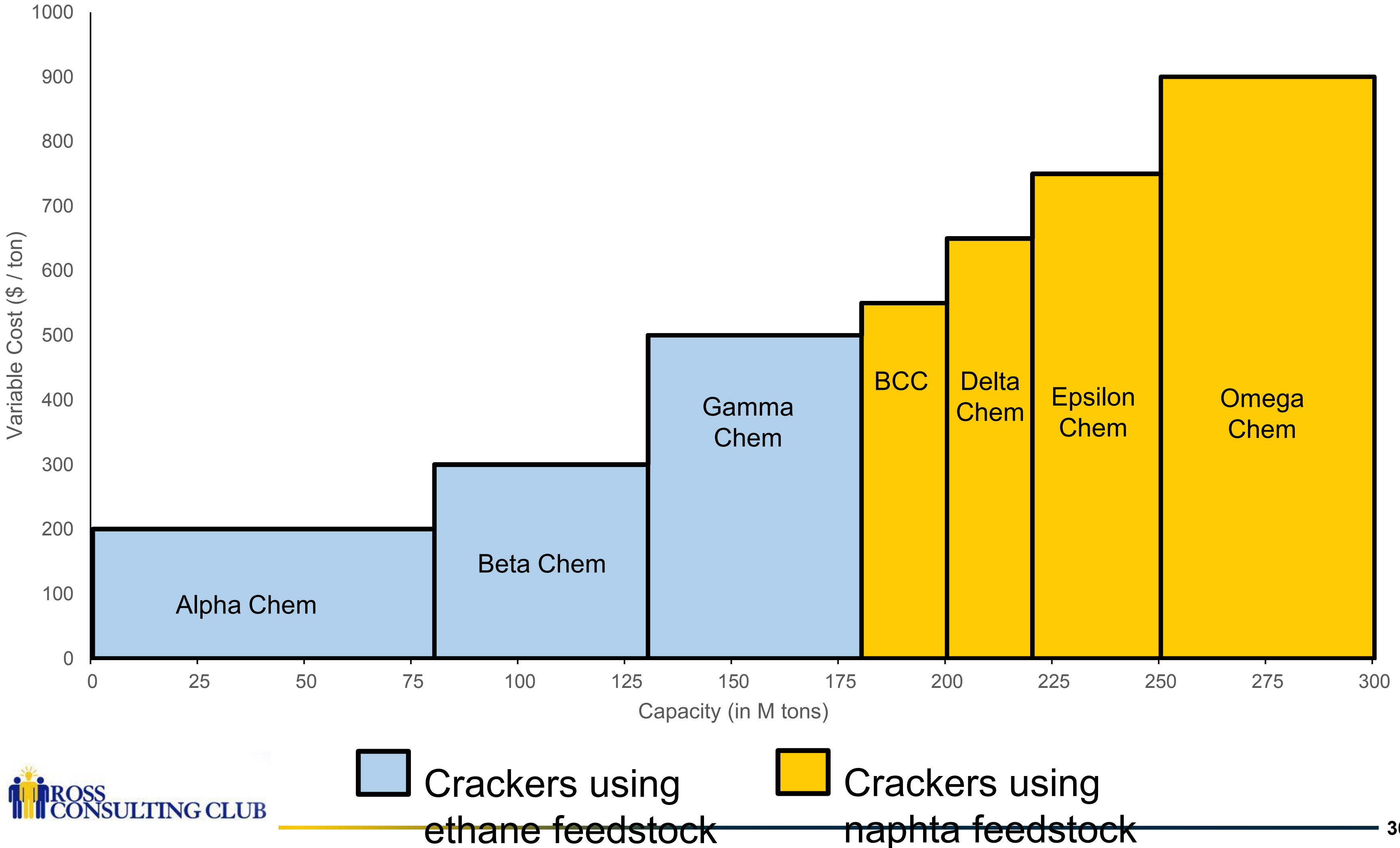


Exhibit 3: Estimated VC Breakdown at BCC Plant

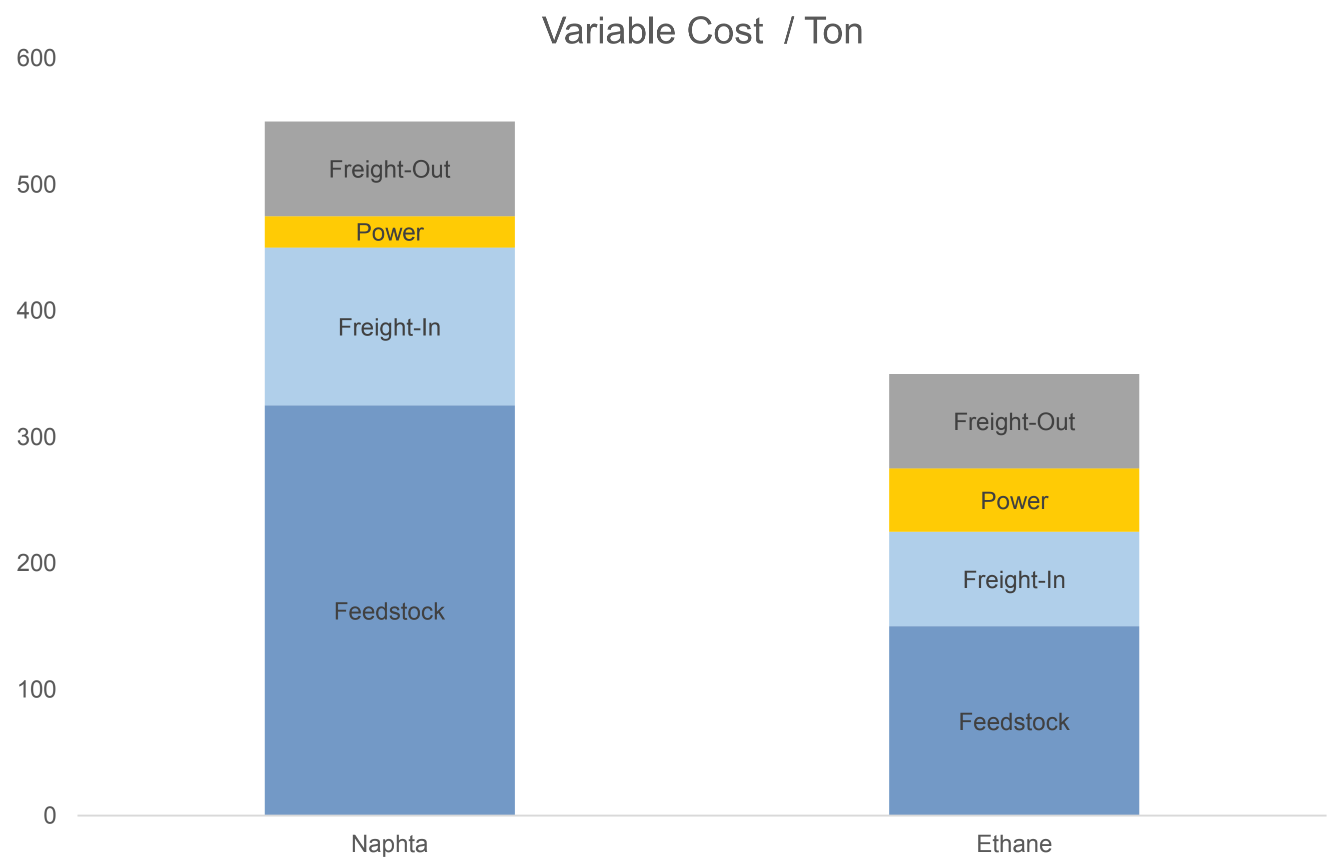


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Exhibit 4: Investment Options

	Feedstock Conversion	Capacity Expansion	Both
Plant Investment	$10B	$15B	$20B
Pipeline Investment	$15B	-	$15B
Incremental Fixed Cost	$4B	$2B	$7B
Change in Capacity	-	20M	20M

Additional Recommended Cases

For additional practice, RCC Casebook team recommends few other cases. A list of recommended cases has been uploaded at the following Ross Consulting Club website:

Directory: Ross Consulting Club>>Resources>>Casebooks>> “Recommended Cases”

Link: (http://cglink.me/d199252)