Consulting Careers for Engineers

Berkeley Engineering/Tech Conference
Who Are We? Why Are We Here?

- Adam Gotlin
  - Business Consultant
  - Berkeley 2014
  - B.S., Engineering Physics

- Chloe Howard
  - Business Consultant
  - Duke 2015
  - B.S., Mechanical Engineering

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Agenda

What is Consulting Anyway?

- Why Should Engineers Care?
- Introduction to APT
- Case Study – Digital Advertising
- Case Interview Workshop
What is Consulting?

Definition: The practice of giving expert advice within a particular field

Strategy
Financial
Boutique

Operations
Technology
+ many more

https://www.asme.org/career-education/articles/consulting/tips-to-succeed-as-an-engineering-consultant
What skills do consultants use day-to-day?

ABILITY TO WORK WELL ON A TEAM
- We work together closely to come up with an optimal recommendation for the client
- We value the perspectives of others on our teams and incorporate feedback from others in our work before delivering

ANALYTICAL SKILLS
- We use quantitative reasoning to support our recommendations and adapt the solution based on the parameters given

LOGICAL REASONING
- We use common sense and past experiences to inform our recommendations

COMMUNICATION SKILLS
- We must listen to our client and ask the right questions to gain a clear understanding of the problem at hand
- We must be able to clearly explain recommendations both verbally and in writing to a variety of audiences

QUICKNESS TO LEARN
- We must be able to ramp up on new projects quickly
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Because undergraduate engineers learn these skills...

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<th>SKILL</th>
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<td>Teamwork</td>
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APT – The Concept

Intersection of Big Data Technology & Traditional Strategy Consulting

increasingly data-driven

more prescriptive

Strategy Consulting

Enterprise Technology
APT Mission Statement

APT enables leaders to make better, fact-based decisions, faster and more efficiently, creating large-scale, lasting value through Test & Learn™ technology.

In support of this mission, we are committed to:

- DEVELOPING AND HARNESSING breakthrough technology and intellectual capital
- BUILDING AND GROWING trust-based relationships
- ATTRACTING AND DEVELOPING the world’s top talent with a passion for what we do
- ACHIEVING world leadership in Test & Learn™
Fast Facts

Work with 50+ Fortune 500

- 1,000+ Terabytes Of data

Process over 20% of all US retail sales data

- 450+ Employees Globally
- 9 OFFICES Globally
- Clients in over 25 COUNTRIES
Awards & Accolades

The Washington Post
2014 & 2015

#1 Medium-Sized Workplace

glassdoor
2016

Best Places to Work

WASHINGTON BUSINESS JOURNAL
2014

#1 Best Place to Work

EY

Building a better working world

Technology Entrepreneur of the Year 2015

FORTUNE

Top 100 Best Companies to Work for Millennials 2015
What we look for

Initiative
Problem Solving
Analytics
Strong Academics
Strong Communication
Passion for Technology
Drive
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Case Interview Workshop
WHAT IS IT? AND WHY DO THESE CONSULTING FIRMS PUT US THROUGH THEM?
- Objective and calibrated view of candidate’s analytical skills
- Opportunity to see how you think on your feet (logic, structure, quant skills)
- It’s what we do – if you don’t like it you are unlikely to like consulting

BROADLY SPEAKING THERE ARE THREE TYPES OF CASES:
- Strategy / Operations cases (more extensive and most common)
- Market Sizing Cases
- Brain teasers

HOW WILL I KNOW WHAT KIND OF CASE TO EXPECT?
- Varies by company and by round of interview
- Most will do strategy/operations case
- First rounds often have a market sizing case as they are quicker
- More analytical firms will use cases with quantitative components
The Realities: What they are looking for…

**HOW YOU THINK**
- Ability to think in a logical, structured way – are you analytical and numerate?
- More of a **focus on the process** you employ to solve a problem, **less on the answer**

**BASIC QUANTITATIVE SKILLS**
- Are you comfortable with numbers
- Are your basic math calculations (e.g. multiply, divide, etc.) correct?

**COMPOSE, PROFESSIONAL DEMEANOR**
- Does the candidate get ruffled?
- Interview is proxy for how you may handle client situations
- Is this someone you want on your team?

**COMMUNICATION SKILLS**
- Does the candidate ask insightful clarifying questions?
- Is the candidate able to articulate a cogent response?
WHAT IS SO HARD ABOUT A STRATEGY CASE?

Strategy cases require you to **come up to speed** on an industry you know nothing about …

**identify** the key issues using business frameworks, and **recommend** a solution …

with a person who typically has **lived and breathed** this case for months …

and usually in **less than** half an hour.
Strategy Cases – A Few Examples

Is the Subway $5 promotion profitable?

A manufacturer of automotive batteries is losing market share and profitability is eroding… what should they do?

Toyota is considering the release of a new model. What issues does it need to consider?

Is it worth it for Hanes to have Michael Jordan in its ads?
AT A MINIMUM, KNOW THE BASICS:

- **Profit** = TOTAL REVENUE – TOTAL COST
- **Revenue** = PRICE x QUANTITY
- **Cost** = FIXED COSTS + QUANTITY x VARIABLE COSTS

EVEN BETTER,
be able to draw supply and demand curves

Incorporating broader macroeconomic and demographic factors
**ISN’T A BAD IDEA EITHER**

TREAD CAREFULLY:
You want to use a framework that applies to the question you are being asked and that you are familiar with
Strategy Case - Example

Should Apple advertise the iWatch in next year’s Superbowl?