

Interview Prep Kickoff



ANALYTICS CLUB
CHICAGO BOOTH 

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First, Land the Interview

Quick Recruiting Reminders

- Networking: 2-3 connections per firm is ideal (preferably on the team(s) you are applying to)
 - Analytics specific positions, if anything, require more networking
- With few exceptions, cover letters matter
 - Career Advisors and Coaches have cover letter specific appointments before finals
- Stay up to date on developments in your top choice companies

What are analytics assessments?

- Data exercises designed to mimic the type of work you will perform on the job
- Similar to an unstructured case prompt, except with data in place of charts, back of the envelope calculations, etc.
- Just like with cases, how you get the answer is just as important as getting the right answer
- Usually appear in the final round or as an exercise to complete between the first and second rounds

What are firms looking for? (1/2)

- Do you know basic equations in the MBA toolkit?
 - Profit equation; breakeven analysis; average vs. marginal cost, etc.
- Can you quickly find the data that you need to answer the prompt?
 - Most assessments will give you more information than you need to answer the case
 - Time pressure is frequently a factor
- Do you actually have the technical and analytic skills that you claim to have on your resume?
 - Most assessments are in Excel; more advanced ones might require R and/or SQL
 - Need to know how to use more advanced features (e.g., pivot tables) to get the answer in time

What are firms looking for? (2/2)

- Can you communicate your findings effectively to a nontechnical audience?
 - Building effective charts
 - Building effective slides
 - Avoiding technical jargon without losing the heart of your analysis
- How do you respond to unanticipated challenges?
 - Sometimes the data will contain obvious errors
 - Just like in a case, ensure that answers and data points pass the “sniff test”

Four Primary Types of Assessments

1. Basic Excel Test
 - *Example: A company provides you with sales data for four locations. Use the data to calculate the profitability of each location by customer segment.*
2. Advanced Excel Test
 - *Example: A company provides you with customer survey data after using a product. Use the data to determine the top drivers of customer satisfaction.*
3. Theoretical Data Prompt
 - *Example: Imagine you could collect any publicly available data online. What would be most useful for our company and why?*
4. Unstructured Data Test
 - *Example: Here is data on every flight flown in the United States last year. Create a presentation for senior leadership.*

1. Basic Excel Test (1/2)

- Format
 - Structured data is provided within an Excel file
 - You will typically have to answer a case prompt within a set time period (30 min – 2 hours)
- Skills To Ace
 - Must have basic knowledge of financial statements, profit and loss calculations, and microeconomic concepts (e.g., elasticity)
 - Excel functions: SUM, COUNT, AVERAGE, MEDIAN, IF
 - Other Excel features: Pivot Tables, deleting duplicates, etc.
 - Keep the spreadsheet organized and well labeled (time permitting)

1. Basic Excel Test (2/2)

- Other Tips/Tricks We've Seen
 - If data is a time series, keep an eye on trends over time (e.g., profit margins may be falling over time, which could be a critical clue for acing the case)
 - Ensure you are comparing apples to apples (e.g., depending on the industry, some calculations may be per unit while others may be per purchase)
 - Always remember the case prompt and consider the implications for what you find / recommend (e.g., how would a competitor react?)
- Positions Where Case is Likely to Be Used
 - In general, finance, general management, and corporate strategy
 - Specific firms: Amazon Finance, Uber, United Airlines Network Planning, Wayfair (multiple positions)

2. Advanced Excel Test (1/2)

- Format
 - Quite similar to the Basic Excel Test, but data is usually significantly larger and more complex
- Skills To Ace
 - Everything mentioned for Basic Excel Test plus the following
 - Excel functions: VLOOKUP, nested functions with IF and AND
 - Other Excel features: Regressions (know how to activate the Data Analysis Add-In + use tool and interpret results)

2. Advanced Excel Test (2/2)

- Other Tips/Tricks We've Seen
 - The data may not be clean or may contain typos, which may throw off attempt to use Pivot Tables (e.g., some Factory names are misspelled).
 - The data may contain some pre-calculated equations – check that they are calculating what they claim to be calculating (e.g., a profit calculation may be missing a certain cost source)
 - Be creative when working around traps and remember to use all of the data available to you - frequently other data that may have seemed useless when you started will now have a purpose
- Positions Where Case is Likely to Be Used
 - In general, more analytically oriented consulting and corporate strategy roles
 - Specific firms: AT Kearney (Procurement and Analytics Solutions)

3. Theoretical Data Prompt (1/2)

- Format
 - No data provided – this is completely theoretical
 - Typically sent as a prompt before the interview, with the expectation that you will prepare a PowerPoint to present during the interview
 - Also asked as a case question during interviews
- Skills To Ace
 - Knowledge of the industry and competitors in detail (networking helps here – do you know what data they already use?)
 - Understanding of the current strategic priorities for the firm (typically available in 10-Ks)
 - Understanding of how data is collected and interpreted- what assumptions are required when interpreting the data? (e.g., your average revenue per user may rise while conversion is falling)
 - Creativity – data is everywhere. Have you considered everything?

3. Theoretical Data Prompt (2/2)

- Other Tips/Tricks We've Seen
 - Be sure you present an organized and coherent approach – why would you prioritize the data points you selected above others?
 - Leave no stone unturned – how do customers interact with this firm and competitors? Think of both direct and indirect interactions
 - Be mindful of how customers would react to having their data used to sell to them (i.e., don't propose something creepy)
 - 3 C's and 4 P's from marketing are typically useful to organize your thoughts
- Positions Where Case is Likely to Be Used
 - Analytics / Data Science positions, or positions that interact closely with data science teams.
 - Note that PM style roles typically ask a version of this question in the interview, as data is critical to many products in tech
 - Specific firms: Activision Blizzard, Wayfair (Competitive Intelligence)

Quick Practice

*You are in charge of clothing sales at Macys.com.
What data would you prioritize gathering to compete
online, and why?*

4. Unstructured Data Test (1/2)

- Format
 - Firm will provide you a CSV of structured and/or unstructured data
 - Using whatever tools you wish, organize the data, decide on an analysis, find insights, and present conclusions in a presentation
 - Some firms do not provide a prompt – just find something that would be of interest to the company in the data
 - You will be asked to submit both your code and the presentation
 - Time frame is typically 2-3 days prior to the interview
- Skills To Ace
 - SQL and R (dplyr is a handy package that lets you run SQL-like commands in R)
 - Knowledge of the industry, firm, competitors, etc. (especially when the test lacks a specific firm)
 - Solid chart + presentation building skills to communicate findings

4. Unstructured Data Test (1/2)

- Other Tips/Tricks We've Seen
 - Make sure that your findings make sense, and don't present common sense results as "findings" in your presentation (e.g., if data is flight data by city, you should expect to see more delays in Chicago in the winter (snow) and in Atlanta during the summer (thunderstorms))
 - Firms will be checking to see that your code is clean and well labeled
 - Check your code to ensure that it does not have bugs!
- Positions Where Case is Likely to Be Used
 - Analytics / Data Science positions
 - Specific firms: Delta Air Lines, BCG Gamma, Washington Nationals

Analytic Assessment Interview Dilemmas

Analytic assessments are a new part of the interview process. As a result, expect to encounter some hiccups in the process. BAC members in the past have experienced the following situations:

- A firm asks you to reserve two hours to complete an Excel exercise over the next two days, but you already have multiple interviews and class scheduled during this time period.
 - Potential Solution: It is ok to explain your situation and propose two hours at a later time. Not all firms will oblige, but it is worth asking to ensure you have the time to successfully complete the assignment.
- During your full-time interview, a firm repeats the exact same data exercise that they gave you during the internship search.
 - Potential Solution: Always tell a firm if you have received a case or analytic assessment before – if you do not, you risk disqualifying yourself. Offer to resend your responses from the prior year, and leave it on the recruiter to decide how to move forward.

Time to Practice!

- BAC is designing one of each of the four assessment types for you to practice
- Assessments will be released at the start of Winter Break, along with instructions and recommended time limits to simulate the interview experience. Practicing time management will be just as important as analytical skills themselves!
- On **Saturday, January 12th**, you will have the opportunity to present and receive feedback on **one** of the assessments (of your choosing) in a group setting. Group sessions will be in **NBC Tower**.
- You can complete as many of the practice assessments as you like, but we only have capacity to provide feedback on one of the assessments.
- Attendance at today's session was mandatory to participate in the group feedback sessions (the practice assessments will still be made available to the entire club)

Other Interview Tips

- Be prepared to talk in detail about any analytics work you describe in your bullet points!
 - How large was the data set and how was it structured?
 - Was it clean? Did you encounter any difficulties?
 - Were there privacy concerns?
 - What business decisions were driven as a result of your findings?
- Know your interviewer – if he/she is analytically oriented, feel free to be more technical (they likely want this!). If not, avoid the technical details.
- Do not use terms if you do not know what they mean!
- Be prepared to write code for any language you claim to know on your resume (happens rarely, but it still happens)
- Ask good questions at the end of the interview – thoughtful questions can make the difference!

Questions?