Exercise 6B: Earnings Call Analysis

MGMT 675: Generative AI for Finance

Using Claude.ai Artifacts, create an interactive app that lets a user input:

- Coupon rate
- Yield to maturity
- Face value
- Years to maturity

Assume semi-annual coupons. The app should compute the bond price and display an interactive chart showing how the price changes as the yield varies from 0% to 15%.

Publish the artifact so it has a shareable link.

Deliverables.

- Shareable artifact link (`1C-Link.txt`)
- Screenshot of the published artifact (`1C-Screenshot.png`)

Download portfolio-consolidation.zip and extract the files. You will have holdings data from three brokerages in different formats (two Excel workbooks and one CSV).

Upload all three files to Claude.ai and ask it to:

(a) Merge all equity holdings into a single consolidated view with standardized columns
(b) Resolve inconsistencies between ticker symbols and full company names
(c) Sum shares for positions that appear in multiple accounts
(d) Produce a summary showing total portfolio value, top five holdings by market value, and asset allocation between equities and bonds

Deliverables.

- Consolidated output (`1D-Consolidated.xlsx`)
- Screenshot of the Claude conversation (`1D-Screenshot.png`)

Take the DCF model you built in Exercise 2B. Start a **new** Claude conversation (do not continue the original) and upload the workbook. Ask Claude to critique the valuation:

1. **Identify at least 3 questionable assumptions** — are the growth rates, margins, or discount rate reasonable?
2. **Check formula consistency** — does FCF match the pro forma income statement and balance sheet?
3. **Evaluate the terminal value** — is the implied terminal growth rate reasonable relative to GDP growth? What fraction of enterprise value comes from the terminal value?
4. **Suggest specific revisions** with justification

Revise the model based on the critique and compare the original and revised valuations.

Deliverables.

- Original DCF model (`5A-Original.xlsx`)
- Revised DCF model (`5A-Revised.xlsx`)
- Summary of what changed and why (`5A-Summary.pdf`, 1 page)
- Screenshots of both Claude conversations (`5A-Screenshot1.png`, `5A-Screenshot2.png`)

Upload at least three financial documents for the same company into Google NotebookLM. Good combinations include:

- A 10-K filing
- An earnings call transcript
- An analyst report or press release

Ask at least **5 questions** about the company's financial performance, strategy, and risk factors. For each answer:

- Note how NotebookLM **cites specific sources** (which document, which section)
- Evaluate whether the answer is **grounded** in the documents or potentially **hallucinated**
- Rate the answer quality (accurate / partially accurate / inaccurate)

Deliverables.

- Q&A pairs with citations and quality ratings (`5C-QA.pdf`)
- Brief assessment of NotebookLM's reliability for financial analysis (half page, included in the same PDF)
- Screenshot of the NotebookLM interface showing sources and a sample answer (`5C-Screenshot.png`)

Download manda-due-diligence.zip and extract the files into a project folder. You will have:

- A customer list with contract details (Excel)

- Detailed contract terms for top customers (PDF)
- Acquirer screening criteria (Word)
- Industry benchmarks (CSV)

In Claude Code (or the Code tab in Claude Desktop), ask Claude to evaluate the acquisition target **end-to-end**:

1. Extract contract terms and change-of-control provisions from the PDF
2. Apply the acquirer's screening criteria to each customer
3. Calculate quality-adjusted revenue and retention probabilities
4. Assess customer concentration risk
5. Benchmark against industry standards
6. Produce a due diligence summary suitable for an investment committee

Watch how Claude plans its approach, reads each file, and combines the results.

Deliverables.

- Due diligence summary (`6A-DueDiligence.xlsx`)
- Screenshots showing Claude's intermediate steps (`6A-Screenshot1.png`, `6A-Screenshot2.png`)

Build a custom financial chatbot as a Streamlit app using the OpenRouter API with a free model (e.g., `mistralai/mistral-7b-instruct:free`).

The chatbot should:

1. **Connect to a financial dataset** (a CSV file or small database)
2. **Include a system prompt** with schema knowledge and domain expertise — tell the model what columns exist, what the data represents, and how to answer questions
3. **Let users ask questions in English** and display results

You can ask Claude Code to build the entire app for you. Focus on writing a good system prompt — this is where the skill concepts from Module 4 apply.

Test with at least 5 financial questions and evaluate the quality of the answers.

Deliverables.

- Code (`6B-Code.zip`)
- Screenshot of the running app showing at least 3 exchanges (`6B-Screenshot.png`)
- Evaluation of answer quality (`6B-Evaluation.pdf`, half page)

Collect 20 recent financial news headlines from sources such as Reuters, Bloomberg, or Yahoo Finance. For each headline, use Claude to classify:

- **Sentiment**: positive, negative, or neutral

- **Magnitude**: strong or weak
- **Relevance** to the stock price: high, medium, or low

Then look up the actual stock price movement on the day of each headline. Record the one-day return.

Calculate Claude's classification accuracy: what fraction of positive-sentiment headlines corresponded to positive returns (and vice versa)? Discuss where the model gets it right and where it fails — pay attention to cases where nuance matters (e.g., "revenue beat expectations but guidance disappointed").

Deliverables.

- Spreadsheet with headlines, classifications, price movements, and accuracy (`7A-Sentiment.xlsx`)
- Screenshot of Claude's classification output for at least 5 headlines (`7A-Screenshot.png`)

Download an earnings call transcript for a company that had a **significant post-earnings stock move** (at least $\pm\$3\%$ on the day after the call). Good sources include Seeking Alpha, Motley Fool Transcripts, or company investor relations pages.

Upload the transcript to Claude and ask it to:

1. **Rate management's overall tone** on a scale from -5 (very negative) to $+5$ (very positive)
2. **Identify 3–5 forward-looking statements** that differ from consensus expectations
3. **Flag hedging language** or qualifications (e.g., "cautiously optimistic," "subject to macroeconomic conditions")
4. **Summarize the Q&A section** — were analysts skeptical or supportive?

Compare Claude's assessment to the stock's actual post-earnings move. Did the tone analysis predict the market reaction? Where did it succeed or fail?

Deliverables.

- Claude's analysis of the transcript (`7B-Analysis.pdf`)
- Comparison to actual stock movement with discussion (`7B-Comparison.pdf`, half page)