Hands-On Learning Activity Real-World Applications of Generative AI in Financial Modeling

Hands-On Learning activity helps you apply financial modeling skills in realistic business scenarios. You'll use provided case data to simulate investment forecasting, budget planning, and dashboard creation — based entirely on concepts from Module 6.

Objective

To forecast investment portfolio performance, build a scenario-based expense budget, and outline a decision-making dashboard based on AI-generated insights.

Instructions:

- Use Excel or Google Sheets for calculations and organize your ideas in a Word or slide document.

Step 1: Forecast Investment Portfolio Performance

- Use the following data to simulate a portfolio forecast:
  - Stock A: Past 12-month return = 8%
  - Bond B: Past 12-month return = 4%
  - Commodity C: Past 12-month return = 12%

- Assume equal allocation and calculate the portfolio's average return.
- Now apply 3 scenarios: Bull Market (+10%), Bear Market (-10%), Neutral (0%) — and update returns accordingly.

Step 2: Build a Scenario-Based Expense Budget

- Based on the Neutral scenario, estimate operating expenses for a hospitality business:
  - Revenue Forecast: $200,000/month

- Expense Categories (as % of revenue):
  - Labor: 35%
  - Utilities: 10%
  - Marketing: 8%
  - Supplies & Maintenance: 12%
- Calculate monthly expenses in dollars and list total expenses and net income.

Step 3: Visualize with a Dashboard Sketch

- Sketch or describe a dashboard layout that visualizes:
  - Revenue vs Expenses over 3 scenarios
  - Key performance indicators: Net Income, Labor % of Revenue, ROI
  - Graphs or tables that support decision-making

Step 4: Interpret AI-generated Insights

- Write a brief explanation of how Generative AI helped simulate:
  - Multiple investment scenarios
  - Adaptive expense budgeting
  - Visual decision support tools
- Include 3 ways this would benefit a CFO or finance manager.

Step 5: Reflect and Summarize

- Write a short summary
  - What did you learn from applying AI in this realistic setting?
  - Which part of the process felt most valuable or challenging?
  - Visual decision support tools