Assignment 2 (Group assignment): Effect of Information Presentation on Investment Decisions

Objective

Investigate how different ways of presenting financial information influence investment decisions, while considering potential lurking variables and experimental design complexities.

Research Question

How do data visualization, time frame, and risk information presentation affect investment decisions and investor confidence?

Experimental Factors

1. Data visualization (2 levels): Tables only vs. Graphs and charts
2. Time frame (2 levels): 1-year historical data vs. 5-year historical data
3. Risk information (2 levels): With explicit risk metrics vs. Without explicit risk metrics

Important Note on Participant Roles

Your fellow students in the classroom will play the role of potential investors. When answering questions, they should respond as if they were investing their own money. They all have a budget of up to £5000 to invest in each company presented. Emphasize to participants the importance of making decisions based on the information presented as if it were a real investment scenario.

Assignment Steps

1. Experimental Design (30% of grade, 45 minutes in class)

- Develop a 2x2x2 factorial design
- Create 8 different company financial profiles
- Address potential lurking variables: a) Decide how to control for company age, sector, and size b) Justify your choices for handling these variables
- Determine appropriate sample size considering: a) Number of students available as participants b) Time constraints for data collection c) Number of questions that can be asked within the available time
- Design data collection instruments (surveys or forms)

2. Data Collection (20% of grade, 60 minutes in class)

- Create fictional company profiles with varying presentation styles
- Show each participant (fellow student) one randomly assigned profile
- Instruct participants to make decisions as if investing their own money
- Collect data on: a) Amount they would invest (from a given budget) b) Their confidence in the decision (1-10 scale) c) Participant demographics and self-reported investment experience

3. Data Preparation (10% of grade, 15 minutes in class)

- Clean and organize the collected data
- Prepare the dataset for statistical analysis

4. Preliminary Analysis (10% of grade, 30 minutes in class)

- Conduct initial descriptive statistics
- Create visualizations of the data

5. Multiple Regression Analysis (15% of grade, to be completed after class)

- Conduct multiple regression analysis to determine how presentation factors affect: a) Amount invested b) Investor confidence
- Control for demographics and investment experience in the analysis
- Interpret the results, including coefficients, p-values, and R-squared

6. Interpretation and Discussion (15% of grade, to be completed after class)

- Interpret the results in the context of the research question
- Discuss the strength and direction of relationships found
- Address limitations of the analysis
- Discuss how lurking variables were handled and their potential impacts
- Propose implications for financial information presentation in real-world contexts

7. Critical Analysis and Extension (10% of grade, to be completed after class)

- Propose how to make the experiment more comprehensive by adding more factors
- Discuss how to address the added complexity in experimental design and analysis
- Consider practical limitations and trade-offs in expanding the experiment

Deliverables

1. A report (1500-2000 words) detailing your methodology, findings, and discussion
2. An appendix with your experimental design materials, data, and additional visualizations
3. A clean, Excel document containing your analysis

In-Class Time Allocation (2 hours 30 minutes total)

- Experimental Design: 45 minutes
- Data Collection: 60 minutes
- Data Preparation: 15 minutes
- Preliminary Analysis: 30 minutes

Evaluation Criteria

- Thoroughness and creativity in experimental design
- Effectiveness in addressing lurking variables
- Quality and efficiency of data collection
- Accuracy and depth of statistical analysis
- Insight and critical thinking in interpretation and discussion
- Feasibility and innovation in proposed extensions
- Clarity and professionalism of the report and code

Due Date

Friday 8th November, 11:59pm

Good luck with your experiment and analysis!