

Using AI Personas for Market Research

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Overview

Description: This assignment builds off the examples from Lecture 2 on understanding price gouging by leveraging AI personas. You will choose a new product idea: you can be as creative as you want or pick a product you'd be interested in forming a startup around / launching at an existing company. Then construct a focus group of AI personas to help inform your decision about whether to introduce the product, how to market it, and how to deal with any concerns.

What are AI personas? AI personas are simulated customer profiles created using Large Language Models (LLMs) that respond to questions as if they were different types of potential customers.

The deliverables are:

- A written report (1 page single spaced / 2 pages double spaced with 12 pt font)
 - If you use ChatGPT, please include a shareable link to your prompting thread inside the report
 - Up to 10 pages of figures in the appendix (all figures must go in the appendix)
- A Google Sheet summarizing your work as instructed in the steps below
 - Link to within report - make sure to have access permissions set properly

Due: Thursday, April 17th @ 10am (as shown in the syllabus)

Steps

Part 1: Invention

Invent a new product or service for some market you are interested in. It can be completely impractical or fantastical - or alternatively very relevant to your work.

Perhaps make an image of your product if appropriate. E.g., example image on the right.



You

Make a picture of a new kind of ketchup that shrinks food to 1/4 of its normal size after an intense (but safe) chemical reaction. It's called JerkyMaker



ChatGPT



Part 2: AI Personas

You then will create potential "persona" customers, decision-makers, or stake-holders and "interview" them. Give them attributes that might be relevant to how they think and feel about your product. You should have at least four personas.

- **This should be one tab in your Google Sheet labeled "Personas"**

Persona	Age	Gender	Hobbies / Interests	Attitude towards food
Alice	...			
Bob				

Part 3: Conduct Open-ended Interviews

Develop a reasonable rubric of topics to explore with your personas---value, safety, price, substitutes, etc. The topics are in the first column, one for each row; your personas are the columns.

- **This tab should be labeled "Qualitative"**

Topics	Persona Alice	Persona Bob
Price	Q: What do you think about... R: My main worry is that...	
Safety		
Substitutes		

Part 4: Quantitative Survey Research

Use your qualitative interviews to design an actual survey. Administer the survey to your personas. The survey should be mostly multiple choice questions/rating scale. Aim for four questions.

- **Record their responses in your spreadsheet on a tab labeled "Responses"**

Persona	Q1: What is your max price point?	Q2: Would you buy...
Alice		
Bob		

Part 5: Writeup - 2 pages double-spaced (or 1 page single-spaced) with 12pt font

Write up your recommendations, given what you learned. Explain what you thought worked well (or not) about using LLMs for market analysis. Explain what next steps you might take to increase the value. Were there particular prompts that you felt led to better outcomes?

Your write-up should include two key parts:

1. Market Analysis of Your Product

- Reflect on what the AI-generated personas and survey responses revealed about your product's go-to-market strategy.
- What did you learn about your product's positioning, pricing, target segments, or perceived value?
- Support your insights with references to the personas, qualitative interviews, and survey results you generated with the LLM.

2. Reflection on the AI Process

- Briefly describe your experience using the LLM (e.g., ChatGPT, Claude, Gemini).
- What worked well? What didn't? What would you do differently?
- Suggest improvements: Are there other data sources, better prompt strategies, or tools that could have led to deeper insight?
- You can think of this second part as feedback on the research method itself—how usable and effective was the AI-assisted process?

Part 6: Optional: Data Analysis

The max grade on this assignment is 90%. For up to 1%-10% additional credit, use an LLM to generate 100 personas and have them answer the four quantitative questions (use an LLM for this as well). Pick up to 2 of your persona attributes (e.g. Age and Gender) and provide an analysis that shows statistical significance (or lack thereof) in differences answering each of your four questions.

Hint 1: We encourage everyone to attempt this, and rather than asking the staff, we strongly recommend you first provide the full context to Claude or GPT-4o and have it explain how to do this efficiently. Because both of these LLMs can generate data, conduct analysis, and create graphs, you should have all the necessary tools.

Hint 2: Here's an example output: "Among our 100 personas surveyed, the 45 men had an ideal price point of \$20 while the 55 women averaged an ideal price point of \$18. Below, we've included the overlaid histogram distributions, and the analysis provided shows that this \$2 difference is significant at the 0.05 level... {assume charts and analysis below along with a shareable URL to the LLMs used}."

Guidelines on Deliverables

- Writeup is 2 pages double spaced (or 1 page single space), with link to Google Sheet (with open sharing)
 - 12 pt font
 - Up to 10 pages of figures in the appendix (all figures must go in the appendix)
 - Screenshots of prompts, results, or tools used should be included (feel free to use the appendix).
 - List whatever specification you used to ensure this is reproducible (e.g. temperature, Gemini vs. Claude vs. ChatGPT, system prompts, etc.)
 - Use online resources for any data and cite the sources in a bibliography (MLA format)
- Use of ChatGPT/Claude/Gemini in Writeup
 - Highly encouraged - but must provide shareable url