



AI-Driven Synthetic Data in Marketing Research Education

Improving Marketing Research and Communication Outcomes through Structured AI Integration

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Synthetic Data in Marketing

Synthetic data is AI-generated responses that mimic how consumers react to surveys, offers, or campaign messages.

It is used to pre-test ideas, explore different customer segments, and refine designs *before* involving real participants.



Synthetic data is a refinement tool, not a replacement for real consumers.

Educational Objectives

- 01 Use AI and synthetic data to improve marketing research and communication outcomes
- 02 Test and refine ideas through iterative AI simulations with a critical attitude toward AI outputs and their limitations
- 03 Main Intended Course: Marketing Research course (BSc en sciences économiques)

Applied Focus

AI as Consumer (Quantitative)

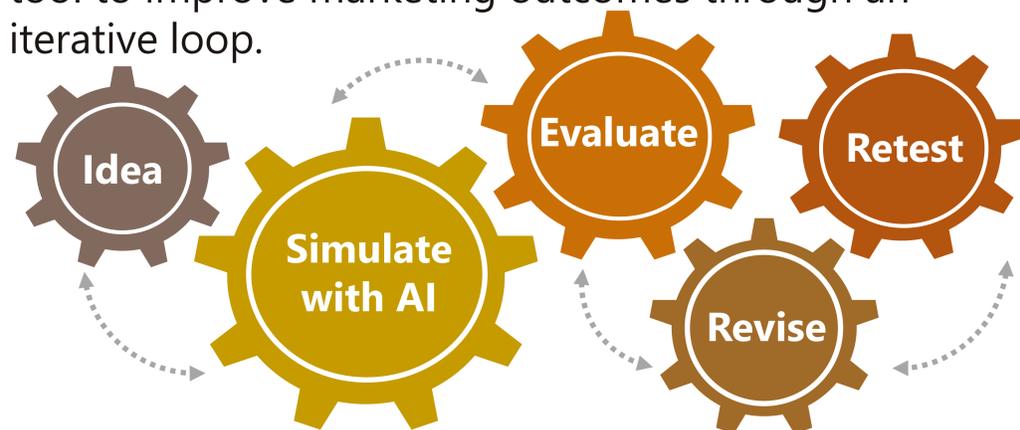
AI answers surveys as if it was part of a target segment. Students generate many responses, compute indicators (e.g., satisfaction), and see how changes in wording or positioning affect outcomes.

AI as Participant (Qualitative)

AI answers open-ended questions as different personas. Students analyse these responses and convert key themes into structured variables for research and communication design.

AI Integration in Marketing Research

Modern marketing is iterative and data-driven, while student projects are often one-shot. Within this project, students will learn how to use AI as a research tool to improve marketing outcomes through an iterative loop.



API + R for AI Research Applications

- API gives access to the AI model with controlled prompts and parameters.
- API enables independent, reproducible, large-scale simulations.
- R provides the interface to program the API calls and analyses the outputs.

Project Vision:

Align marketing education with AI-augmented, iterative thinking and critical, not blind, use of AI.

Deliverables Workshops

- 1 **Foundations:** R, API, and synthetic data in marketing, and how simulations support better research design.
- 2 **Quantitative simulation:** AI answers surveys via API in R; students generate and organize simulated responses.
- 3 **Qualitative simulation:** AI personas produce multiple answers; students build one full example from questions to coded themes.
- 4 **Communication optimization:** students test alternative messages with AI and apply the simulate → refine loop to improve them.