

Synthetic vs. Real: The Ultimate Showdown in Market Research



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Synthetic Data: The Fast, Cheap, and (Sometimes) Weird Option

- ⦿ AI is making waves in market research – especially qualitative
- ⦿ Enter the synthetic sample: A set of AI-generated “respondents” who take surveys as if they were human
- ⦿ Why it’s trending:
 - ⦿ Instant sample sizes
 - ⦿ No incentives or scheduling headaches
 - ⦿ Lower cost, faster turnaround
- ⦿ Tempting? Sure. But is it good enough?

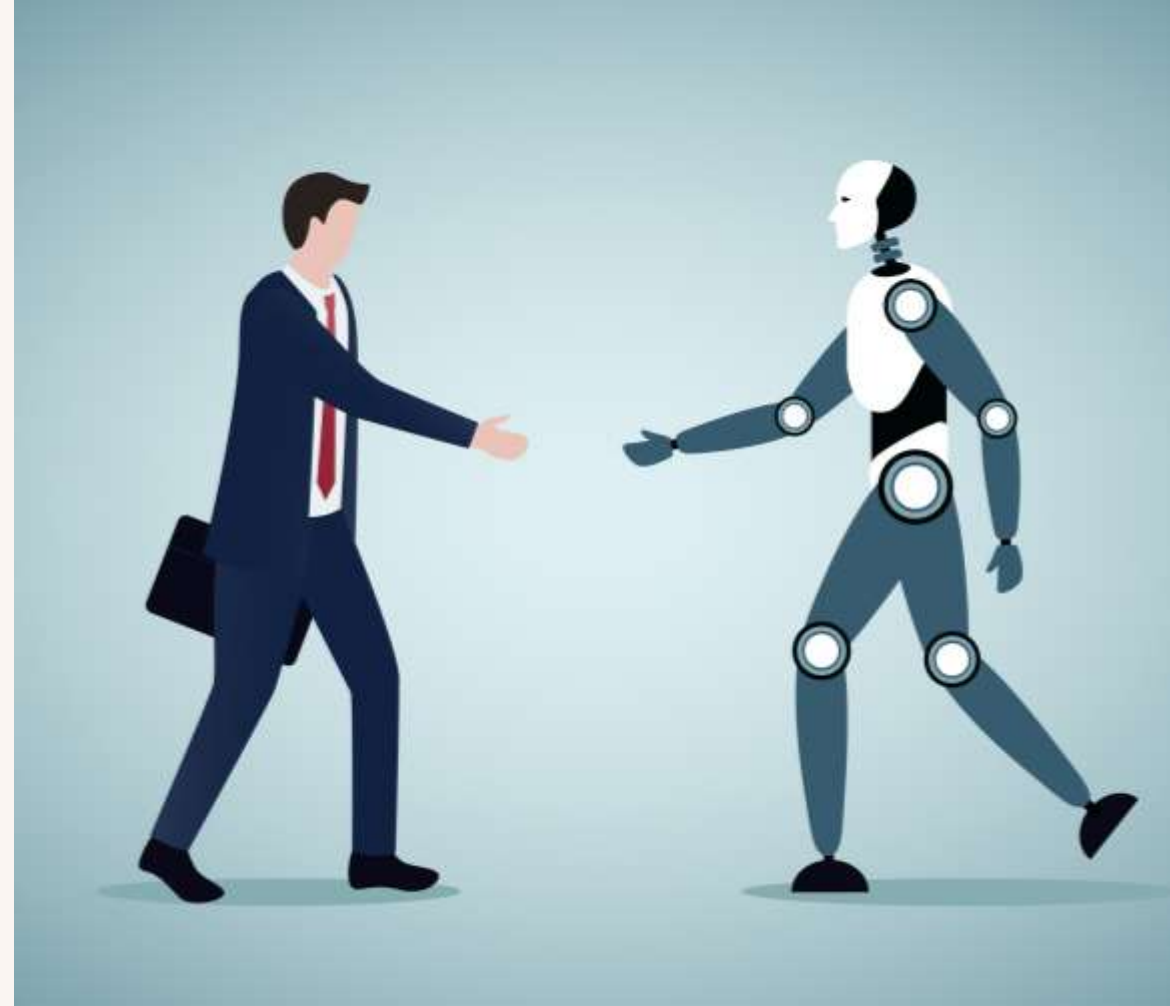
We set out to test where synthetic responses deliver value -and where real humans still reign



Humans vs. Machines: Let's Get Weird

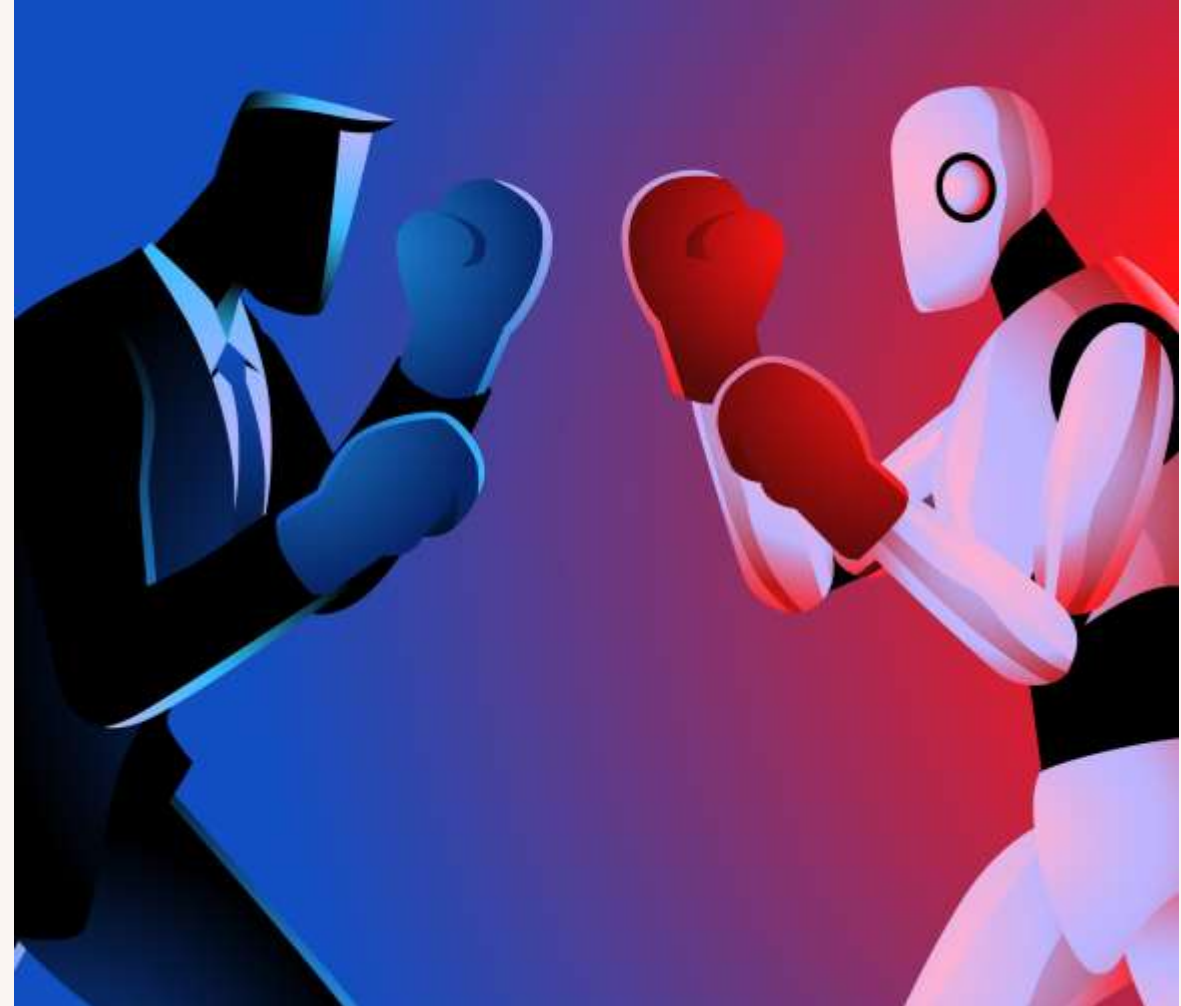
- The big question: Can AI replace human participants in qualitative research?
- Our core hypothesis:
 - AI is solid at surface-level trends (e.g., most people like soft toilet paper)
 - But it stumbles on the deeper "why" - things like emotions, trust, comfort, loyalty
- Human insights are often irrational, emotional, or unexpected
- A synthetic sample can simulate patterns, but not personal experience

Let's see if AI can match human responses when emotions, preferences, and personal habits are in play



Humans, GPT-3.5 & GPT-4o Walk Into a Bathroom...

- We surveyed three groups:
 - Real people
 - ChatGPT-3.5 (2024)
 - ChatGPT-4o (2025)
- All answered the same bathroom-focused survey
- Hosted via CondUX.io with dynamic questions + image recognition
 - Example: If you showed us a toilet picture that included a bidet, you got bidet questions
- Goal: Compare responses on the same stimuli – see where they match or miss



Real Bathroom. Real Mess. Real Data.

- ❁ Natural clutter: Tray of diverse products (air freshener, reed diffuser, hand soap) in mismatched packaging — no AI would casually choose that.
- ❁ Subtle imperfections: Trash can with a liner, used tissues, slightly misaligned toilet seat — classic human realism.
- ❁ Lighting variation: Natural shadows and color tones you'd expect from a quick phone photo.
- ❁ Bidet attachment: Visible and accurately connected, with understandable controls.
- ❁ Floor & wall wear: Slight texture on the walls and baseboards, and realistic flooring with subtle reflection and grain.

Please upload a photo of the primary toilet in your home and immediately surrounding area.



REMOVE IMAGE

Meanwhile, in the AI's Alternate Toiletverse...

- ❁ Wipes precariously placed over the toilet bowl opening: No human would store wipes this way - unless they enjoy chaos.
- ❁ Too perfect = suspicious: Pristine surfaces, sterile lighting, and absolutely zero visual noise or personal touches.
- ❁ Lack of context: No personal hygiene products, décor, or even a trash can - just a blank hotel-lobby vibe.
- ❁ Visual oddities: Overly smooth edges, slightly uncanny toilet shape, and the wipes' shadow doesn't quite behave naturally.
- ❁ The label says "FUSHABLE WIFCE": Case closed. This is peak AI gibberish.



Even Robots Know We Like Clean Bathrooms

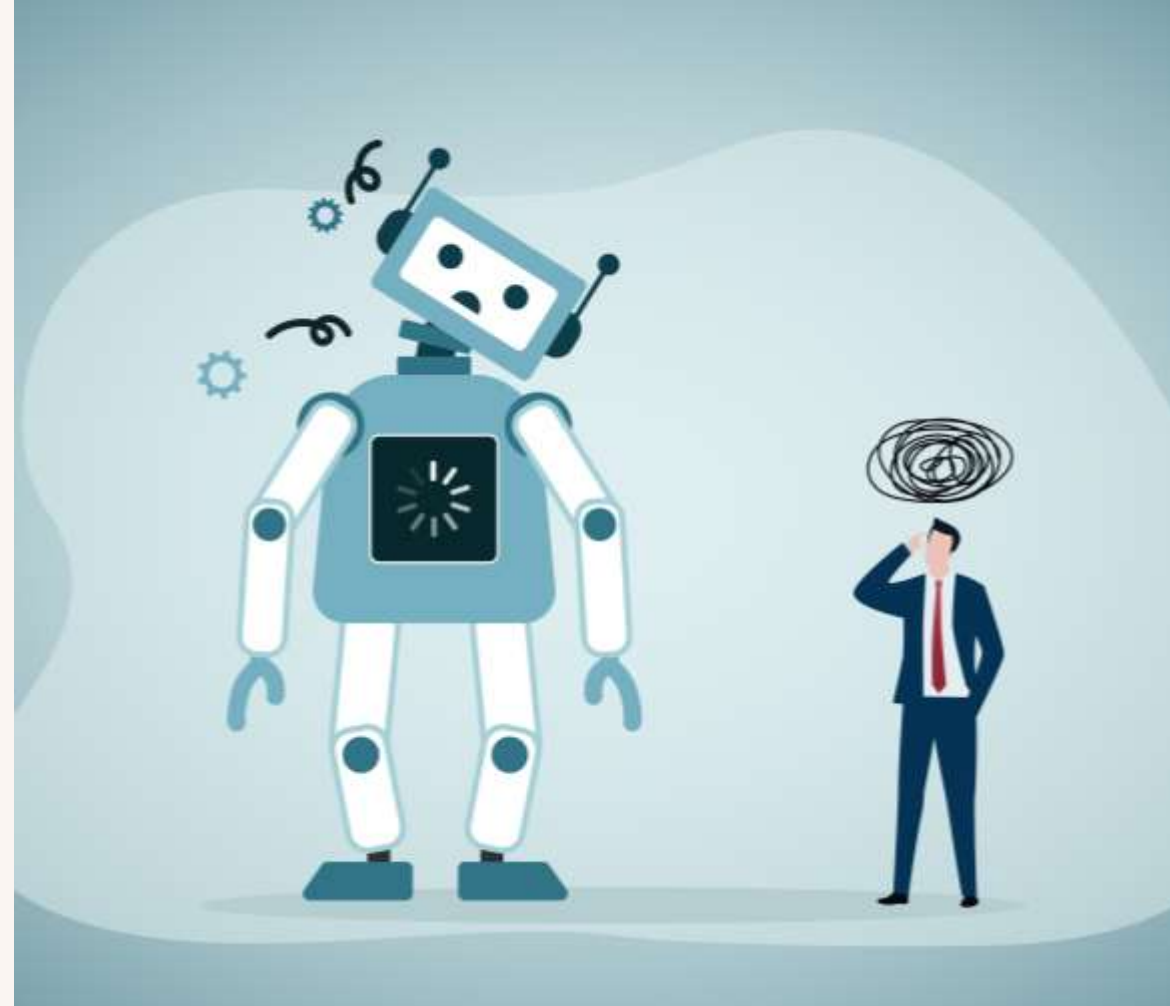
- ⊗ AI matched humans on big-picture stuff:
 - ⊗ Comfort & scent were top drivers across all groups (~65–70%)
 - ⊗ Price/budget consistently mentioned - but not the only factor
 - ⊗ Low enthusiasm for high-tech toilets - most said “not really interested” in smart upgrades
 - ⊗ Basic hygiene habits (handwashing, frequency of use) were consistent across all groups
 - ⊗ Eco-friendly choices: All groups recognized eco-friendly products as a positive factor (though emotions varied)
 - ⊗ Top product swap motivators (e.g. “if it stops working” or “on sale”) showed up similarly across AI and human responses

Synthetic respondents are decent at surface-level stuff: hygiene norms, common preferences, and obvious tradeoffs.



This Smells... Off

- Brand loyalty gap:
 - 73% of humans preferred familiar brands
 - GPT-4? Only 36% cared. Loyalty issues much?
- Emotion ≠ Checkbox:
 - Real people said comfort and scent made them feel cozy, nostalgic, even picky
 - AI said “satisfaction” and called it a day
- AI ≠ Ambivalence:
 - People said “I’m curious but anxious”
 - GPT just said “excited” – chill, robot
- Subtlety gets lost:
 - No spontaneous stories, memories, or feelings behind choices
 - Just logical guesses dressed up like insight



AI Thinks We're All Bathroom Innovators

- 🌀 Expanded List of Overconfident Robot Assumptions:
 - 🌀 18% of GPT-4's "people" are actively shopping for upgrades
 - 🌀 Real people? 0%. Zilch. Nobody's hitting Home Depot this weekend
 - 🌀 AI thinks more people are early adopters of bathroom tech
 - 🌀 Heated seats, smart bidets, auto-flushers — AI assumes we're excited
 - 🌀 Enthusiasm vs. inertia:
 - 🌀 GPT-4 says "Excited!"
 - 🌀 Real humans say "Maybe later" or "Not really thinking about it"
 - 🌀 Underestimates cost, effort, and apathy barriers
 - 🌀 AI assumes if it sounds cool, we'll buy it
 - 🌀 Humans know cool ≠ convenient (or cheap)
 - 🌀 Imaginary adoption curve:
 - 🌀 GPT-4 seems to think we're on the verge of a toilet revolution
 - 🌀 In reality, most folks are fine if it flushes and doesn't leak



Don't Fire Your Humans Just Yet

- ⦿ Synthetic data is fast, cheap, and scalable — great for exploring big-picture questions
- ⦿ But AI can't replicate emotion, context, or lived experience
- ⦿ It's great for what people do... not why they do it
- ⦿ Human input is still essential for trust, nuance, and real-world complexity
- ⦿ Think of AI as your co-pilot, not your captain

*Let's be smart about when to synthesize
and when to empathize*



AI Can Help - Just Don't Let It Drive

Use synthetic for:

- 🌀 Early exploration — quick reads before involving real people
- 🌀 Macro trends — clear patterns like usage or preference
- 🌀 Concept screening — compare multiple ideas at scale
- 🌀 Survey testing — spot issues before launch
- 🌀 Gap-filling — simulate missing segments from known data
- 🌀 Bulk analysis — summarize large open-ends fast
- 🌀 Speed runs — when you need “good enough” insights, fast

Use humans for:

- 🌀 Emotional insights — brand love, comfort, trust
- 🌀 Behavior prediction — real-life habits, inertia, hesitation
- 🌀 Subtle nuance — ambivalence, conflicting feelings
- 🌀 Cultural context — values, rituals, identity
- 🌀 Surprise & creativity — unexpected reactions, real stories
- 🌀 Decision confidence — when outcomes matter, validate with people

Pro tip:
Best results = Hybrid approach

Got Questions? Connect With Us!

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