Are your new product ideas novel enough?

Evaluating a scientific approach to enhancing novelty and diversity of new product and flavour ideas generated by AI-driven persona tools

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BACKGROUND

In the competitive landscape of consumer goods, uncovering novel product or flavour ideas requires a deep understanding of consumer insights and emerging trends. However, the complexity of consumer behaviour, the rapid evolution of preferences, and the limitations of traditional insight processing often result in incremental rather than breakthrough innovations. Brands may collect vast amounts of data, but identifying truly novel opportunities within this complexity remains a major challenge.

Recent advancements in Large Language Models (LLMs) have made it possible to create AI personas: chat-based interfaces built on a brand's consumer data. These personas allow teams to explore primary research as well as extend insights beyond the original dataset. Unlike static reports, AI personas offer a dynamic, "always-on" functionality that delivers continuous consumer insight grounded in real human responses.

Heineken partnered with MMR to explore the potential of AI personas (AIP) built on the brand's flavour segmentation data. While AI personas already generate novel ideas, MMR built a new data science Agentic ideation pipeline (AgIP) for Heineken to enhance the outputs by leveraging and augmenting the data sources beyond the primary data. We ran an experiment to validate the ability of this breakthrough method to generate high-calibre flavour ideas, with emphasis on enhancing their novelty.

AGENTIC IDEATION PIPELINE: ENHANCING NOVELTY THROUGH ITERATIVE INTELLIGENCE

To push the boundaries of idea generation beyond what AI personas (AIP) can achieve alone, we developed the **Agentic Ideation pipeline** (AgIP) - a multi-stage, iterative system designed to enhance the novelty of new product and flavour ideas.

The pipeline operates in three stages:

### Stage 1: Initial Seed Idea Generation

Upon receiving a user prompt, the system uses a multi-source generation module that draws from a structured knowledge base of internal and external sources to produce initial seed ideas. These ideas are then evaluated for alignment with the prompt and self-corrected to prevent conceptual drift.

Stage 2: Seed Idea Improvement

Each seed idea enters an iterative enhancement loop. An AI agent retrieves new knowledge from relevant sources within the knowledge base, generating improved variants and building on the seed ideas. At each iteration (repeated K times), ideas are realigned and updated to maintain fidelity to the prompt while increasing novelty and diversity.

Stage 3: Idea Completion

After completing K iterations, the most promising outputs are selected through a final evaluation step, forming a refined set of high-novelty ideas ready for expert review or consumer testing.
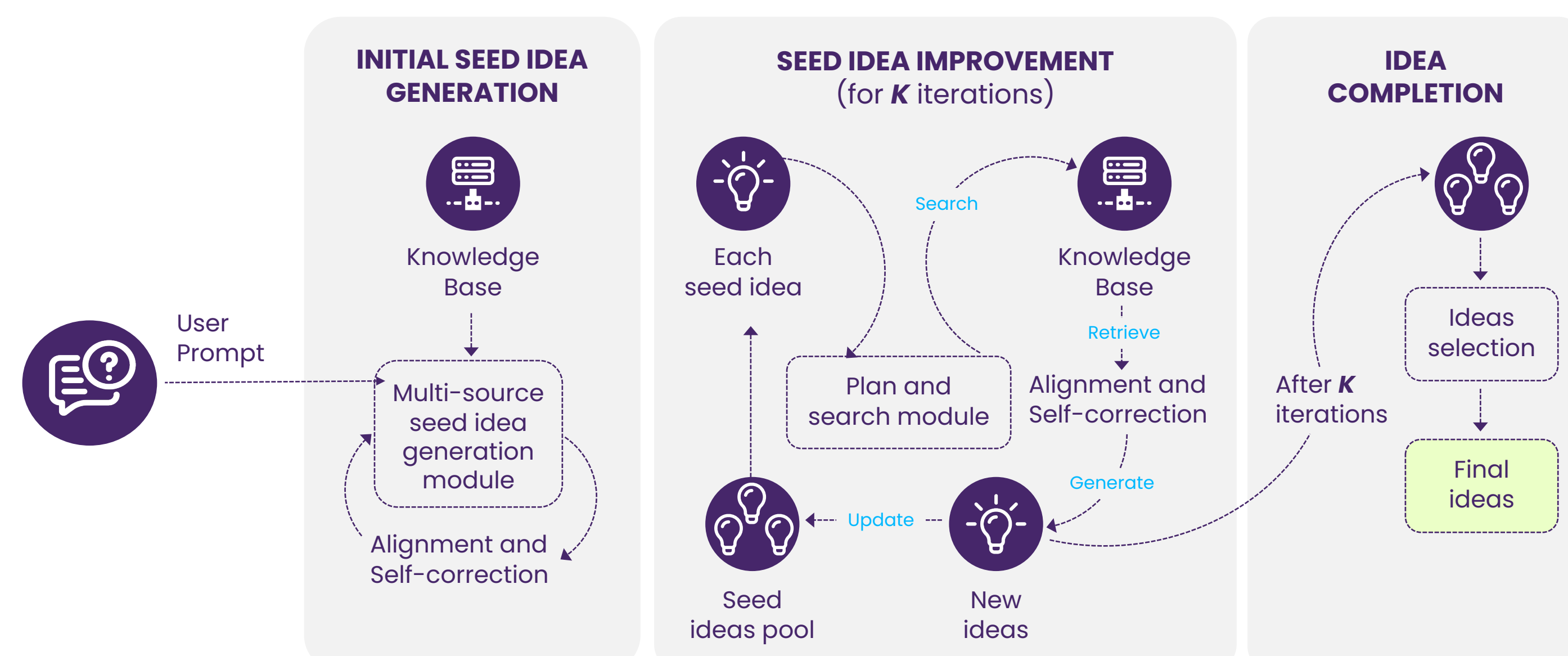
Knowledge base

- Heineken's Primary flavour segmentation data – base for AIP (n=1046)
- Heineken's proprietary consumer research & knowledge database
- MMR's brand agnostic knowledge & thought leadership database

HYPOTHESIS

Through a structured process of seed idea generation and iterative enrichment, the internal and external data sources will help enhance the novelty of the new product / flavour ideas that AI personas tool can output, enabling deeper exploration of unexpected yet viable flavour and product concept ideas.

EXPERIMENT: METHOD

Stimuli
Using identical prompts, we prompted both the AI personas tool (AIP) and the enhanced Agentic Ideation pipeline (AgIP) to generate 10 new flavour ideas to get to 20 ideas in total. We randomised these 20 ideas and put them towards human evaluation by consumers and Heineken stakeholders.
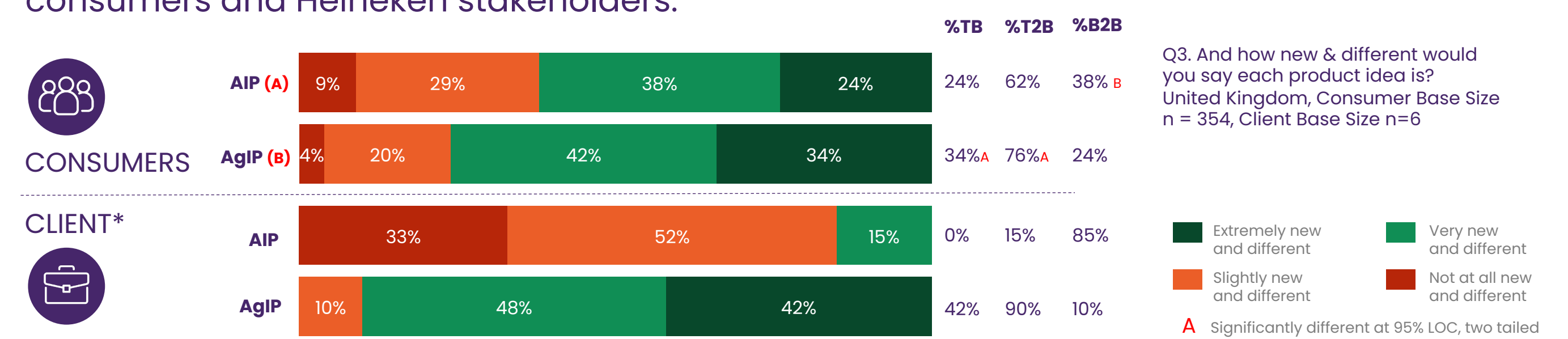
Design:
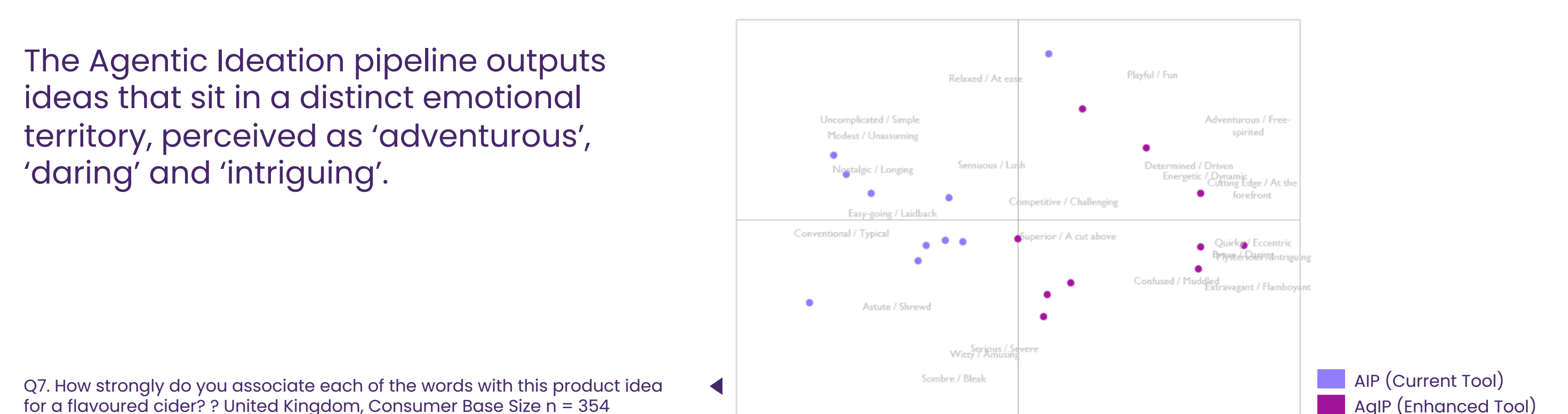Online quantitative survey

Sample:
- N=354 UK consumers
- N=6 Heineken stakeholders

RESULTS

Ideas generated by the Agentic Ideation pipeline were perceived as **more novel** by both consumers and Heineken stakeholders.


	%TB	%T2B	%B2B
AIP (A) CONSUMERS	24%	62%	38%B
AgIP (B) CONSUMERS	34%A	76%A	24%
AIP CLIENT*	0%	15%	85%
AgIP CLIENT*	42%	90%	10%

Q3. And how new & different would you say each product idea is? United Kingdom, Consumer Base Size n = 354, Client Base Size n=6

Legend: Extremely new and different / Very new and different / Slightly new and different / Not at all new and different

A Significantly different at 95% LOC, two tailed

*No significance run on client data due to low base size. All ideas (10 per tool) aggregated.

The Agentic Ideation pipeline outputs ideas that sit in a distinct emotional territory, perceived as 'adventurous', 'daring' and 'intriguing'.

Q7. How strongly do you associate each of the words with this product idea for a flavoured cider? ? United Kingdom, Consumer Base Size n = 354
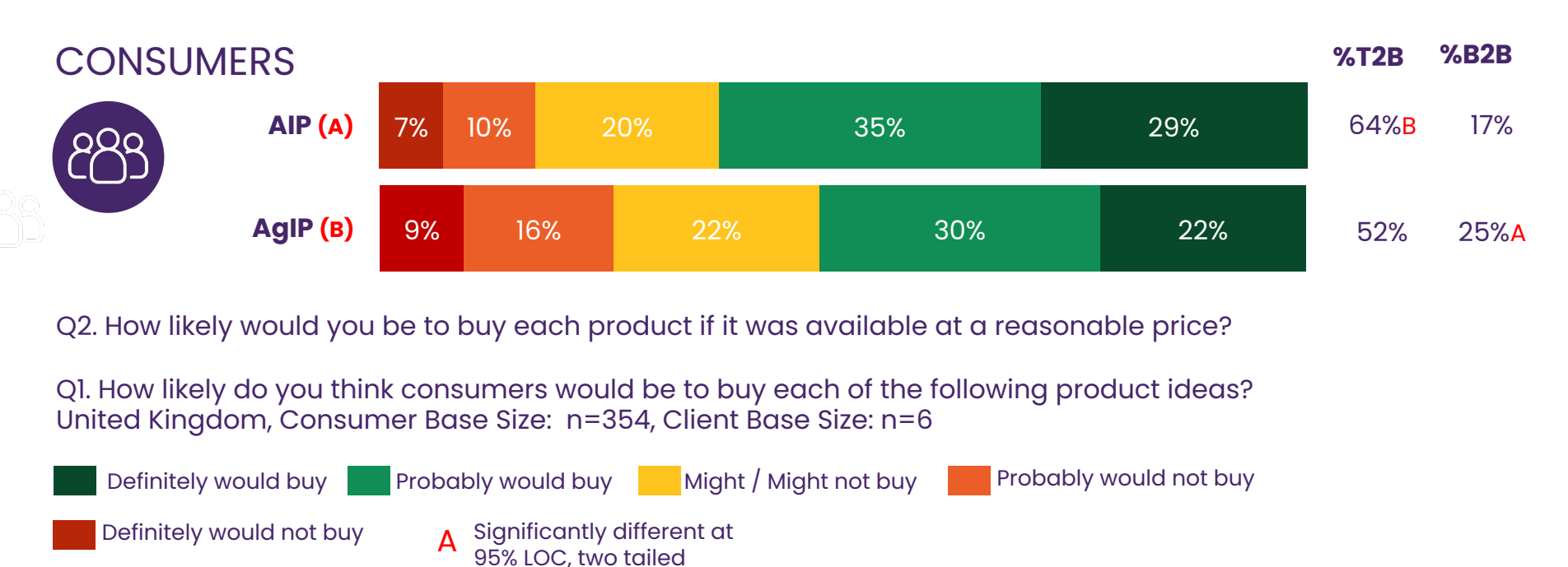
AIP (Current Tool) / AgIP (Enhanced Tool)

The novel nature of the flavours from the Agentic Ideation pipeline is likely to drive interest and curiosity among consumers. Ideas from both tools are appealing, and none were rejected, but the Agentic Ideation pipeline's outputs require greater cognitive effort to form an opinion.

CONSIDERED APPEAL / INSTANT APPEAL / CONSIDERED REJECTION / INSTANT REJECTION

Q1. On the next screen we will show you each product idea one at a time and would like you to simply use the right arrow on your keyboard if you find it appealing or use the left arrow if you don't. Consumer Base Size n = 354
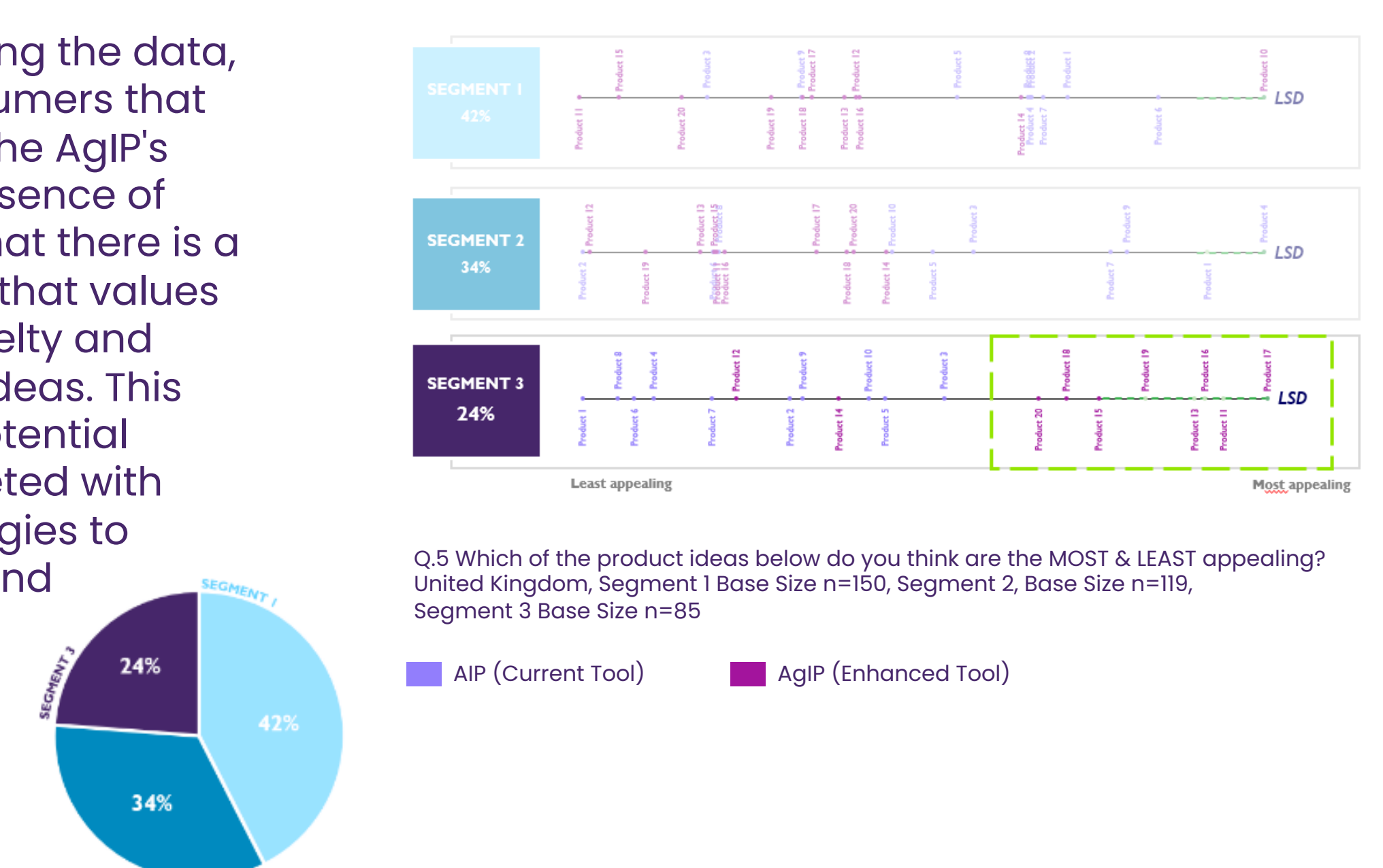
AIP (Current Tool) / AgIP (Enhanced Tool)
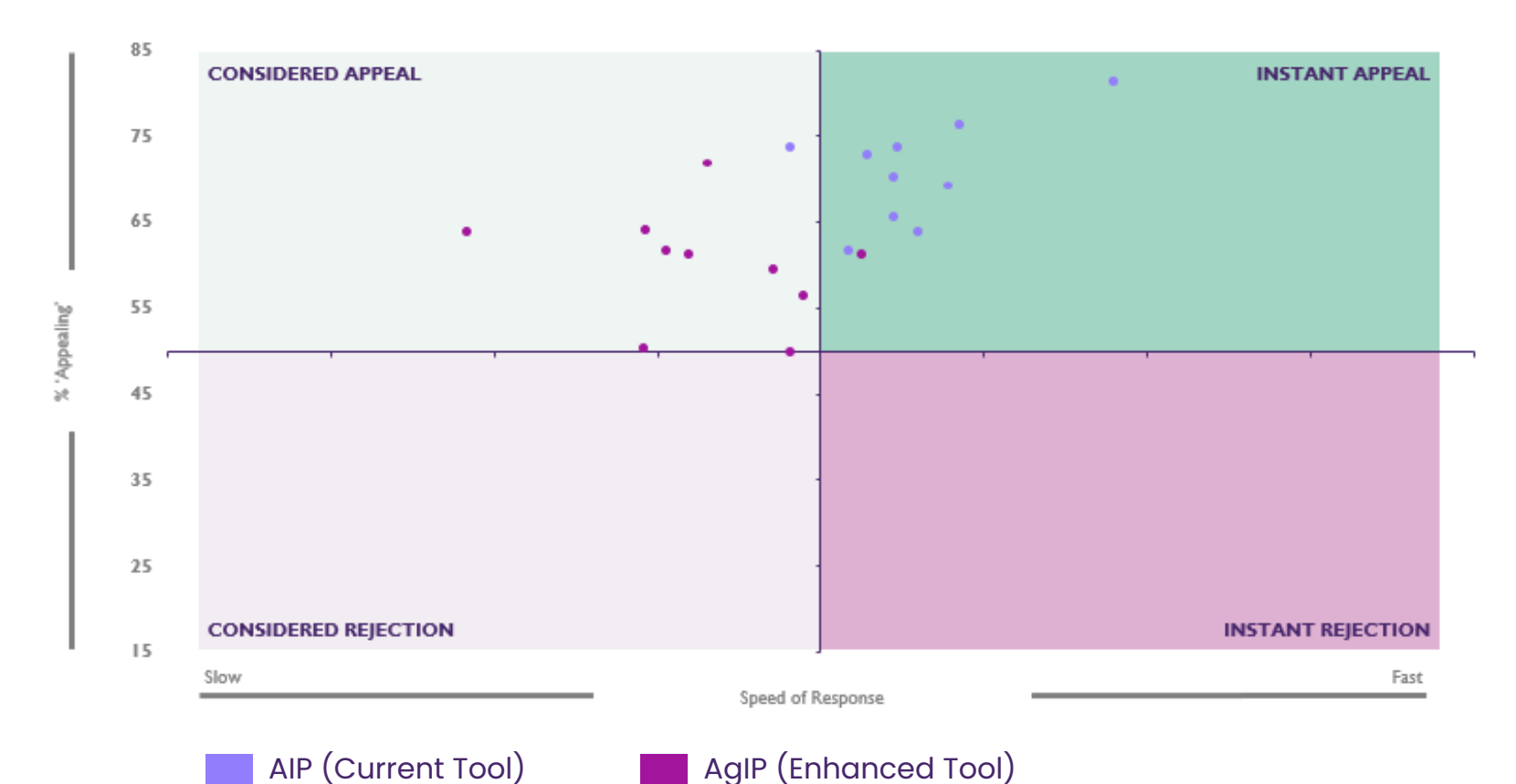
This increased cognitive effort required to form an opinion on the AgIP's ideas may limit their mass appeal to consumers.

CONSUMERS						%T2B	%B2B
AIP (A)	7%	10%	20%	35%	29%	64%B	17%
AgIP (B)	9%	16%	22%	30%	22%	52%	25%A

Q2. How likely would you be to buy each product if it was available at a reasonable price?

Q1. How likely do you think consumers would be to buy each of the following product ideas? United Kingdom, Consumer Base Size: n=354, Client Base Size n=6

Legend: Definitely would buy / Probably would buy / Might / Might not buy / Probably would not buy / Definitely would not buy

A Significantly different at 95% LOC, two tailed

However, upon segmenting the data, a sizeable group of consumers that show strong interest for the AgIP's ideas was found. The presence of this segment indicates that there is a specific target audience that values and appreciates the novelty and distinctiveness of these ideas. This segment represents a potential market that can be targeted with tailored marketing strategies to maximize engagement and adoption.

Q.5 Which of the product ideas below do you think are the MOST & LEAST appealing? United Kingdom, Segment 1 Base Size n=150, Segment 2, Base Size n=119, Segment 3 Base Size n=85

AIP (Current Tool) / AgIP (Enhanced Tool)

Q.5. Which of the products ideas below do think are the MOST and the LEAST appealing? United Kingdom Consumer Base Size n=354

CONCLUSION

The experiment demonstrates that AI personas can do more than just reflect consumer understanding; they can actively drive innovation. The Agentic Ideation pipeline offers a structured, iterative approach to generating ideas, leveraging both internal and external data sources to enhance novelty and diversity of outputs. The ideas from this pipeline are not only new and innovative but also resonate with specific market segments, helping to optimise the existing product range.

This approach unlocks richer, more varied insights that fuel the next wave of product and flavour development, keeping businesses ahead through informed creativity. It gives brands the ability to innovate in a way that is appropriate for them while giving them a competitive advantage and ability to differentiate and push the boundaries to move into new spaces.