

TECH OFFER

Ai-Powered Consumer Packaged Goods (Cpg) Product Innovation



KEY INFORMATION

TECHNOLOGY CATEGORY:

Foods - Ingredients

Foods - Processes

Infocomm - Artificial Intelligence

Infocomm - Big Data, Data Analytics, Data Mining & Data
Visualisation

TECHNOLOGY READINESS LEVEL (TRL): **TRL9**

COUNTRY: **SINGAPORE**

ID NUMBER: **TO174509**

OVERVIEW

For the food and beverage sector, the COVID-19 pandemic meant unexpected spikes and downward spirals in product demand and fulfillment as consumer sentiment and preferences changed quickly while the global supply chain struggled to meet demand.

Artificial-Intelligence (AI) and Natural Language Processing (NLP) can help to stay on top of such changing trends by ingesting large volumes of unstructured data procured from data sources like social media platforms, e-commerce platforms, product review and retail data to uncover hidden consumer insights.

This technology offer is an AI-enabled insight engine that is able to generate unbiased insights from a range of data sources - providing emerging trend analysis to the validation of a product concept from a market research perspective, thus helping to

improve the speed-to-market and the success rate of product launches. It helps market research teams to gain a comprehensive understanding of the drivers behind the trends for a given CPG category, including a prediction of its trajectory.

TECHNOLOGY FEATURES & SPECIFICATIONS

This technology utilises a multi-lingual AI engine that analyses data sources in their native language. The engine also incorporates image analysis to further augment the NLP capabilities of the engine.

The following are the key features of this technology:

- Specifically trained on F&B datasets (although not limited to), resulting in a higher accuracy compared to others
- Language agnostic - able to understand non-English languages without translating them to English e.g. Thai, Mandarin, Vietnamese, etc.
- Enables the discovery of ingredient pairing opportunities

Data is collected from multiple sources:

1. Social media
2. Search data
3. Delivery platforms
4. E-retail

POTENTIAL APPLICATIONS

This technology predicts the trajectory of ingredients and/or CPG products from a data-driven approach to determine if the trend is here to stay or is declining, and is able to validate the product concepts with data-centric metrics.

It has the following application areas and is not limited to F&B applications:

- Trends and insights - identifying opportunities for growth
- Flavour and Ingredient pairings - discovering nascent mixtures for first-mover advantage
- Enables CPG product development and innovation - uncovering potential new use-cases and usage times
- Concept validation - identify what product should be launched in the market

Creation of new products

Predict the emerging trends in a given category and identify white space opportunities

Existing product innovation

Identify new consumption/use-case opportunities and growth areas

Optimize product portfolio and support data-driven market positioning

Identify changing consumer behaviour to enable the re-positioning and promotion of existing products

Testing originality and relevance of new product concepts

Data-driven concept screening technology, designed to automatically screen and optimize new product concepts

UNIQUE VALUE PROPOSITION

- Discover trends and predict future growth trajectory
- Gain insights into a particular category, including rising or declining trend
- Understand the chances of success for a concept before going to market
- Helps spot consumer trends before they emerge and minimize guesswork during product conceptualisation by studying the consumer receptivity to a product and aids in making informed decisions during concept development and selection

The technology owner is looking to collaborate with F&B, Personal Care/Beauty and Fast Moving Consumer Goods (FMCG) product and consumer insight teams, research and development (R&D) teams to co-develop and test-bed new products/services.