



Text Analytics

A CPG leader mined text-based conversations to drive targeted marketing and improve product design

The Big Picture

Mouth pain and teeth sensitivity is an issue that affects up to two in five adults, yet it remains inadequately defined and addressed. Three in five people do not see a dentist during sensitivity pain. Many markets have seen a reduction in dental visits, while the rise of connectivity and social media has led to a rise in self-diagnosis, which has further obfuscated the issue.

A major CPG company wanted to use data available through social channels to better understand and address mouth pain and sensitivity with its products. Given the large volumes of social data available, such as social media data, product reviews, and consumer affairs information, the company wanted to assess if insights could be extracted for improving the market share of its “sensitivity” products.

While there are common “known” concepts related to sensitivity, the company wanted to go deeper by identifying non-trivial, on-the-fringe topics in the “sensitivity” product segment. This information could then be used to drive targeted marketing and enhance product design to improve its overall market share of the segment.

- This meant bringing together and analyzing multiple sources of data to identify
 - Language and context used by consumers, shoppers, and dental professionals, to identify potential opportunity leads
 - Terms most commonly used and in what context
 - Terms that are uncommon, yet non-trivially recurring, and in what context

Transformative Solution

To solve its challenges, the company profiled the “non-users” by text mining their conversations using social media data, product reviews, and internal consumer affairs data. The company filtered out micro-segments that could be persuaded to switch. This included identifying consumers’ associated conditions (such as whitening and gum recession) and product interests (such as product ingredients). Finally, the company reached out to micro-segments through targeted campaigns and used these insights to improve product design.

- A four-step approach was followed for extracting on-the-fringe topics from text data:
 - Text data was first extracted from different data sources. Consumer responses were gathered from product reviews data from e-commerce websites and the company’s internal consumer affairs data. For this project, the company ingested more than 100GB of data hosted on the company’s AWS system into Fractal’s dCrypt text analysis product. Over 250K consumer responses were used for the analysis.
 - Text was then run through dCrypt for text cleaning and preprocessing as well as extracting topics and keywords. dCrypt used state-of-the-art techniques for solving problems, such as topic modeling, key phrase extraction, and sentiment analysis. dCrypt worked on identifying and extracting key topics and the associated context in which terms were used.
 - Topics were scored on a number of dimensions, such as relevance, influence, and statistical/NLP measures, in order to identify “fringe” topics.
 - The top fringe topics were further validated using scientific and expert sources and assessed for impact. The data was analyzed to identify trends and patterns across different segments.

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The Change

By deploying dCrypt, the framework helped the company uncover more than ten different fringe topics, each of which has the potential to significantly affect its product market share. The company is using these fringe topics to identify and drive improvements in product design and marketing.

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