



Spotfire Bakes and Brews Nutritional Reviews for Unilever

Spotfire DecisionSite® helps assess nutritional content of global food and beverage portfolio

Business Profile

Unilever is one of the world's largest consumer products companies, producing 400 brands spanning 14 categories of well-known foods and beverages, personal care products, and home care products in 150 countries.

Application Profile

Spotfire DecisionSite helps Unilever's Nutrition Enhancement Program with the nutritional analyses of the company's food products. The analyses will have a major impact on product formulation and packaging.



Challenges

- To score and review the nutritional content of all Unilever food and beverage brands
- To analyze, easily and quickly, data merged from nearly 300 brand databases
- To identify nutritional strengths of products as well as areas for nutritional improvement

Solutions

- Spotfire DecisionSite imports volumes of nutritional data from a customized Nutrition Score Tool
- DecisionSite flexibly imports preprogrammed visualizations that help users to analyze nutritional ingredients, and exports new data back to brand databases
- DecisionSite users easily, interactively, and independently investigate nutrition scores of products across brands, countries, and time
- Through the Favorite Selections feature, complex queries are stored for quick future reporting

Results

- DecisionSite helps Unilever monitor the complete food product portfolio for nutritional enhancements in existing and new products
- Unilever has already assessed over 17,000 products for nutritional content
- Product management has reformulated brands, such as Hellmann's, Knorr, and Lipton Iced Tea, for reduction of sodium, trans fat, saturated fat, and sugars

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– Frans van der Sman
Data Manager
Unilever Research
Institute

Selling 42 billion dollars worth of consumer products a year that range from soups to fragrances to bathroom bleach, Unilever has articulated a Vitality Mission: "to offer consumers options that help them feel good, look good, and get more out of life." The company's 400 brands of food, personal care, and home care products, sold in 150 countries, deliver benefits in terms of nutrition, beauty, and hygiene.

The link between vitality and nutrition is clear. Unilever foods and beverages fuel its customers, who consume the company's ice cream, tea, salad dressings, peanut butter, soups, stews, cooking salt, sauces, margarines, and cheese. Consumers in rich nations and poor variously rely on Unilever products to help prepare meals quickly, inexpensively, nutritiously, deliciously, and with minimum amounts of sugar, salt, saturated fat, and trans fat.

Challenges

Consumers don't want to make compromises. They want affordable, convenient, tasty, and healthy options. Unilever has been sensitive to consumer health for years.

In the 1990s, the company was the first to reduce trans-fatty acids in its spreads. Trans fat, which is found in partially hydrogenated vegetable oils, increases the risk of heart disease with a double-whammy: it raises levels of "bad" cholesterol (LDL), while it decreases "good" cholesterol (HDL).

Trans fat is not the only consumer-health issue. Saturated fat threatens cardiovascular health. Salt exacerbates high blood pressure. Sugar contributes to dental disease and obesity. Furthermore, on-pack labeling often confuses consumers. Health-conscious shoppers must analyze Guideline Daily Amounts and nutrient lists on food labels, and then factor such label information into whatever dietary guidelines they follow in pursuit of a healthy, balanced diet.

To help make the healthy choice the easy choice, Unilever launched its Nutrition Enhancement Program. The program is driving improvements in both the nutritional composition of Unilever products and the company's communication about them.

"The Nutrition Enhancement Program," explained Itske Zijp, the program's Technical Project Leader, "lays the foundation for the Vitality Mission. The program is improving the nutritional quality of our foods and beverages."

Researchers at Unilever's Vlaardingen facility in the Netherlands, near Rotterdam, were charged in late 2003 with reviewing the composition of all Unilever product formulations for their levels of trans fat, saturated fat, sodium, and sugars. Unilever chose those nutrients based on recent scientific evidence, such as the 2003 report on Diet, Nutrition, and the Prevention of Chronic Diseases, issued jointly by the World Health Organization and the UN Food and Agriculture Organization. The company perceived the need to translate popular dietary guidelines into specific product criteria.

But assessing Unilever products wasn't easy. First, there are many databases and a huge amount of data to consolidate and analyze. A total of 17,000 product recipes are strategically divided into 300 dynamic databases, which are regularly updated.

Second, Unilever had to create its own nutritional benchmarks. Dietary guidelines exist, and vary, from region to region. But Unilever needed a nutritional standard against which to measure each of its retail and food service products.

Third, the company wanted an analytical solution that could be modified easily as business requires. Product introductions or reformulations in the Unilever global food and beverage portfolio occur frequently. Products include both foods distributed through retail channels to consumers, and foods distributed through food service channels to institutions, like restaurants.

Solutions

Among the roughly 1,500 employees working at Vlaardingen, data managers, like Frans van der Sman, are accustomed to analytical challenges. With a laboratory and an IT background, Van der Sman had been managing Unilever laboratory test data involved in cell-based screening, whereby substances are assessed according to the effects they have on living cells. Van der Sman was regularly using interactive, visual analysis software, called DecisionSite from Spotfire, on these tests, when he was tapped to work on the Nutrition Enhancement Program.

Van der Sman was charged with two tasks: developing a Nutrition Score Tool, and helping research and marketing departments to analyze product nutrition scores and product labels. By the time Van der Sman finished designing the scoring tool, he had a good idea of just how voluminous the concatenated score data would be for the company's brands.

"I knew right away that DecisionSite was powerful enough to handle the size of the consolidated database," Van der Sman said. "I also knew it would be flexible enough to accept our custom-made visualizations, and to export back to our product databases information – calculations or reports – generated in DecisionSite."

The Nutrition Score Tool creates 70 columns of information, 28 of which are exported to DecisionSite. Each of those 28 fields becomes

a query device in DecisionSite, such as product name, country, brand, sugar, and trans-fatty acids.

Nutritional data, like the percentage of sodium per 100 grams of product, is color-coded to indicate varying densities of nutrients. New columns of data in DecisionSite speed the selection of products by grouping them into categories, such as Beverages or Soups, or into areas, such as Regions and Local Countries.

DecisionSite also helps users to view label information across brands, and to compare brand labels of products with similar content. Users tracking particular ingredients, products, or regions over time use the Favorite Selections feature of DecisionSite to store complex queries, which can be subsequently reconstructed with a mouse click for quick reporting.

"With DecisionSite, our users easily create on-demand analyses, no matter the complexity of the query," Van der Sman said. "And the Favorite Selections feature makes reporting extremely convenient."

By scrutinizing the properties of the entire food portfolio, Unilever researchers are finding opportunities. For instance, foods with high test scores can be marketed to promote their healthiness.

"DecisionSite is helping us analyze and optimize our product portfolio," explained Zijp.

Results

Aided by Nutritional Scores and DecisionSite, Unilever is orchestrating major product changes. Take, for example, the UK Birds Eye frozen food brand. It is switching from palm oil-based frying oil – containing 47.5 percent saturated fat – to sunflower oil – containing just 12 percent saturated fat. Sodium levels across Unilever European soup brands will fall by 10 percent. In Australia and New Zealand, more than 130 savory and meal products will lose an average of 25 percent of their sodium content. Sugar in ketchups will be reduced by 10 percent.

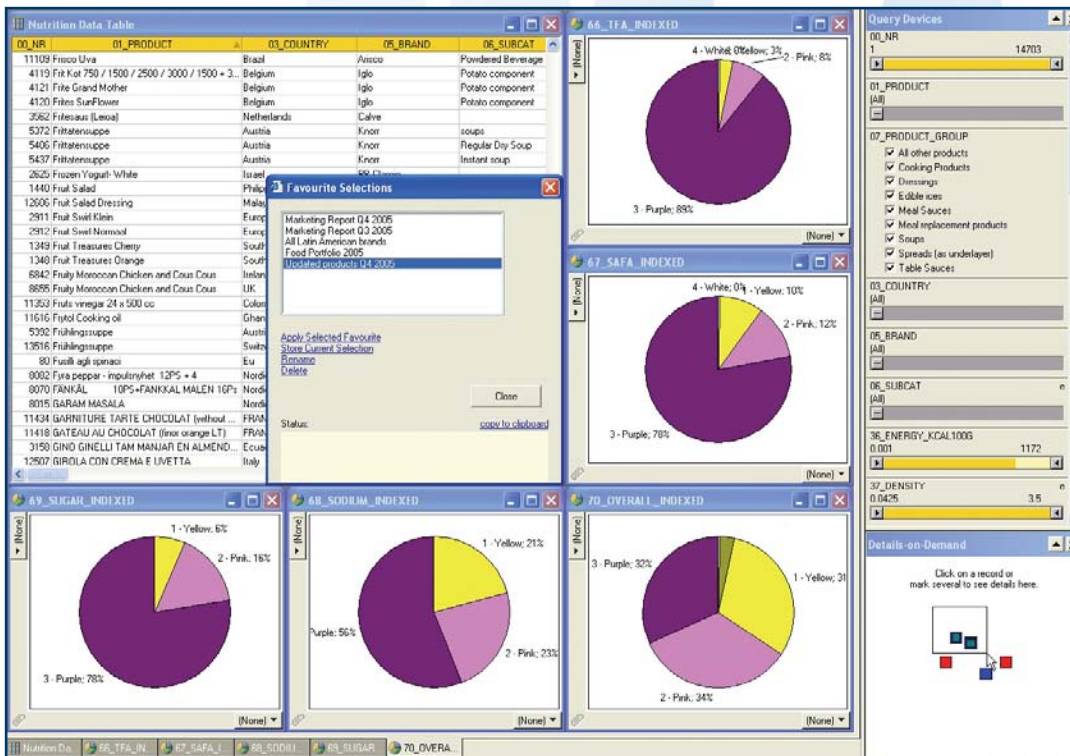


Figure 1: DecisionSite displays color-coded analyses of sugar, sodium, trans fats (tfa) and saturated fats (safo) for Unilever products from different regions. Every possible selection can easily be stored using the Favorite Selections tool.

It all adds up. In the next two years, Unilever product management and marketing estimate that reformulations will eliminate thousands of tons of trans and saturated fats, sodium, and sugars from the product portfolio.

“DecisionSite helps us compare our food and beverage product ingredients over time so that we can track and document a brand’s nutritional progress,” Zijp said. She added that DecisionSite’s visualizations will also guide future product content.

And the future will be busy. The Vitality Mission encompasses efforts to improve not only the nutritional content of Unilever products, but also their taste. The company wants its consumers to have great food experiences.

“The Vitality Mission involves many efforts, ranging from the way Unilever catches its fish through the Fish Sustainability Initiative, to the way we make delicious ice cream, to the way we educate children about the value of micronutrients,” Zijp explained. “DecisionSite has been key to the program’s product review and to our goal of increased vitality for our consumers worldwide.”

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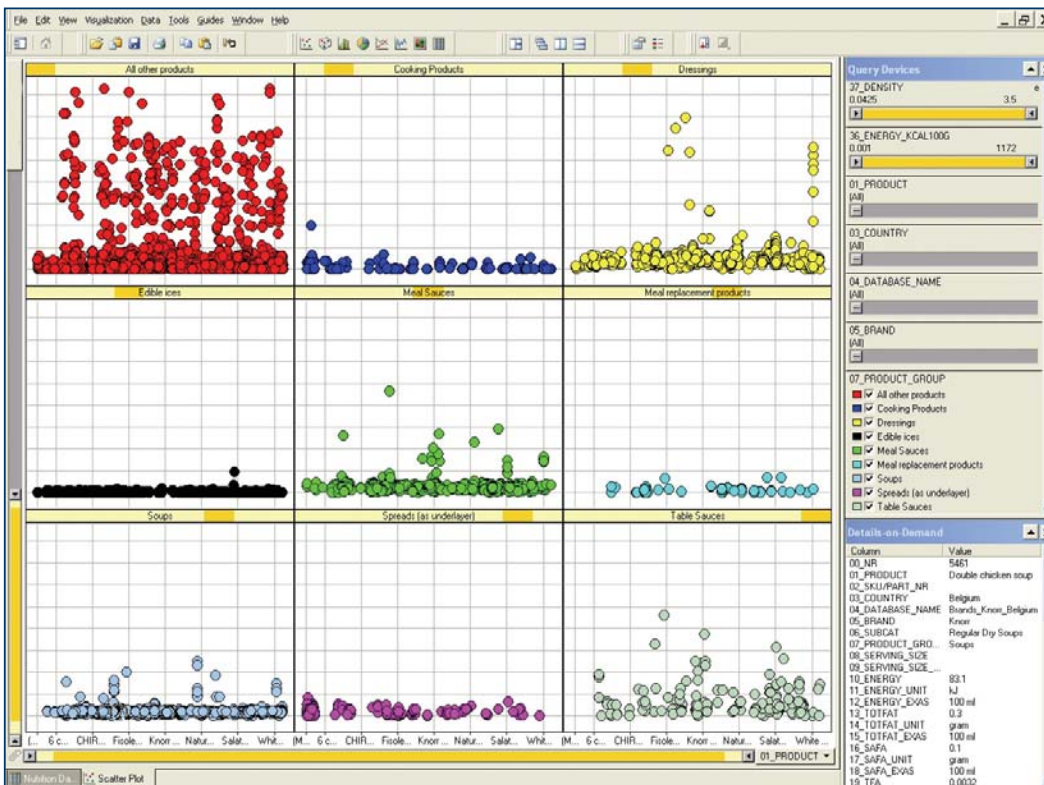


Figure 2: Visualization of a typical nutrient within a selection of available Product Groups.

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