Database Analytics: Developing Strategic Value From a Consumer Affairs Database

Category: *Food Product Manufacturer*

Methods: *Database Analytics, Geospatial Analysis, Data Cleaning, Customer Loyalty, Customer Satisfaction*

Summary

A major international manufacturer of a food product sold in grocery stores had a database of consumer contacts going back several years that consisted of several million records.

The Consumer Affairs department believed the database was underutilized as merely a tactical resource for dealing with consumer complaints and inquiries. The department wanted to develop the strategic value of the database and also wanted to improve methods used to deal with consumer inquiries and potential problems.

Using sophisticated data cleaning and exploratory methods, geospatial analysis, and standard market research analysis methods, Decision Analyst was able to illuminate patterns in the data that impacted product development, product testing, and target marketing.

In addition, Decision Analyst was able to develop a metric with trigger points to aid in spotting and responding more quickly to developing issues.

Strategic Issues

Sales strategy, new product development, packaging, and distribution, within consumer packaged-goods companies are dominated by marketing departments. However, our client's forward-looking Consumer Affairs department, with its wealth of data on consumer behavior and attitudes toward the company's products, believed that its databases could, and should, have value beyond the handling of consumer complaints and inquiries, even to the extent of influencing company direction and new product development—if used more intelligently.

The Consumer Affairs department also wanted to raise its profile by turning an underutilized resource into a valuable, essential component of the company's strategic planning.

Additionally, the department wanted to find the key drivers behind satisfaction with customer relations, products, and company loyalty.

Research Objectives

Major objectives of the analysis were:

- To discover ways in which data gathered by the Consumer Affairs department could be used to form tactics and strategy for the company as a whole.

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- To construct a metric to better track the level of complaints, inquiries, and praise contacts, and compute values for trigger points that would signal a need for closer examination and possible initiation of action steps in response to developing issues.
- To analyze key drivers of loyalty and satisfaction (both for the products and for how complaints, inquiries, or praise contacts were handled by the call center).
- To explore and analyze complaint rates by geography and mine any usable insights.

Research Design and Methods

The data consisted of two sets. The first and largest set comprised about three million records, gathered over a period of several years, of consumer-initiated contacts to the Consumer Affairs department. Contacts included complaints about product quality or experience with the products, inquiries about various aspects of product components or safety, and praise for products or for the quality of experience with the products. The second data set consisted of three years of results from a yearly survey of a random sample of contacts from the larger data set.

The analysis progressed in five main stages:

- Data processing, quality evaluation, and hygiene
- Exploratory data analysis
- Threshold analysis in the transactional data set
- Key driver analysis of satisfaction and loyalty in the survey data set
- Geospatial (GIS) analysis of the transactional data set

Results

A metric was constructed that would act in near real-time as a reliable early-warning system to alert the Consumer Affairs department when an issue was developing with any of its products. The metric was designed to be implemented separately for complaints, informational inquiries, and praise, to allow the manufacturer time to craft the appropriate responses before the issues became national in scope. The metric was designed to signal three levels of urgency, ranging from "there is a potential issue" to "this needs attention by top management now!"

Key drivers of consumer loyalty and satisfaction (with the manufacturer and its products, and with the Consumer Affairs department) proved to differ among business units and product type, as well as contact type, allowing the manufacturer to adopt a more varied approach to handling consumer contacts.

Geospatial analysis of consumer complaint rates elicited prime opportunities both for target marketing to a certain demographic segment and for development of a new line of products for the segment.

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