Interactions Marketing digs into storm data to analyze consumer behavior using Google BigQuery

About Interactions Marketing

Founded in 1988, Interactions provides in-store product demonstrations and outdoor experience marketing programs for retailers and brands worldwide. With over 45,000 associates, the San Diego-based company creates and executes more than 2 million events every year and manages 5,500 events each day.

To learn more, visit
www.interactionsmarketing.com

At a Glance

Google BigQuery Results

- 1.3 billion rows of data analyzed
- POS and NOAA data
- 28 product categories ID'ed with sales significant increases
- New insight into consumer behavior patters during bad weather

Data from a snowstorm

Interactions Marketing wanted to explore how it could deliver better, high-level data analytics, such as sales patterns and shopper behavior, that might help retailer and manufacturing clients plan ahead. After considering various solutions, the company focused on Google BigQuery. With previous exposure to transactional and loyalty-card data, Interactions was able to use BigQuery in a study that provided new insights into consumers' behavior during snowstorms by combining point-of-sale (POS) and government meteorological data.

On-demand, scalable resource

"Analytics is the foundation of how we assist retailers and manufacturers in remaining relevant," says Giovanni DeMeo, Interactions vice president of global marketing and analytics. "BigQuery was a newer platform, and the opportunity to do an experimental test with it was very exciting. We wanted to see what we could do with the data."

"Every time you add a new data source to your analysis, there's a huge capital investment, and it can take a long time to build the traditional infrastructure," says Abhi Beniwal, Interactions senior vice president of global information technology. "By using Google BigQuery, you can work with a different kind of timeline, cost and capital investment, resulting in significant cost and time savings."

BigQuery lets all kinds of businesses gain real-time insights from massive amounts of data. It's a pay-per-use service, without the large licensing or support fees typically required by enterprise data warehouses. All data is stored in the cloud, which reduces IT involvement. "We are always looking for ways to maximize return and minimize investment," DeMeo says. "BigQuery is the perfect combination. It's an on-demand, scalable resource."

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Millions of rows of data

Interactions worked closely with Google and software company Tableau while conducting its weather-related shopping project. BigQuery combined with Tableau data-visualization software let the marketing company interactively explore 1.3 billion rows of data, which it received from retailers and the National Oceanic and Atmospheric Administration (NOAA).

About Google BigQuery

Google BigQuery lets businesses and developers gain real-time business insights from massive amounts of data without any up-front hardware or software investments. Accessible via a simple interface, Google BigQuery lets you take advantage of Google's massive computing power, store as much data as needed, and pay only for what you use. Data is protected with multiple layers of security, replicated across multiple data centers, and can be easily exported.

To learn more about Google BigQuery, visit **http://cloud.google.com/bigquery**

"A similar analysis would have been impossible with traditional methods," says Markus Dmytrzak, Interactions research and analytics specialist. "Before, every time we set up a business objective, we needed to extract the data, a task that the IT team performed. With BigQuery, we needed to upload the data only once into the cloud. We connect to it, and can create and destroy data sets. It really empowers a business user."

Shoppers' patterns revealed

Interactions launched its weather-data project in the winter of 2012–2013. The company focused on identifying similar storms, classifying them by severity, and measuring their effects on sales before, during, and after their peaks. Using BigQuery and Tableau, the company tracked patterns in sales and shopper behavior.

Using a creative and flexible hybrid architecture, Interactions branched data from the underlying Operational Database Systems into BigQuery through an automated extract, transform, load (ETL) process. Weather data was merged with POS data as part of the ETL process. This provided an up-to-date sandbox for analytics projects, with no disruption to daily operations. Connecting Tableau to BigQuery let analysts conduct "create and destroy" analytics, and iterate without burdening IT with constant extraction or query requests.

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—Markus Dmytrzak, research and analytics specialist, Interactions Marketing

A 'new book' in every query

Interactions determined, for instance, exactly which stocked items saw the sharpest rise or decline in sales, and how shoppers' behavior varied during similar storms. From millions of lines of data, the company identified 28 product categories with significant increases. Sales in these categories rose from 20 to 261 percent one day before similar storms (including a spike in alcohol sales). Sales then dropped at the storm's peak and for four days afterward. Interactions saw similar changes in areas where storms were predicted but didn't actually happen.

"There are so many things that we do not know until we ask and the data provides the insight," DeMeo explains. "That is part of the excitement. It's like opening up a new book every time we run a query." In other ways, DeMeo adds, BigQuery more resembles a faucet. "We turn it on and off as we need it. That is incredibly valuable, almost immeasurable. This was not available to us through any other resource that had the capability to provide the same speed with the same quantities of data."

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