White Paper

Case Study: A Not So Super Day — Television Returns and the Big Game

It’s a long-held belief that television returns on and around the Super Bowl® are greatly increased compared to the rest of the year. This increase, we assume, exists because of the many unscrupulous individuals who buy a TV, watch the Super Bowl, and then return the TV later for a full refund. The data scientists at The Retail Equation decided to investigate this hypothesis using data from the last three Super Bowls and our vast database of more than 20 billion retail transactions collected from more than 27,000 store locations.

TV Sales Trends Are as Expected

We begin by first looking at the sales of TVs in and around the Super Bowl. The chart at right shows the sales dollars in the days leading up to the Super Bowl from the last 3 years. Data was limited to TVs that cost $1,000 or more.

In each of the last three years, the day before the Super Bowl has the highest sales in the four weeks leading up to and one week after the Super Bowl. This chart also shows a similar peak on all Saturdays leading up to the Super Bowl, with the Saturday just prior to the Super Bowl being the highest of the peaks. These findings aren’t too surprising since people tend to have more time to shop on the weekends, and if you are going to buy a new TV, why not buy it the day before the big game?

TV Returns Are Similar, Yet More Volatile

Since there are many sales in this time period, we would also expect the returns to follow a similar pattern. Generally, there are a certain percentage of sales that will always get returned, so the returns are simply a relatively constant fraction of the sales. The chart at right shows that the returns follow a similar, yet more volatile, pattern as the returns. While the pattern is not as pronounced as the sales chart, there is a clear peak just before the Super Bowl on
Saturday, and there are peaks on the Saturdays the week before and after the Super Bowl as well. Several of the other Saturdays have less pronounced peaks in some years.

Now that we have established that there is a clear increase in Sales and Returns in the days leading up to the Super Bowl, we dig a little deeper to determine if there is an increase in suspicious activity.

**TV Return Fraud Attempts Are Visible and Concentrated into Two Time Windows**

Since return fraud is estimated to be 6.2% of all returns (2014 *Consumer Returns in the Retail Industry* survey by the National Retail Federation and The Retail Equation), even a 10 percent increase in fraud activity may be hard to identify in a chart that includes all sales and returns of a particular product. In order to see if there is an increase in suspicious activity, we looked at the percentage of customers returning TVs that were warned or declined on a return involving a TV on and around the Super Bowl by TRE’s Verify® system. Since this system is only looking at suspicious behavior, an increase in fraudulent and abusive behavior will be more evident.

The chart above shows the average authorization rates on TVs from 2013 to 2015 throughout the calendar year. While there is fluctuation throughout the year, there are two periods where there is a marked downward shift in the authorization rate, indicating increasing denial and warning rates of TV returns. The first peak is seen about 1 month after the beginning of the NFL season in late September, and the second peak in denial rates is seen the week prior to the Super Bowl and for the few weeks following.

The two identified peaks in TV return denials suggest that the Super Bowl, and perhaps much of the early football season, exhibits the presumed correlation to TV “renting” behavior.

—Dr. David Speights, Chief Data Scientist, The Retail Equation

The Retail Equation, Inc.
specializes in retail transaction optimization solutions, using statistical modeling and analytics to predict consumer behavior.