CASE STUDY-3

The consumer electronics industry is quite competitive. Due to the competition, the profit margins of consumer electronics retailers are typically low. The low profit margins arise due to several factors. First, the industry is very dynamic. With the advanced technology, the lifetime of any product is very short as the new generation of any product is likely to enter the market every 1-2 years. Therefore, charging for premiums for a product that is likely to be outdated within 1-2 years is not perceived positively by consumers. Second, with the unlimited access to the internet any time, customers are able to compare prices across retailers before or during shopping. Therefore, even a small change to the average price is a justification for many customers to switch to another retailer. Lastly, the manufacturers have developed their direct sales channel. With these channels, consumers can directly purchase from a manufacturer rather than from a retailer who typically charges more than the manufacturer due to the operational expenses to move products in the supply chain from manufacturers to the retailers.

The top management of Best Buy has recently discusses potential strategies to survive in this competitive industry. One strategy is to sell customers “bundled products”. A bundled product can be considered a complimentary product to a main product that a customer purchases. For instance, selling a cell phone case to an IPhone buyer would represent selling a bundled product.

The top management of Best Buy particularly focuses on warranty sales (i.e. the Geek Squad protection plan purchased along with a product). Consequently, they requested the VP of Marketing to develop a strategy to increase the warranty sales. Compared to other tangible bundled products, warranties offer substantial profit for Best Buy since the failure probability of consumer electronics is very low due to the advanced technology. The Geek Squad protection plan aims to insure customers after the manufacturer’s warranty expires. For most product categories, the manufacturer’s warranty is at most 1 year. Yet, for home appliances (e.g. refrigerator, dishwasher, etc.), the manufacturer’s warranty can be as high as 10 years depending on the level of technology used in the product.

The VP of Marketing wants to develop a targeted advertisement strategy on consumers who have a high propensity to buy the Geek Squad protection plan. However, the company does not have any information about those consumers. As the Business Analyst reporting to the VP of Marketing, you are asked to conduct an analysis to identify customers who have a high propensity to purchase the protection plan. You are also expected to make a data-driven proposal for the potential marketing strategy.

An ideal proposal would include the summary of the data (with some visuals of important variables) used for the analysis, the results of the analysis, the interpretation of the results, the implication for the targeted marketing strategy. Limitations of the analysis and certain suggestions (e.g. variables that would be useful to increase the quality and reliability of the analysis) should also be communicated in the proposal to make a conservative

conclusion. It is important to be ready for potential questions to increase confidence in your analysis.

The VP of Marketing asked you to collect data only from Santa Clara Best Buy stores. The dataset, named "BestBuy.csv" includes 3,206 transactions made in March 2017. The variables in the dataset include the following:

$Warranty_i =$ 1 if customer i purchased a Geek Squad protection plan along with the product and 0 otherwise

$PriceCategory_i =$ categorical variable between 0 and 17 that defines the value of the purchased product. For instance, 0 indicates all purchases with a price less than $10, 1 indicates all purchases with a price between $10 and $50 and so on. **Use this variable as a continuous variable.**

$productgeneration_i =$ indicates the generation of a product within its product domain. A high number indicates a new generation.

$newcustomer_i =$ 1 if customer i is a new customer and 0 if an existing customer

$MyBestBuy_i =$ 1 if customer i has MyBestBuy (i.e. company) credit card and 0 otherwise

$weekend_i =$ 1 if customer i purchases on a weekend and 0 otherwise

$appliances_i =$ 1 if customer i purchased a product from the "home appliances" category and 0 otherwise

$Age_i =$ The age of customer i

$Married_i =$ 1 if customer i is married and 0 otherwise

$HHIncome_i =$ Household income of customer i (in $K)

$hisp_i =$ 1 if customer i is Hispanic and 0 otherwise

$familysize_i =$ number of customer i's family members