Winning Hearts and Minds
Using Analytics to Build Customer Relationships and Drive Results

## About Sobeys

Sobeys Inc. is Canada's second largest grocer. It operates over 1,500 stores and over 350 fuel stations across Canada. It was founded over a century ago in 1907 by John W. Sobey as a meat delivery business in Stellarton, Nova Scotia. It expanded into a full grocery business by 1924, led by John's son, Frank. Since then, Sobeys has expanded into all 10 Canadian provinces and operates under 11 different banners. Sobeys has accumulated sales of more than $25.1 billion (CAD) in their fiscal 2019 operating year.
(Source: https://en.wikipedia.org/wiki/Sobeys)
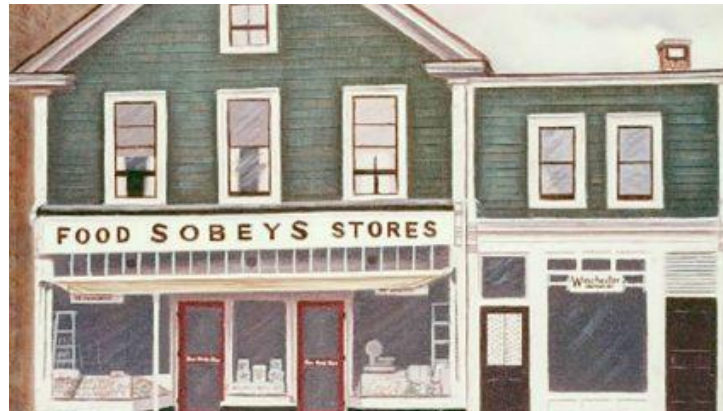
The first Sobeys store
Source: https://www.sobeys.com/en/promotions/timeline/

Across the country
Choose a region or a banner to learn more

Total stores	**1547***
Total sq. footage	**39** million
Communities served	**928**

Source: https://corporate.sobeys.com/at-a-glance/

Sobeys and Air Miles

Sobeys has a partnership with Canada's most recognized coalition loyalty program, Air Miles. Customers can earn points for shopping at any of Air Miles' 100+ partners. They can choose to earn Cash Miles and redeem for in-store discounts or earn Dream Miles to redeem for items like travel, merchandise and in person experiences. Sobeys has a variety of Air Miles promotions featured in store, in flyer and in their app to promote products, increase basket spend and/or

increase transaction frequency. They use the Air Miles currency along with their discount offers to increase customer engagement by providing customers with more value for shopping at Sobeys.

Sobeys Air Miles flyers and coupons
Source (L): https://www.shopping-canada.com/flyers/sobeys/sobeys-west-from-august-2-to-august-8-2018
Source (R): https://smartcanucks.ca/sobeys-ontario-maximize-your-shop-the-block-coupons-this-week/

The Goal

Sobeys is proudly Canadian, operating in one of the most geographically and ethnically diverse countries in the world. How can they make sure that they're providing the right products to the right customers in the right place? How can they get to know their millions of customers on a one-to-one basis and provide each of them with a personalized experience? Ultimately, Sobeys wants to create stronger brand loyalty and drive results using customer insights.

The Solution

Using SKU level transaction data and customer identification data provided through an Air Miles ID number or email on Sobeys' MyOffers app, Sobeys has the ability to know who the customer is at checkout and what they bought. They can then use the customer's historical transaction data to provide unique digital experiences and personalized offers to the customer next time they are shopping in store or online for their groceries.

The analytics strategy recommended for Sobeys has three parts:

1. Creating Segmentation
2. Predicting Response
3. Testing Offers

The transaction data collected will come from the POS systems at each store and should be updated on a daily basis. The Sobeys weekly flyer runs from Thursday to Wednesday so the models should refresh on the Wednesday before the flyer running on the Thursday.

(Note – I know this isn't a realistic assumption because there is lead time required to print and distribute flyers, but let's assume this for simplicity's sake.)

Creating Segmentation

Sobeys operates in four main regions in Canada: Western Canada, Ontario, Quebec and Atlantic Canada. Customers shopping at a Sobeys in the Atlantic region will likely have different preferences and purchasing behaviors compared to a Sobeys customer shopping in Ontario. It is recommended that a segmentation is built for each region so that the regional nuances are accounted for.

Given	Customer ID – Air Miles Customer ID or Sobeys MyOffers email address Transaction Data – products purchased, units purchased, category of product, price, coupons or discounts used, transaction time of day, transaction day of week, store details Demographic Data – collected through profiles completed by the customers in the Air Miles program and/or their MySobeys account. Includes data like household size, household income, age, address
Use	K-means Clustering
To	Identify groups of customers with similar purchasing behaviors and attributes

Once the clusters are created, investigation can be done to determine what common purchasing behaviors and demographic attributes the cluster shares and use them to tailor their marketing messages.

Examples

- In Ontario, there is a cluster that is young (ages 30 and below) that don't live near the Sobeys they frequently shop at and will usually purchase on the weekdays at lunch time or after 5 pm. They don't purchase heavy or big products like cases of water or packs of

toilet paper or products that spoil easily like meat or dairy. Their most frequently purchased items are snacks and prepackaged meals.

    ⇒ Sobeys can deduce that this cluster most likely consists of commuters that probably work near a Sobeys and come in on their lunch break or after work to pick something up

    ⇒ They can tailor the creative and messaging in this cluster's communications to highlight how convenient, quick and easy it is to shop at Sobeys using their express lines

- A few clusters in the Atlantic region spend 50% or more than other regions on local, Canadian grown products

    ⇒ The stores that these clusters shop in could put up more in store signage that highlight Canadian brands

    ⇒ Product offers could be sent to customers who shop at the same stores but don't currently shop Canadian brands, incentivizing them to try the brands

Predicting Response

Sobeys has a variety of offers and promotions available in store, in flyer and in app available to their customers at all times, giving customers hundreds of different offers to choose from on a weekly basis.

Given	Customer ID – Air Miles Customer ID or Sobeys MyOffers email address Transaction Data – products purchased, units purchased, product lifecycle, product shelf life, category of product, price, coupons or discounts used, transaction time of day, transaction day of week, store details Promo Week Offer Details – type of offer (bonus miles or discount), magnitude of offer (% off, number of bonus miles), promo price
Use	Logistic Regression
To	Determine the probability that a customer will respond an offer in the upcoming flyer week

After calculating the probability scores of every offer available in the upcoming flyer week for each customer, Sobeys can create customized flyers in the MyOffers app where offers with the highest probability are featured first. This will not only create a personalized experience for the customer but could also drive sales.

Testing Offers

Response rates can be easily predicted for existing offers using logistic regression at the individual level and cluster level. But what if there is a better offer construct that can drive more even more sales than the existing offer?

Given	Customer ID – Air Miles Customer ID or Sobeys MyOffers email address

	Transaction Data – products purchased, units purchased, product lifecycle, product shelf life, category of product, price, coupons or discounts used, transaction time of day, transaction day of week, store details
	Offer Details – type of offer (bonus miles or discount), magnitude of offer (% off, number of bonus miles), promo price
	Offer Response Rates – from the logistic regression model, used as the baseline comparison
	Regional Clusters (Optional) – from the segmentation model if testing is to be done with each cluster and not at individual level (this is for Sobeys to decide based on their budget and KPIs)
Use	Multi Armed Bandit
To	Test different offer constructs and determine the right product, right promotion (discount and/or Air Miles), for the right customer at the right time

Sobeys can use the exploration phase of the model to test different iterations of an offer. Then as response data comes in from the transaction data, the model can start to form exploitation groups of customers or clusters so that whichever KPI they're wanting to drive right now – sales, transactions, units, etc. – will be maximized while still giving the customer with a unique and personalized experience.

Summary

Through data and analytics, Sobeys is able to get to know their customers better using segmentation, provide a personalized experience using logistic regression and is continuously creating value for the customer while driving their KPIs using the Multi Armed Bandit. By leveraging this new technology and more sophisticated analytics to keep their customers at the forefront of their strategy, Sobeys is sure to win the hearts and minds of their customers for centuries to come.