

CASE STUDY: Optimizing Targeted Marketing through Customer Segmentation

Objective:

Strategically, our customer was looking for ways to increase sales using existing customers.

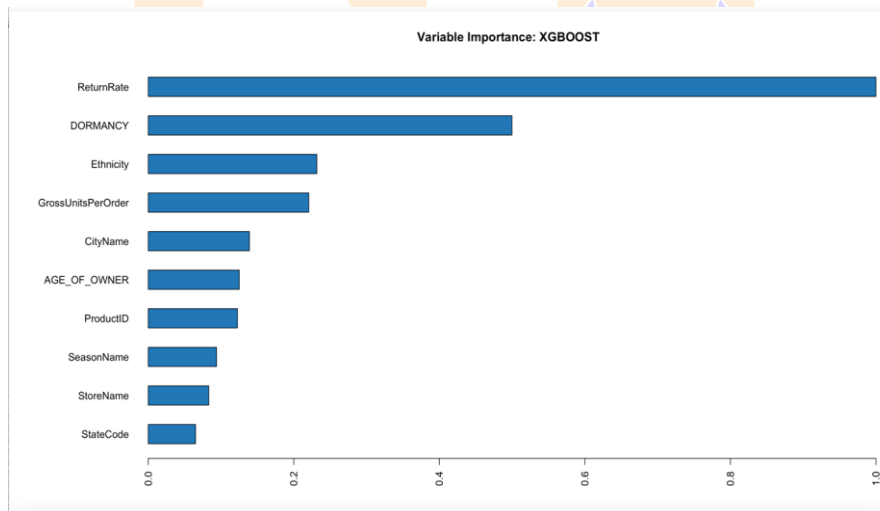
The main objective of this analytics was to understand who are the frequent buyers, what are their order frequencies and which products attract them the most? Additionally, is there an opportunity for cross-selling or upselling offering?

Understanding the fact that Customer segmentation analytics provides businesses with a more granular understanding of their customer base, allowing for more personalized and effective engagement. We also believed that our approach will help optimize marketing efforts, improve customer satisfaction, and ultimately drive better business results.

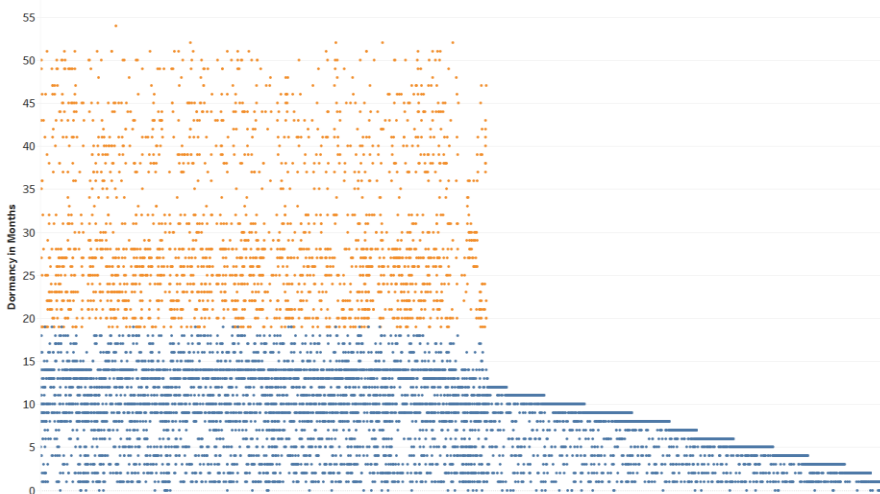
To do so, we established key performance indicators (KPIs) to measure the success of our segmentation strategy. We decided to track metrics such as customer satisfaction, retention rates, and revenue growth to assess the impact of our efforts.

Development

After collecting, cleaning, and processing data, performing exploratory data analytics and features engineering, our initial supervised binary model aided us in identifying the key variables that contributed to customer dissatisfaction with the brand.



Variables: Dormancy, Return Rate, Gross Units Per Order, Ethnicity and City Name
 Level of Detail: Consumer ID
 Scaling: Normalized



Maximum of Dormancy for each Consumer ID. Color shows details about Clusters (1). The data is filtered on State Code, which keeps TX.

Furthermore, a multi class supervised model helped us figured out the likelihood for customer to buy one or more specific products.

Customer	predict (Threshold = 0.4407)	p0	p1	MultiClass	predict	ACCESSORY	ACTIVEWEAR	APPAREL	ARM.TIGHTS	BRAS	HOSIERY	LEGGINGS	MENS	OTHER	PACKAGED.SHAPERS	PANTY	SHAPEWEAR	SWIM
4099	1	3.65%	96.35%	SHAPEWEAR	SHAPEWEAR	2%	2%	2%	2%	2%	2%	3%	2%	2%	6%	2%	75%	2%
50324	1	3.68%	96.32%	SHAPEWEAR	SHAPEWEAR	2%	3%	3%	2%	23%	4%	3%	3%	3%	3%	15%	37%	2%
8163	1	3.69%	96.31%	SHAPEWEAR	SHAPEWEAR	5%	5%	9%	5%	6%	5%	5%	5%	8%	5%	35%	5%	
34033	1	3.70%	96.30%	PANTY	PANTY	3%	5%	4%	3%	25%	6%	3%	3%	3%	3%	38%	4%	3%
51340	1	3.78%	96.22%	LEGGINGS	LEGGINGS	3%	2%	3%	2%	2%	2%	44%	3%	2%	2%	2%	31%	2%
1029	1	3.83%	96.17%	SHAPEWEAR	SHAPEWEAR	2%	2%	2%	2%	2%	2%	6%	2%	2%	2%	2%	76%	2%
44519	1	3.99%	96.01%	SHAPEWEAR	SHAPEWEAR	3%	3%	5%	3%	3%	3%	4%	13%	3%	4%	3%	48%	3%
34330	1	3.99%	96.01%	SHAPEWEAR	SHAPEWEAR	3%	4%	3%	3%	3%	24%	18%	4%	3%	6%	4%	24%	3%
39914	1	4.00%	96.00%	BRAS	BRAS	2%	2%	3%	2%	54%	2%	2%	2%	2%	3%	2%	24%	2%
17990	1	4.03%	95.97%	PANTY	PANTY	4%	6%	4%	4%	7%	5%	6%	4%	5%	5%	39%	9%	4%
44256	0	95.74%	4.26%	SHAPEWEAR	LEGGINGS	3%	3%	4%	3%	6%	3%	41%	3%	3%	3%	25%	3%	
1056	1	0.05%	99.95%	BRAS	BRAS	2%	2%	2%	2%	79%	2%	2%	2%	2%	2%	2%	2%	2%
1114	1	20.79%	79.22%	PANTY	PANTY	6%	6%	7%	6%	7%	16%	7%	6%	6%	8%	7%	17%	6%
7437	1	55.67%	44.33%	BRAS	BRAS	2%	3%	2%	2%	74%	4%	3%	2%	3%	2%	2%	2%	2%
7483	0	67.66%	32.34%	LEGGINGS	SHAPEWEAR	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%	2%	77%	2%
7544	0	83.83%	16.17%	LEGGINGS	SHAPEWEAR	4%	7%	4%	4%	6%	5%	14%	12%	5%	6%	4%	24%	4%

Model P0 and P1: "P0" is the probability assigned by the model for the negative class (e.g., the event not happening) and "P1" for the positive class (e.g., the event happening).

Prediction (Threshold = 0.4407): This refers to the decision boundary used by a classification model to decide between classes. If the probability of the positive class (P1) is greater than the threshold (in this case, 0.4407), the model predicts the positive class; otherwise, it predicts the negative class. The specific value of 0.4407 is chosen based on criteria like optimizing for accuracy, precision, recall, or a balance of these metrics in the context of the model's application.

What's next?

We have developed in house proprietary software using AWS services to help marketing leader with their targeting email marketing.

We will continue our collaboration in developing business analytics product to help marketing leader monitor KPI.

We will continue our support in improving our model to improve KPIs that are behind the strategic goals.

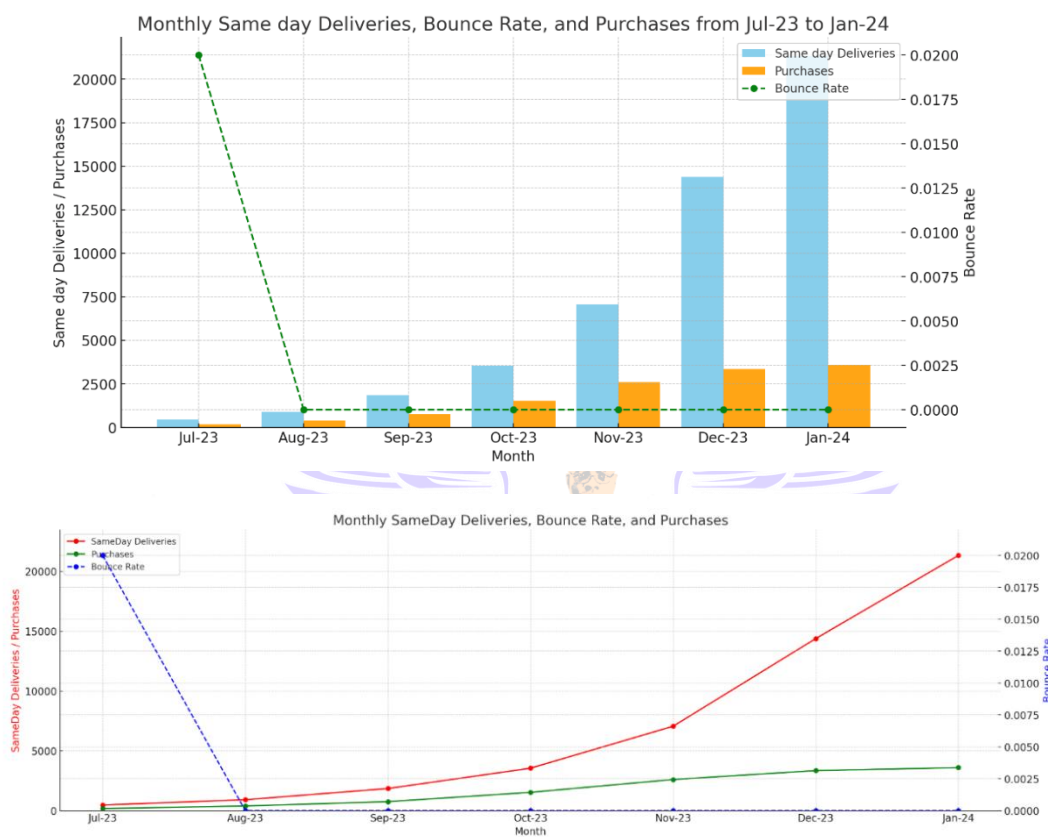
Executive Summary: Targeted Email Marketing Campaign for E-commerce

Background: Prior to our engagement, the client employed a broad targeting strategy for their email marketing campaigns, addressing the entire portfolio of 250,000 customers within their database. This approach yielded a conversion rate of 2% at a campaign cost of \$200,000, with an estimated acquisition cost of \$1 per customer.

Challenge: Despite the considerable investment, the broad targeting strategy was not cost-efficient, resulting in a high expenditure with moderate returns. The objective was to enhance the campaign's effectiveness by implementing a targeted approach to reduce costs and maintain or improve the return on investment (ROI).

Solution Implemented: Leveraging bigdataoi's predictive model, we executed a targeted email marketing campaign focused on customers identified as most likely to respond positively. This

strategic shift aimed at optimizing the marketing budget and enhancing campaign outcomes by only targeting 49,580.



The graph shows the trend of "SameDay Deliveries" over time, represented by the red line. It illustrates the number of deliveries completed on the same day each month.

The blue dashed line represents the "Bounce Rate" over the same period, indicating the percentage of emails that were not successfully delivered.

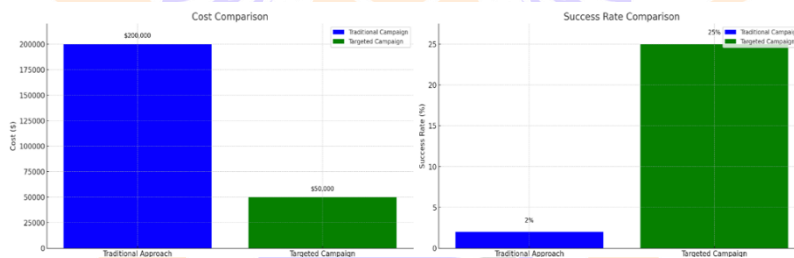
The **green line** illustrates the hypothetical trend of purchases each month, demonstrating how purchase activity might have changed over the campaign period.

This visualization provides a clear overview of the campaign's delivery effectiveness, efficiency, and purchase outcomes over the specified months. It highlights how SameDay Deliveries trended upwards, illustrating an increase in the number of deliveries completed on the same day each month. The Bounce Rate is represented by the blue dashed line, indicating the percentage of emails that were not successfully delivered, which remained consistent throughout the campaign period. Crucially, the addition of the green line for purchases shows a hypothetical increase in purchase activities month over month. This upward trend in purchases alongside effective delivery management and a stable bounce rate can be pivotal for understanding the campaign's overall performance and identifying areas for improvement and investment.

Results:

- **Cost Reduction:** Our targeted campaign was conducted at a cost of \$50,000 significantly lower than the previous \$200,000 expenditure.
- **Conversion Rate:** We reached a conversion rate of 25% which is impressively higher than the prior rate of 2%
- **Financial Impact:**
Total generated Revenue of \$1,295,000 from the targeted customer responses,

- **Savings:** By adopting our targeted approach, the client saved \$150,000 compared to the potential costs of continuing with their traditional marketing strategy.



- **Cost Comparison Bar Chart:** This chart compares the costs of the traditional approach (\$200,000) versus the targeted campaign (\$50,000), highlighting the significant cost savings achieved with the targeted strategy.
- **Success Rate Comparison Bar Chart:** This chart compares the success rates between the traditional approach (2%) and the targeted campaign (25%).

Conclusion: The implementation of a predictive model-based targeted email marketing campaign by bigdataoi.com has demonstrated substantial cost savings while maintaining a strong ROI. This strategic shift not only optimized marketing expenditures but also underscored the value of leveraging data analytics in campaign management. The success of this campaign presents a compelling case for adopting targeted marketing strategies to enhance efficiency and effectiveness in customer engagement.