Olist's Customer Behaviour Analysis

BACKGROUND

Olist is an online ecommerce platform in Brazil. The management team of Olist wanted to analyze the shopping behaviors of customers in order to make strategic decisions to improve product sales and customer satisfaction. The objective of this study was to understand the different customer segments and the product bundles they sought the most.

RECOMMENDATIONS

1. Bundling commonly purchased products with complementary products, encouraging customers to expand their buying habits.

2. Target Affluential/Luxury customers with targeted ads related to high-priced categories (we saw that Luxury customers tended to buy furniture decor and computer accessories at a high rate).

3. Provide discounted options of all products to cater towards the price-sensitive group.

4. We believe that there are growth opportunities in the lower volume areas, due to the fact that orders tend to be higher in average price (See Page 3 for Graphic).

ANALYSIS

To understand the relationship between different products purchased together by customers, the Apriori method was performed to establish the association rules. And the relationship found includes:

1. Product categories such as home comfort and bed/bath and table were purchased frequently together. This was determined from their high lift value which indicates

that the two product categories are complementary to each other, or more often purchased together than chance would suggest. High support value and a Confidence level of 0.01 indicate that as a combination they were purchased frequently together and that 1 out of 100 times people who bought home comfort products also bought bed/bath products.

2. Product categories such as furniture decor and bed/bath were purchased frequently individually but not as a pair. This was determined from their high support value but very low confidence level. The same has been reinforced by a very low lift value which indicates that the two product categories are purchased substitutionally.

In order to find patterns in customer shopping behavior, clustering analysis was performed on the customers to group them based on their purchasing patterns. The following characteristics were chosen for the clustering analysis,

- Average price of the product purchased per order
- Number of orders per customer
- Average payment for the order per installment from their payment history

Based on the variables above, Customers can be clustered into 3 groups

Customer category	Avg price per order	Number of orders	Average payment per installment
Affluential customers	Max	Min	Max
Conservative customers	Intermediate	Intermediate	Intermediate
Value seekers	Min	Max	Min

Group 1 falls into a luxury segment group where people are able to pay and prefer to buy qualitative products. Among all the product categories, the furniture decoration and computer accessories's percentage is higher. In order to target these customers more targeted ads related to these two categories could be sent to these groups to create awareness about the various options available.

Group 2 includes more than 85% of the overall customers who are tight on spending and also the number of purchases are too low for this segment. In order to tap the market segment for this group, it is important to understand these customers' demands and customise their requirements. More qualitative surveys should be done to study this set of population and decide marketing strategies thereafter.

Group 3 are price sensitive customers where people are willing to buy products but look for cheaper or economical options, hence substitutes for high valued products could be found for them and increase cross-selling by providing additional discounts.

Further, the number of orders placed and the average price of order from each state was analyzed and the states can be clustered as below. Based on these two graphics, we can see the highest volume areas are in the southeast regions of Brazil. Prioritizing inventory in these regions is most important; however, we can see from the "Average Order Price" graphic that the lower volume regions appear to spend more money per order. Because of this, we believe that there is potential for growth in the lower volume regions of Brazil.