Off-Season of Gifting

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Executive Summary

Seasonality is a challenge that almost all retail businesses face since more than 60% of revenue is usually generated during the Fall, or “Christmas season.” For retailers specializing in gifting, this reality is even more difficult to weather because sales are wholly dependent on the season of giving.

Therefore, a multi-channel company, which sells primarily food products as gifts, is naturally looking for ways to mitigate risks by increasing business in the Spring. The company is an established national brand generating sales of several hundred million dollars per year.

This investigation leverages sales and customer data from this company to develop a marketing strategy to take advantage of opportunities in the Spring.

Research Objective

The goal of this investigation is to find opportunities for this company to expand business during off-season months.

The data provided includes 100,051 customer records, organized by customer ID, and details transactions by channel (retail, internet, and catalog) from 2007 to 2004 and pre-2004. Also captured are first order characteristics, overlay demographic and psychographic data, estimated distance to a retail store and gift versus non-gift dollars spent.

Research Plan and Methodology

Clustering Analysis will be used to separate customers based on the seasonality of their spending habits. Breaking up the customers into Christmas shoppers and Non-Christmas shoppers will help reveal useful profiling traits such as channel choice, potential touch points, and gifting patterns.

Using the data derived from the cluster analysis, customer profiles will be created to offer the company a clear and succinct overview of the right segments to target. These profiles will be key in creating the marketing strategy.

Next, a target segment will be isolated based on the channel with the most potential growth.The customer lifetime value of this group will be calculated to offer insight on whether or not these customers are a worthy investment.

Finally, the fluidity of the customer base will be examined through logistic regression, basing the prediction off of the customer's first channel of interaction.

Clustering Analysis

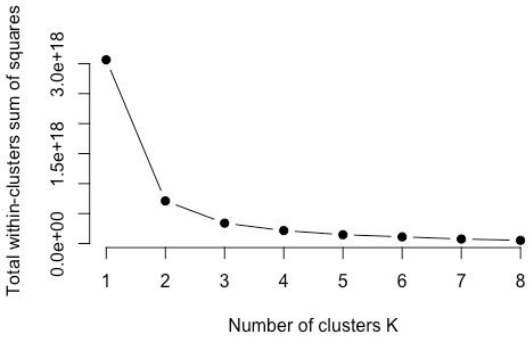
Preprocessing for K-Means Clustering

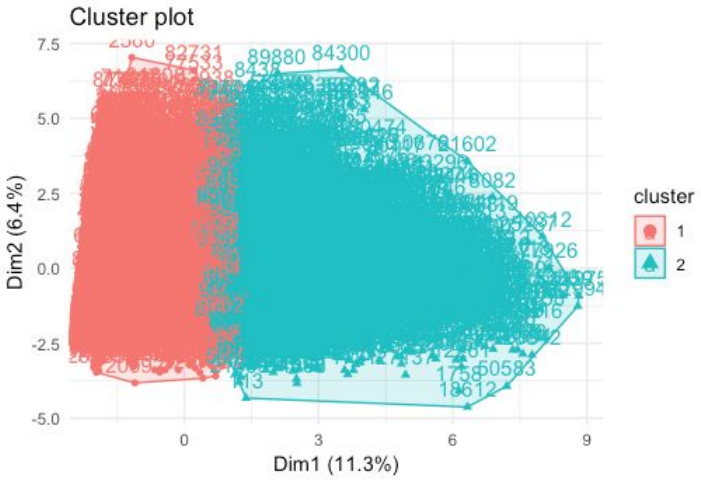
Clustering analysis was conducted using the method of K-Means. Due to the size of the dataset, this analysis was done in RStudio. Before the analysis can be completed, all NA's (or blank data cells) need to be removed. Certain qualitative variables, such as First Channel, Email, and customer psychographics must be coded and converted into integers. The final step is to scale the data to eliminate any potential skewness, since the values range from 0 - 864,000.

Clustering Analysis

A data frame is specially created to calculate k-means, using the variables of first channel, first dollar, store distance, acquisition date, email, occupation code, travel, current affairs, current events, wines, fine arts, exercise, self-help, collect, needle, sewing, dog owners, car owner, cooking, pets, fashion, camping, hunting, boating, age, income, home owner, number of children, dwelling, length res, and home value.

The initial k is set to 2, as the goal of this experiment is to pinpoint the key differences between Christmas and Non-Christmas shoppers. The elbow method is also employed to find the optimal number of clusters. Interestingly, two was, indeed, the optimal number of clusters based on this data.





Customer Lifetime Value

The customer lifetime value of internet purchases will be investigated based on the growth of the internet business between 2004 and 2007. Metrics are calculated using the most recent sales data provided (2007). The expected customer lifetime was calculated based on average years of loyalty from the customer summary data. In addition, the cost and margin per month were estimated at 40/60 since those metrics were not provided by the company. The following are the baseline variables used to calculate the metric:

Average Monthly Revenue	$5,637
Total transactions in 2007	5008
Total number of internet purchases	2646
Expected Customer Lifetime (in months)	30
Average Gross Margin per Month per Customer	$1.28
Average Marketing Costs per Month per Customer	$0
Average Net Margin per Month per Customer	$0.85
Average Purchase Value	$13.51
Average Purchase Frequency	1.89
Customer Value (Benefits - Cost)	$12.66

- Average purchase value: Divide company's total revenue in a time period (usually one year) by the number of purchases over the course of that same time period.
- Average purchase frequency rate: Divide the number of purchases over the course of the time period by the number of unique customers who made purchases during that time period.
- Customer value: Subtract cost from average purchase value
- Average customer lifespan: Average out the number of years a customer continues purchasing from your company.
- Lifetime Value: Multiply customer value by the average customer lifespan.

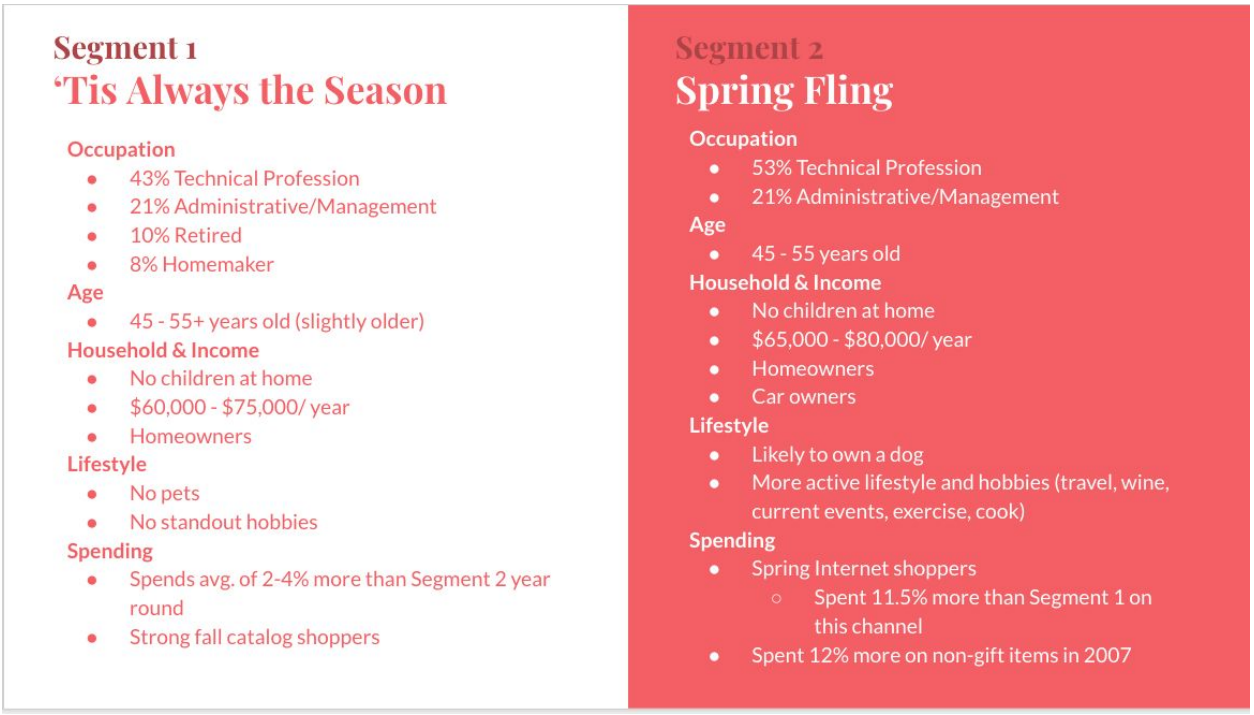
Logistic Regression

Logistic regression is performed using the First Channel as the primary variable to determine whether a customer is likely to purchase via other channels. This will help estimate customer fluidity and see the potentials of cross-channel marketing. Store distance, email, and first dollar will also be examined to see if there is any interesting correlation between variables.

Data Findings

Customer Profiles

Based on the segments found by the cluster analysis, the following profiles were created:



One of the most interesting findings is that the primary customer base is older and not very active. However, there is a segment of customers that shop in the Spring – they purchase most heavily via the Internet. This segment is more active than our primary customer base and is the suggested target as a means of business expansion.

Customer Lifetime Value

The customer lifetime value found for internet shoppers is $379.66. Since the internet and internet communication is a lower cost channel, this is a huge opportunity for the business.

Customer Channel Fluidity

Overall, it seems that first channel is a poor indicator of channel fluidity, with a hit rate of about 50% across all models. However, the statistics from the regression did reveal that internet users have the highest overall likelihood of converting again in stores or via catalog.

In addition, the correlation matrix also revealed some interesting observations:

- The greatest first dollars were spent when the first purchase was made through catalog.
- When there is a greater distance between the store and consumer, it is most likely that the purchase will be made through catalog.
- Due to the older customer base, there is only a small population that utilizes email marketing or buys through the internet.
    - However, now that segments have been created for a better understanding of internet purchasers, there is opportunity to grow this audience.

Conclusion

The primary customer base of this business is generally older and the volume of revenue is driven by the catalog. Furthermore, the loyalty of these customers seems to be demonstrated by their willingness to continue to purchase via catalog. However, with the Internet boom, there is a lot of potential in pursuing a slightly younger customer but driving traffic directly to the website. This would be a great tactic to use in pursuit of the coveted “Spring Fling-ers” segment that was profiled in this investigation.

Recommendations

The overall recommendation is definitely to target “Spring Fling-ers,” since there is now a confirmed foundation for this market. Since this segment is slightly younger, more active, and more wealthy, they have great potential as an audience that can help boost off-season sales. Based on their psychographics, they can be pursued via with current event ads that drive to the website, cross-channel promotions between internet and catalog, as well as incentivized creatively with treats for dogs.

Furthermore, since the retail channel seems to be suffering recently, it might be a good time to vamp up a loyalty program that drives customers to both stores and the website. Bounceback certificates and rewards programs are very popular methods of keeping customers engaged and incentivized.