

Customer Analytics Final Project

Team 13 (Belle Lin, Weihan Weng, Ivan Huang, Caroline Martina, Sarah Fauska)

I. Executive Summary

Data Description

This dataset contains basic customer, sales, and marketing information from a winery between 2008-2010 related to 65,534 orders.

The Problem

The winery wants to boost sales by determining which customers to target and which marketing channels are the most effective for different customer segments based on their sales data.

The Proposed Solution

The winery can conduct an RFM (Recency, Frequency, Monetary) analysis to identify the high potential customer segments and strategic sales channel. In addition to this, the winery wants to evaluate and refine advertising strategies by analyzing the response patterns of each marketing channel to ensure the most effective promotional outreach.

The Results

Based on our analysis, the customers who are most likely to buy are people who have bought most recently, less frequently, and people who buy the least and most dollar amounts. The winery should target Texas, California, Florida, Washington, and Oregon as these are the highest spending states and largest customer base. The winery should target Wine Enthusiast and the High Rollers customer with email and casual visitors with winemaker calls. They should also target different consumers with different messaging tactics such as for the holiday season, and recommend differently priced wines for consumers in different monetary segments.

II. Business Problem

The winery wants to increase sales by advertising to the most profitable customers by using the most effective advertising channels. The winery can do this by conducting an RFM analysis to determine which customer segments and locations are most likely to contribute to the winery's revenue over time and assess the advertising response of each channel.

III. Data Summary and Visualization

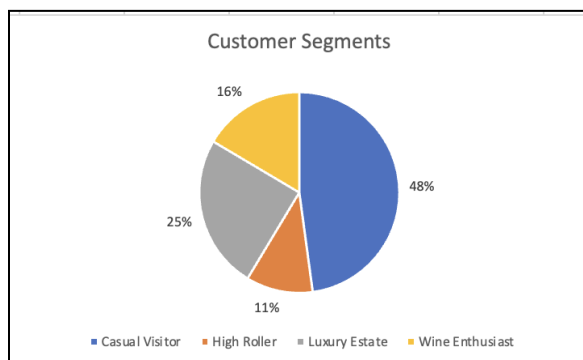
Summary of Data Set (Columns & Descriptions)

Customer ID <i>Unique customer identification</i>	Order ID <i>Unique order identification</i>	Customer Segment <i>4 customer groups (Casual Visitor, High Roller, Luxury Estate, Wine Enthusiast)</i>	Date <i>Date of order</i>	Zip Code <i>Zip code where customer resides</i>	State <i>State where customer resides</i>	Sales 2008 <i>Total sales for customer in 2008</i>
Sales 2009 <i>Total sales for customer in 2009</i>	Sales 2010 <i>Total sales for customer in 2010</i>	Sale Amount <i>Sale amount for the order ID</i>	Orders 2008 <i>Total number of orders for customer in 2008</i>	Orders 2009 <i>Total number of orders for customer in 2009</i>	Orders 2010 <i>Total number of orders for customer in 2010</i>	Year Acquired <i>Year the customer made their first purchase</i>
Email Subscr	Newsletter Subscr	Winemaker Call	Email Sales	Newsletter Sales	Tasting Room	Winemaker Call

<i>Customer is an email subscriber</i>	<i>Customer is a newsletter subscriber</i>	<i>Customer received a call from the winery</i>	<i>Sale amount for the email order</i>	<i>Sale amount for the newsletter order</i>	Sales <i>Sale amount for the tasting room order</i>	Sales <i>Sale amount for the winemaker call order</i>
--	--	---	--	---	---	---

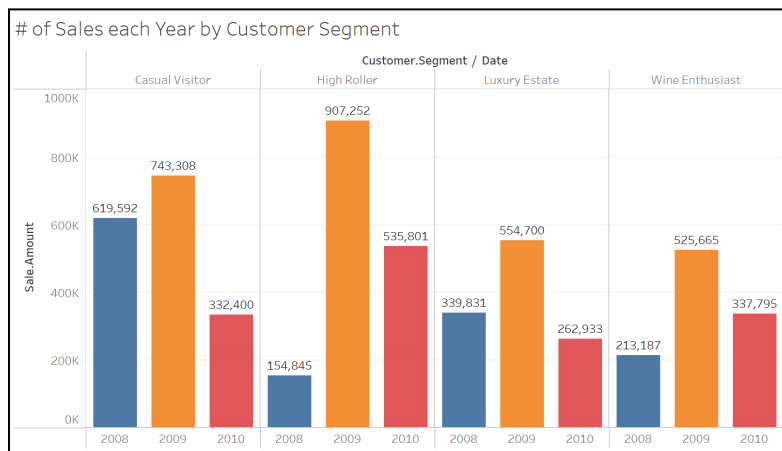
Customer Segments

Based on the information presented in the pie chart and the table, it can be concluded that 42% of customers fall into the category of casual visitor, indicating a lot of our customers do infrequent purchases with a small amount of sales. Additionally, 24% are classified as luxury estate customers, characterized by the highest spending. Wine Enthusiast and High Roller respectively represent 19% and 15% of our overall customer base. However, it's important to note that neither qualifies as a major customer group for the winery.



Customer Segments	Count of Customers
Casual Visitor	10,615
High Roller	2,395
Luxury Estate	5,510
Wine Enthusiast	3,663
Grand Total	22,183

Sales for Each Year by Customer Segment



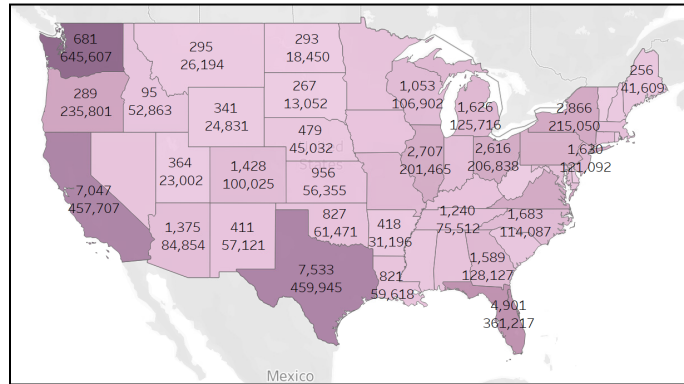
The table and histogram on the left indicates that the total sales amount has varied over the years, from \$1,327,454.81 in 2008 to \$2,730,923.60 in 2009, and then decreased to \$1,468,928.97 in 2010. In addition, High Roller and Luxury Estate segments contribute significantly to the total sales amount, with High Roller customers contributing \$907,251.84 in 2009 and Luxury Estate customers contributing \$554,699.59 in the same

year. Furthermore, while Wine Enthusiast consumers make up a sizable fraction of the customer base, their contribution to overall revenue is smaller, indicating possible areas for development in marketing or engagement initiatives. Therefore, in the future, we would want to focus on gaining more High Roller and Luxury Estate customer segments. Finally, the grand total sales for each year, providing an overview of the winery's overall performance during this period with an increasing trend.

Domestic US Sales

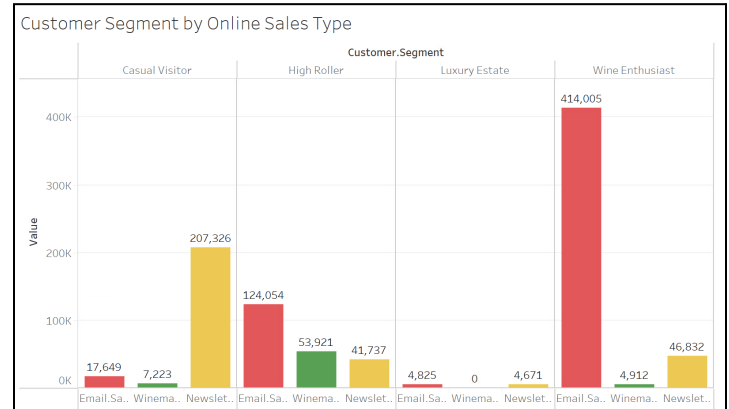
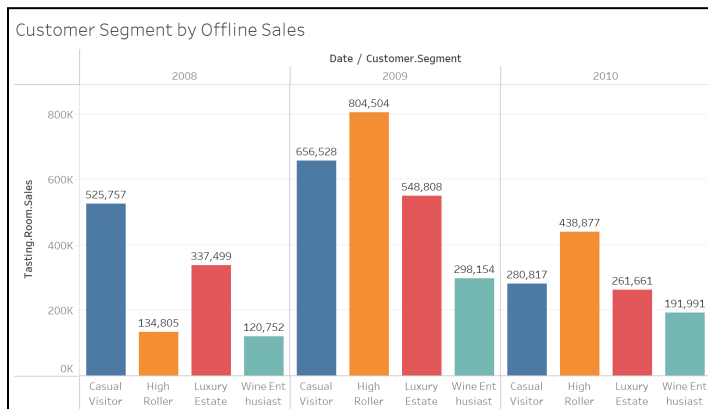
From the table and the heat map, we conclude that Washington (WA), Texas (TX), California (CA), Florida (FL), and Oregon (OR) are the 5 highest spending states for our business. However, it is still significant to note that while some states, such as Washington (WA) and Oregon (OR), have relatively fewer customers, their total sales amounts are noteworthy, suggesting higher average spending per customer. Additionally, states like Idaho (ID) have minimal customer counts and sales, thus indicating limited market penetration. In sum, sales and customer distributions vary across states, reflecting little regional differences.

State	# of Customers	Total Sales Amount
WA	295	\$645,606.64
TX	2,515	\$459,944.89
CA	2,389	\$457,706.58
FL	1,661	\$361,216.8
OR	134	\$235,801.43



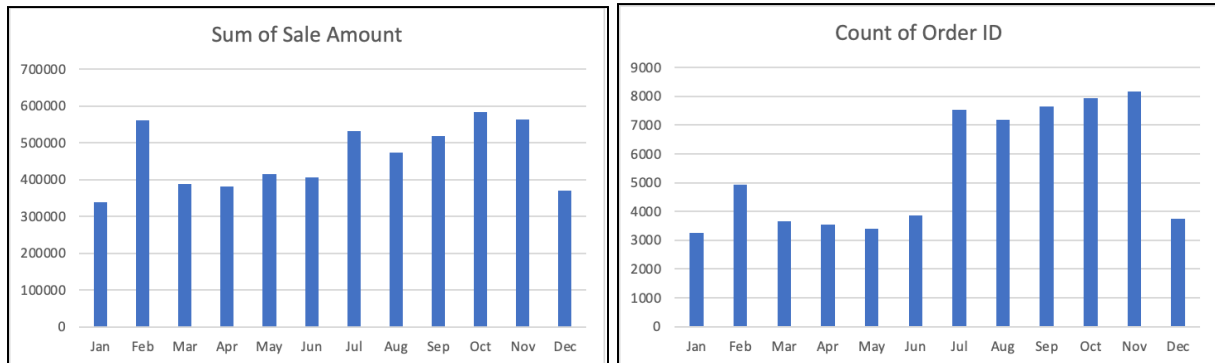
Customer Engagement Channels

We analyzed the online channel and offline channel to figure out which channel attracts customers more. We concluded there are two types of customer engagement channels, online and offline. Online channel engagement includes Email, Newsletter, and Winemaker Call, while the offline channel is the Tasting Room, where customers participate in tasting the wine. Furthermore, we also analyzed the different customer segments' response to the advertising channels. Assuming that the winery started the winemaker call advertisement sale in 2010, it is still considered a low sales channel that the winery needs to reevaluate if the cost outweighs the sales. In summary, from the data, we can infer that Tasting Room sales contributed considerably to overall income in 2008 and 2009. We would also like to recommend the winery to use Tasting room to cater towards the Casual Visitors, High Roller and Luxury Estate customer segments, and Email marketing for the Wine Enthusiast customer segment.



Seasonal Purchase

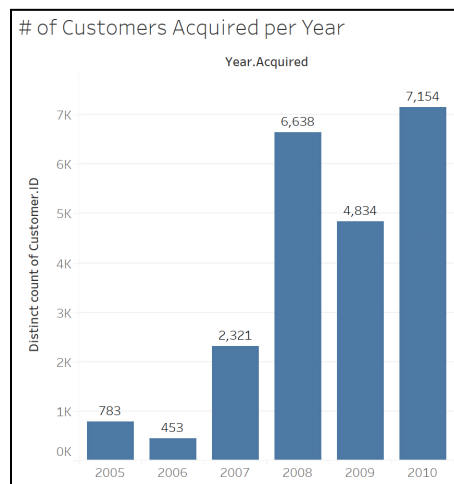
We analyzed the monthly breakdown of sales data to reveal patterns or trends in sales throughout the year and we noticed there is a significant high in February, July, October, and November. We assume the high is influenced by holidays like Valentine's Day (Feb), 4th of July (July), Halloween (Oct), and Thanksgiving (Nov). Summer months of June and July, which are defined by outdoor activities and festivals, also could have contributed to increased wine sales since guests frequently select wine as their favorite beverage. The holiday season and the habit of gift-giving drive up wine sales in November and December, as it becomes a popular and appreciated gift choice. These seasonal tendencies lead to increased wine demand during particular months, allowing firms to create focused tactics and optimize sales possibilities. In addition, for the low performing months, March, April, and May, we could adjust our inventory and investment accordingly. Furthermore, we analyzed the order data to examine the relationship between total sales and number of orders since higher count of orders might not necessarily translate to higher sales if the average sale amount per order is low. However, we concluded that the higher ordering amounts of months do correlate with the higher sales amount months.



Acquired Customer

We analyze the distinct customer ID to see how many customers the winery acquired throughout the years (2005 - 2010). From the table on the left and chart on the right, we can see that the winery is increasing the number of customers each year, except for a drop in 2009.

Year Acquired	Count of Customers
2005	783
2006	453
2007	2321
2008	6638
2009	4834
2010	7154
Grand Total	22183



IV. Advertising Response Model - which channel should we use for each segment?

Model Methodology

For the advertising response model, we use email subscriptions, newsletter subscriptions, and calls from winemakers as factors to predict whether the factors increase or decrease the sales amount for each purchase.

Model Results for Each Segment

- 1. High Roller:** For customers in the high roller segment, the company should market these customers with email marketing. Based on the model prediction, the company can earn \$79.27 more for each purchase if the customer is marketed by email. On the other hand, the company shouldn't market these customers with calls from winemakers. Based on the model prediction, the company will earn \$78.27 less if calls from winemakers market the customer for each purchase.
- 2. Wine Enthusiast:** For customers in the wine enthusiast segment, the company should market these customers with email marketing. Based on the model prediction, the company can earn \$15.32 more for each purchase if the customer is marketed by email. On the other hand, the company shouldn't market these customers with newsletters and calls from winemakers. Based on the model prediction, the company will earn \$18.83 less for each purchase from the newsletter channel and \$18.26 less from the winemaker calls for each purchase.
- 3. Casual Visitor:** For customers who are casual visitors, the company should market these customers with winemaker calls. Based on the model prediction, the company can earn \$21.31 more for each purchase if winemakers market their customers with calls. On the other hand, the company shouldn't market the wine enthusiast segment with newsletters. Based on the model prediction, the company will earn \$20.55 less on each purchase from the newsletter channel.
- 4. Luxury Estate:** Statistically, there are no specific marketing channels that the company can focus on to earn more revenue from each purchase. However, the company shouldn't market these customers with newsletters. Based on the model prediction, the company will earn \$9.72 less from the newsletter channel for each purchase.

Model Conclusions

Coefficients	High Roller	Wine Enthusiast	Casual Visitor	Luxury Estate
Email Subscription	79.27	15.32	Not Significant	Not Significant
Newsletter Subscription	Not Significant	-18.83	-20.554	-9.72
Winemaker Calls	-78.27	-18.26	21.319	Not Significant

In conclusion, email subscription is a great way to increase the amount of each purchase. In the previous analysis, we also found that the email subscription channel also accounts for a large number of sales. Accordingly, the company should keep encouraging its customers to subscribe to emails from the company.

As for newsletter subscriptions, the subscription will cause customers to spend less on each purchase. However, newsletter channels still account for a great amount of revenue in the casual visitor segment. It's not reasonable to give up this marketing channel. The better way will be to change the marketing strategy to transfer the customers from purchasing from newsletters to purchasing in-store. The company can offer discount coupons to customers and encourage customers to purchase in-store. By doing so, we can expect more customer revenue in each purchase.

For calling customers from winemakers, the company can focus more on calling casual visitors segments to earn more revenue from them on each purchase. Although it doesn't account for much revenue now, the company can optimize its calling strategy by first calling casual visitors segment customers to earn more revenue.

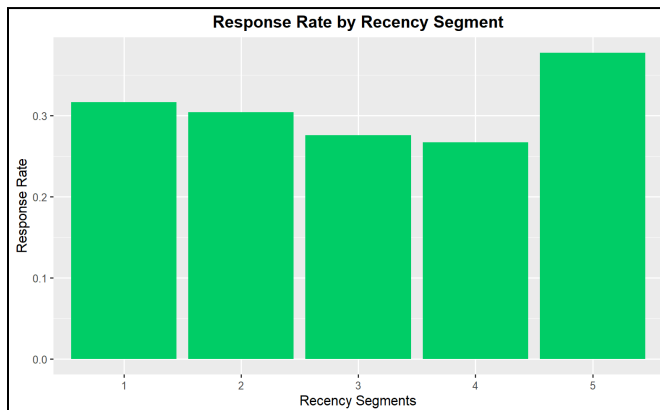
V. RFM Model - Determining Who To Target Based on Behavior

Model Methodology

For those customers who purchased wine between 2008 and 2009, we found the time of their most recent purchase, and the Recency was the gap between December 31, 2009 and each customer's last purchase. Frequency is the number of times each customer purchased wine during the two years, and the total consumption per customer is recorded as monetary. After this, we calculated each customer's recency, frequency, and monetary scores separately and then combined them to form comprehensive RFM scores. Customers whose last purchase time is shorter, purchase frequency is higher, and purchase amount is larger are often regarded as the most valuable and potential segments. Finally, we checked those customers if they purchased in 2010 to calculate response rate for each recency segment, frequency segment, monetary segment, and RFM Segment.

Model Results

a. Recency Classification



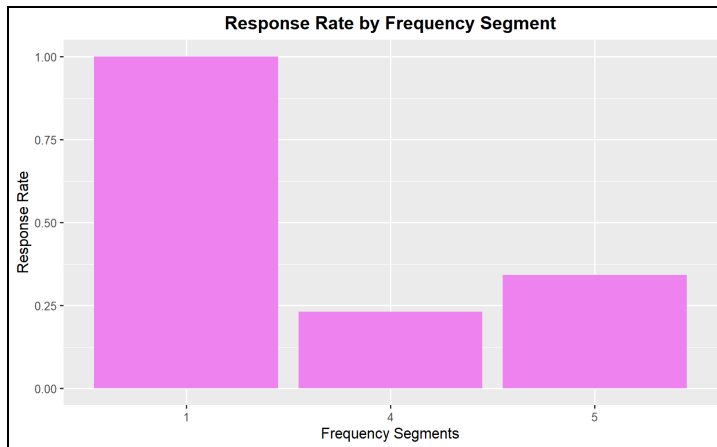
There are 5 segments for recency according to recency scores, judging by difference in last purchase day and December 31, 2009. The one-point segment represents those customers who had a considerable number of days since their last purchase. As the score increases, the number of days since the last purchase decreases, so a five-point segment represents those customers who had recently purchased items compared to December 31, 2009.

Bringing the purchase data of customers in 2010 into model and making the above bar chart, it can be seen that the response rate in segments from one-point segment to four-point segments gradually decreases, only one-point segment and two-point segment have response rate higher than 30%. In contrast, the five-point segment has a higher response rate which reaches 37.70%. Therefore, the company could target mainly those customers who recently purchased products.

The following table shows each recency segment and its response rate:

R Segment	Response Rate
1	31.66%
2	30.38%
3	27.60%
4	26.70%
5	37.70%

b. Frequency Classification



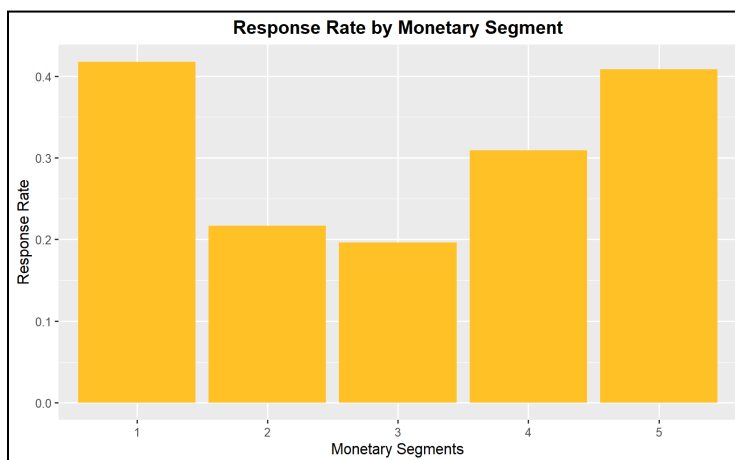
The frequency model is built based on the numbers of orders in 2008 and 2009, and there are three segments indicating different numbers of orders. The segment with the lowest score is composed of those with the lowest purchase frequency from 2008 to 2009. As the score increases, the segment represents a higher purchase frequency, so the five-point segment represents a higher purchase frequency which is composed of those customers who purchased the product the most from 2008 to 2009.

According to frequency model and purchase data in 2010, the above bar chart has been created which shows high frequency segments did not have a certain amount of responses in 2010. Customers in the five-point segment are more likely to return in the future than customers in the 4-point segment. However, the one-point segment had the highest response rate (100%), which means all customers in this segment returned in 2010 and they may be the most likely to return in the future. In this case, the company should focus on those customers who did not purchase frequently.

The below table shows each segment with its response rate.

F Segment	Response Rate
1	100.00%
4	23.19%
5	34.14%

c. Monetary Classification



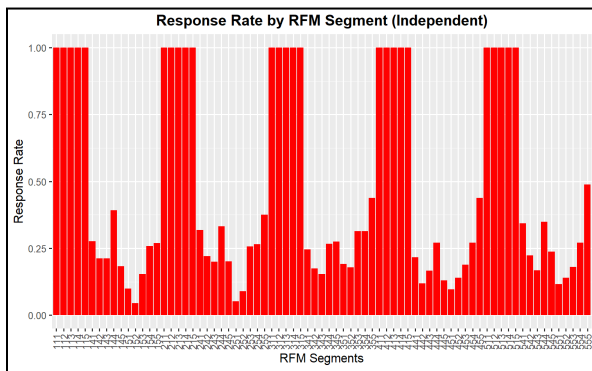
Monetary model is based on total spending per customer from 2008 to 2009, and it groups similar customers into a segment to create five segments. A segment with a low score means the customers covered by that segment spent little money between 2008 and 2009. Conversely, segments with high scores are made up of customers who spent more in those two years. Specifically, the five segments of the monetary model range from one to five points.

Combined with the purchase records in 2010, the above bar chart was produced to describe the response rates of each segment. It shows that the response rate of the segment consumption and the segment with the highest consumption is significantly higher than other segments, respectively 41.74% and 40.82%. Therefore, customers from one-point segment and five-point segment are more likely to return in the future and the company should focus on these two segments.

Below is a table showing the response rate for each segment:

F Segment	Response Rate
1	41.74%
2	21.66%
3	19.60%
4	30.90%
5	40.82%

d. RFM Classification



By combining recency scores, frequency scores, and monetary scores to create RFM models, companies can help companies target specific customer groups through communications that are more relevant to their specific behaviors, thereby making it more likely to respond positively. Putting the responses of each customer in 2010 into the model and making the bar chart shown above. The x-axis represents different RFM segments. These segments are typically numbered based on a combination of recency, frequency,

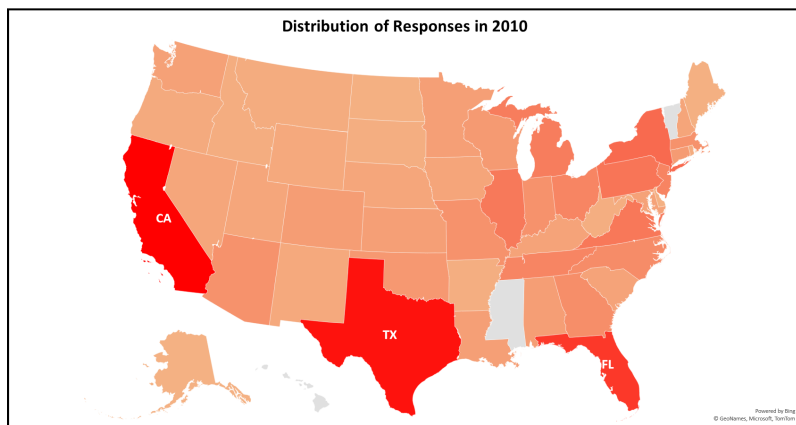
and monetary scores. Each segment has a corresponding bar that shows the response rate of customers in that segment. The Y-axis represents response rate, which is the proportion of customers in each RFM segment who responded to the campaign. The ratio ranges from 0 to 1, where 0 means no customers responded and 1 means all customers responded.

Some segments show very high response rates, close to 1, indicating that nearly every customer in those segments responded. Response rates for other segments were much lower. This difference between segments suggests that certain customer groups are more actively involved in a company's marketing efforts than others.

Companies can therefore focus more resources on segments with higher response rates and try to understand and improve engagement with segments with lower response rates. The marketing team will use this chart to adjust marketing campaigns, customer engagement strategies, and potential budget allocations for different customer segments.

Distribution of RFM Segments with 100% Response Rate in 2010

Looking at the RFM segments with 100% response rates in each region, the heat map above shows that products are still popular in California, Texas, and Florida because these regions have the most loyal customers.



VI. Summary of our findings

- February is the most profitable month for the winery due to large dollar amounts purchased despite low order count; this implies that people buy expensive wines for Valentine's Day.
- Other high sales months include July to November due to the summer and holiday season. We assume the high is influenced by holidays like Valentine's Day (Feb), 4th of July (July), Halloween (Oct), and Thanksgiving (Nov).
- From the advertising response model analysis, the Wine Enthusiast and High Rollers customer segments respond favorably to email marketing.
- From the advertising response model analysis, the Casual Visitor segment spent more when they are marketed by Winemaker calls.
- From our Recency Segment in the RFM analysis, individuals who have recently visited the winery are more likely to buy wine next year, which is usually the case in general.
- From our Frequency Segment in the RFM analysis, the people who buy less frequently between 2008-2009 are most likely to come back and make another purchase in the next year. We presume that it is because a significant amount of their customers only buy wine yearly. However, we want to encourage them to buy for every occasion. We recommend the winery to push out holiday sales and holiday advertisements to encourage these customers to purchase wine for every occasion celebration.
- From our Monetary Segment in the RFM analysis, people who spend the least dollar amount and the most dollar amount are more likely to purchase again in the next year. This implies that some consumers spend very little every time they come but they will keep coming back yearly, while other consumers spend a high amount of money presumably buying wine for a special occasion every year.

VII. Recommendations

- Target 5 highest spending states and 3 most loyal states: We want to target Texas (TX), California (CA), and Florida (FL) as we have the most amount of customers in these states. As well as Washington (WA) and Oregon (OR), as they are our highest average spending per customer.
- Send out exclusive emails: Encourage the Wine Enthusiast and the High Rollers customer segments to subscribe to the email. By doing so, we can earn more revenue from these two segments for each purchase.
- Get wine enthusiasts to spend more: We recommend the winery to recommend more prestigious and expensive wines using Email subscriptions to encourage the wine enthusiasts segments to spend more.
- Different messaging tactics: For the casual visitor segment, we want to pursue them using winemaker calls; for High Roller, Luxury Estate, and Wine Enthusiasts, we want to advertise and engage with them using email. Furthermore, we also concluded that in person tasting room are also recommended channels to entice all customer segments.
- Different wine recommendations for different monetary segments: We recommend targeting different monetary segments with differently priced wines. People in the low monetary segments should be recommended cheaper wines that they are more likely to buy while people in the high monetary segments should be recommended more expensive wines.
- Loyalty programs/clubs: In order to encourage people who buy more frequently (based on our frequency segment) to keep purchasing wine, we recommend implementing a loyalty program or a special wine club that they could join.

VIII. Future Direction

In the future, the winery should include cost in their data analysis. With cost data, the winery can calculate which marketing channels generate the highest returns on investment to optimize resources to target consumers effectively. The winery can also calculate the break-even rate for the RFM Response model and only target consumers above the break-even response rate. In addition, the winery could also conduct propensity scoring if they have available data on things like price sensitivity and churn rate. Finally, as a good practice, the winery should track data for longer periods to strengthen all analysis and give a clearer picture of the organization.

IX. Conclusion

In conclusion, based on our analysis, the winery can implement our recommendations to increase sales and maximize profits in the future. Also to determine which customer segments and locations are most likely to contribute to the winery's revenue over time and assess the advertising response of each channel. The winery can also obtain cost data to perform more complex analyses, such as return on investment for each sales channel, break-even RFM response rates, and propensity scoring.

Appendix

Data Summary & Visualization Appendix

C. Sales for Each Year by Customer Segment

Date	Count of Customers	Total Sales (\$)
2008	18,930	\$1,327,454.81
<i>Casual Visitor</i>	9,655	\$619,591.68
<i>High Roller</i>	1,753	\$154,844.63
<i>Luxury Estate</i>	4,749	\$339,831.15
<i>Wine Enthusiast</i>	2,773	\$213,187.35
2009	1,989	\$2,730,923.60
<i>Casual Visitor</i>	606	\$743,307.66
<i>High Roller</i>	350	\$907,251.84
<i>Luxury Estate</i>	479	\$554,699.59
<i>Wine Enthusiast</i>	554	\$525,664.51
2010	1,264	\$1,468,928.97
<i>Casual Visitor</i>	354	\$332,400.14
<i>High Roller</i>	292	\$535,801.09
<i>Luxury Estate</i>	282	\$262,932.99
<i>Wine Enthusiast</i>	336	\$337,794.75
Grand Total	22,183	\$5,527,307.38

E. Customer Engagement Channels

Row Labels	Sum of Email.Sales	Sum of Newsletter.Sales	Sum of Tasting.Room.Sales	Sum of Winemaker.Call.Sales
2008	101059.37	107582.06	1118813.38	0
Casual Visitor	7179	86655.87	525756.81	0
High Roller	13780.37	6259.28	134804.98	0
Luxury Estate	1173	1159	337499.15	0
Wine Enthusiast	78927	13507.91	120752.44	0
2009	291737.19	131191.75	2307994.66	0
Casual Visitor	8445.49	78333.69	656528.48	0
High Roller	78050.7	24697.12	804504.02	0
Luxury Estate	3322.53	2569.27	548807.79	0

Wine Enthusiast	201918.47	25591.67	298154.37	0
2010	167736.22	61792.14	1173345.14	66055.47
Casual Visitor	2024.09	42336.24	280817.23	7222.58
High Roller	32222.71	10781.09	438876.6	53920.69
Luxury Estate	329.53	942.69	261660.77	0
Wine Enthusiast	133159.89	7732.12	191990.54	4912.2
Grand Total	560532.78	300565.95	4600153.18	66055.47

G. Seasonal Purchase

Row Labels	Sum of Sale.Amount
Jan	337685.68
Feb	561366.17
Mar	387867.1
Apr	380413.59
May	414722.01
Jun	405414.76
Jul	531021.88
Aug	474499.68
Sep	517906.69
Oct	583901.93
Nov	562661.35
Dec	369846.54
Grand Total	5527307.38

Advertising response model results for each segment

1. High Roller

```
##
## Call:
## lm(formula = Sale.Amount ~ Email.Subscr + Newsletter.Subscr +
##     Winemaker.call, data = High_Roller_data_sep)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -245.2 -124.1  -96.1  -65.9  9280.4
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    164.116     9.408   17.444 < 2e-16 ***
## Email.Subscr     79.279     17.075    4.643 3.48e-06 ***
## Newsletter.Subscr -17.988     17.926   -1.003  0.316
## Winemaker.call  -78.279     16.743   -4.675 2.98e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 513.1 on 9859 degrees of freedom
## Multiple R-squared:  0.00377,    Adjusted R-squared:  0.003466
## F-statistic: 12.44 on 3 and 9859 DF,  p-value: 4.1e-08
```

2. Wine Enthusiast

```
##
## Call:
## lm(formula = Sale.Amount ~ Email.Subscr + Newsletter.Subscr +
##     Winemaker.call, data = Wine_Enthusiast_data_sep)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -116.7  -60.7  -41.7  -11.7  6205.9
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)     99.448     6.218   15.994 <2e-16 ***
## Email.Subscr     15.323     8.702    1.761  0.0783 .
## Newsletter.Subscr -18.834     8.763   -2.149  0.0316 *
## Winemaker.call  -18.266     7.800   -2.342  0.0192 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 294 on 12340 degrees of freedom
## Multiple R-squared:  0.001992,    Adjusted R-squared:  0.00175
## F-statistic: 8.211 on 3 and 12340 DF,  p-value: 1.862e-05
```

3. Casual Visitor:

```
##
## Call:
## lm(formula = Sale.Amount ~ Email.Subscr + Newsletter.Subscr +
##     Winemaker.call, data = Casual_Visitor_data_sep)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
##  -89.3  -41.5  -25.7   -1.5  7264.6
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)     66.525     1.632   40.761 < 2e-16 ***
## Email.Subscr     -4.307     4.881   -0.883  0.378
## Newsletter.Subscr -20.554     3.521  -5.837 5.37e-09 ***
## Winemaker.call     21.319     5.163    4.129 3.65e-05 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 222.9 on 27015 degrees of freedom
## Multiple R-squared:  0.001564,    Adjusted R-squared:  0.001453
## F-statistic: 14.1 on 3 and 27015 DF,  p-value: 3.508e-09
```

4. Luxury Estate

```
##
## Call:
## lm(formula = Sale.Amount ~ Email.Subscr + Newsletter.Subscr +
##     Winemaker.call, data = Luxury_Estate_data_sep)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -85.0  -51.5  -34.8   -4.8  7983.5
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)      75.756      2.379   31.846 <2e-16 ***
## Email.Subscr       2.952      8.208    0.360  0.719
## Newsletter.Subscr  -9.728      5.407   -1.799  0.072 .
## Winemaker.call     4.518      8.685    0.520  0.603
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 252.7 on 15621 degrees of freedom
## Multiple R-squared:  0.0002075, Adjusted R-squared:  1.547e-05
## F-statistic: 1.081 on 3 and 15621 DF,  p-value: 0.3559
```

RFM Model Appendix

Customer RFM Segments with 100% Response Rate

RFM	Number of Customers	Number of Buyers	Percentage
111	240	240	100
112	66	66	100
113	11	11	100
114	10	10	100
115	22	22	100
211	173	173	100
212	43	43	100
213	6	6	100
214	6	6	100
215	12	12	100
311	97	97	100
312	10	10	100
313	4	4	100
314	5	5	100
315	6	6	100

411	81	81	100
412	11	11	100
413	2	2	100
414	6	6	100
415	9	9	100
511	250	250	100
512	37	37	100
513	15	15	100
514	11	11	100
515	26	26	100