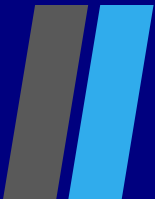


OPTIMIZING WHOLESALE WINE BUSINESS - UNSUPERVISED MACHINE LEARNING -
K-MEANS CLUSTERING - POWERED BY TABLEAU DASHBOARD



Customer Segmentation Using K-means Clustering Powered by Tableau

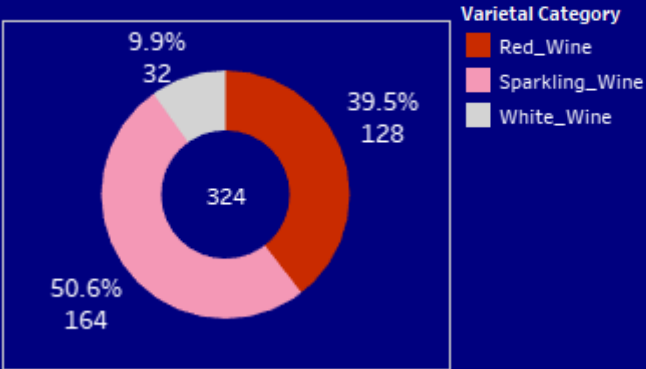
Unsupervised Machine Learning



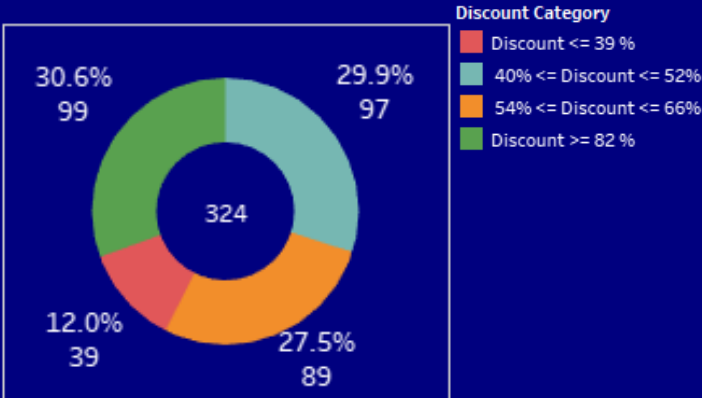
Customers Behavior - Wholesale Wine business :

- ❖ 50.6% of the customers were only Sparkling Wine lovers:
25% Champagne, 13.3% Prosecco and 12.3% Espumante
- ❖ 39.5% of the customers were only Red Wine lovers:
13.6% Pinot Noir, 9.9% Cabernet Sauvignon , 9.99% Malbec and 6.2% Merlot
- ❖ 9.9% of the customers were only White Wine lovers:
5.2% Pinot Grigio, and 4.6% Chardonnay
- ❖ Almost ~40% of the Wine is coming from France, next Australia 12% and Chile 11.4%
- ❖ Wine Discount were almost distributed evenly above 40%:

Customers Count per Varietal Category

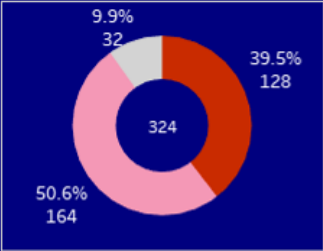


Customers Count per Discount

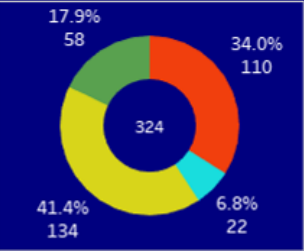


Customer Segmentation Overview

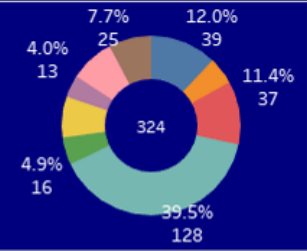
Customers Count per Varietal Category



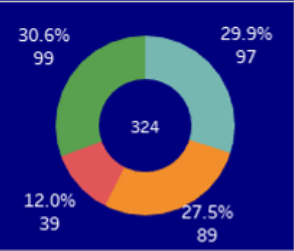
Customers Count per Min Qty



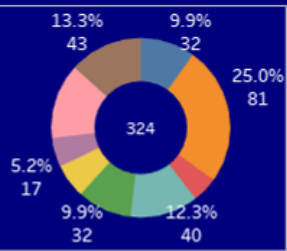
Customers Count per origin



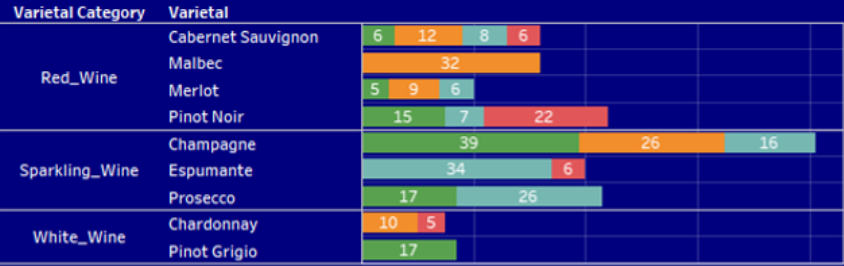
Customers Count per Discount



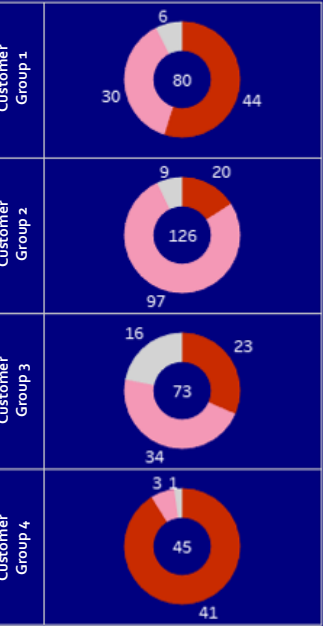
Customers Count per Varietal



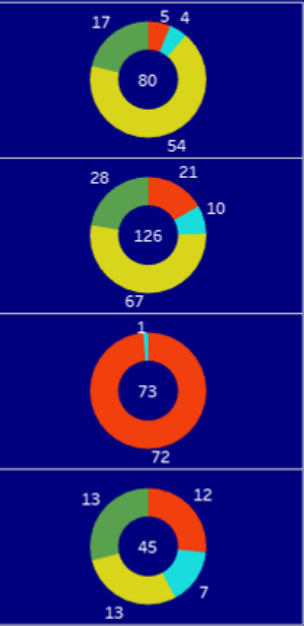
Customer Count per Varietal Category per Varietal Colored by Discount category



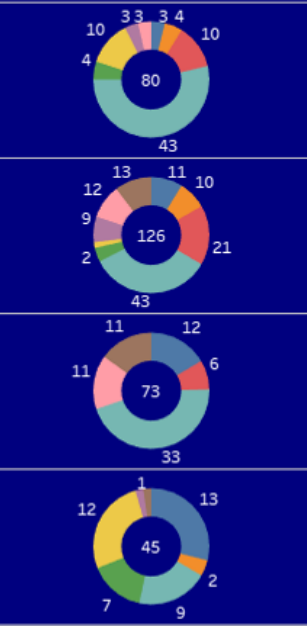
Customers Count per cluster Colored by Varietal Category



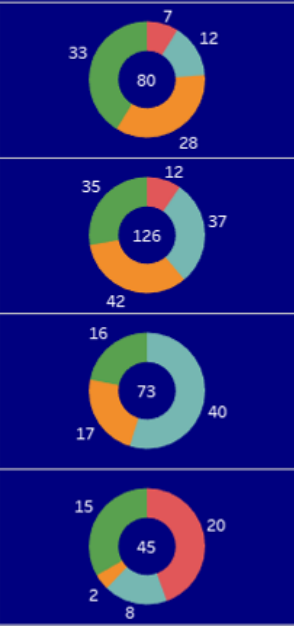
Customers Count per cluster Colored by Min Qty



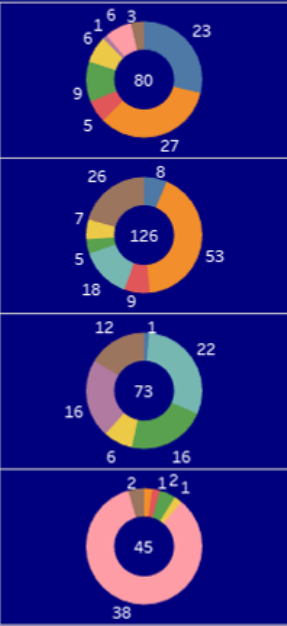
Customers Count per cluster Colored by Origin



Customers Count per cluster Colored by Discount Category



Customers Count per cluster Colored by Varietal



Customer Count per Cluster per Varietal Category per Varietal (colored by Discount Category)



Varietal Category

Red_Wine
Sparkling_Wine
White_Wine

Min Qty

6
12
144
72

Origin

Australia
California
Chile
France
Germany
Italy
New Zealand
Oregon
South Africa

Discount Category

Discount <= 39 %
40% <= Discount <= 52%
54% <= Discount <= 66%
Discount >= 82 %

Varietal

Cabernet Sauvignon
Champagne
Chardonnay
Espumante
Malbec
Merlot
Pinot Grigio
Pinot Noir
Prosecco



Customers Behavior – Unsupervised Machine Learning K-means Clustering (K=4)



“Customer Group 1”

Represents customers who loves and appreciates both French Red Wine and Sparkling Wine (89% consumes ≥ 72 Min Qty) specifically: *Cabernet Sauvignon & Champagne*.

“Customer Group 2”

Represents customers who loves Sparkling Wine (75% consumes ≥ 72 Min Qty) mainly *Champagne* but in general they enjoys French Sparkling Wine.

“Customers from both Group 1 & 2”

More than 75% of them who consumes ≥ 72 Min Qty, love *Cabernet Sauvignon & Champagne* specially if there's high Discounts since they're heavy drinkers.

“Customer Group 3”

Represents customers who are light Wine drinkers (Almost 100% of them, consumes ≤ 6 Min Qty) but still they appreciates French Wine in general (sparkling, Red, and some white).

“Customer Group 4”

Represents customers who loves Red Wine specifically *Pinot Noir*. These customer will buy *Pinot Noir* regardless if there's big Discount or not and they don't care about the origin either. They're just *Pinot Noir* lovers!.



High Yield Segments That's need our attention for their growth potential

"Customers from both Group 1 & 2"

Focus group of customers to increase sales by introducing more Discounts on *Cabernet Sauvignon* & *Champagne*.

"Customer Group 3"

Focus group of customers to increase revenue by introducing more wine varieties because these customers are NOT wine specific who are not settled yet and they would try more or new varieties.

"Customer Group 4"

Focus group of customers to increase revenue by increasing *Pinot Noir* price!.