Actionable Insights from Data Analysis are :-

1). Top Countries with the Most Reviews:

The Wine Land receives a significant amount of traffic and reviews from its users. Analyzing the data revealed the top five countries contributing the most reviews:

Code Snippet:

top\_countries = df['country'].value\_counts().head(5)

print("Top 5 countries with the most reviews:")

print(top\_countries)

This insight allows us to identify the countries with the most engaged customer base. It can be used to tailor marketing efforts and prioritize expansion strategies.

2) Relationship between Price and Points:

Understanding the relationship between the price and points can help in pricing strategies and customer perception. By analyzing the data, we visualized the relationship through a scatter plot.

Code Snippet:

plt.scatter(df['price'], df['points'])

plt.xlabel('Price')

plt.ylabel('Points')

plt.show()

The scatter plot enables us to identify any correlation or patterns between price and points. This information can guide pricing decisions and provide insights into customer preferences.

3) Popular Wine Varieties:

To understand the preferences of our customers, we explored the most popular wine varieties based on the data.

Code Snippet:

top\_varieties = df['variety'].value\_counts().head(5)

print("Top 5 most popular wine varieties:")

print(top\_varieties)

Identifying the top five most popular wine varieties helps in inventory management, marketing campaigns, and catering to customer preferences.

4) Influential Reviewers:

Reviewers play a crucial role in shaping customer perception. We identified the top five influential reviewers based on their average ratings.

Code Snippet:

reviewers\_avg\_ratings = df.groupby('user\_name')['points'].mean()

top\_reviewers = reviewers\_avg\_ratings.nlargest(5)

print("Top 5 influential reviewers:")

print(top\_reviewers)

Building relationships with influential reviewers can be beneficial for seeking feedback and recommendations, as they have a significant impact on customer buying decisions.

5) Relationship between Province and Wine Variety:

Exploring the relationship between province and wine variety helps in understanding regional preferences and targeting specific wine varieties in different areas.

Code Snippet:

heatmap\_data = df.pivot\_table(index='province', columns='variety', aggfunc='size')

plt.figure(figsize=(12, 8))

sns.heatmap(heatmap\_data, cmap='Blues')

plt.xlabel('Wine Variety')

plt.ylabel('Province')

plt.show()

The heatmap visualization provides insights into which wine varieties are popular in specific provinces, enabling targeted marketing and inventory planning.