Expensive Orders Analysis Report

# Summary of Analyses

## Expensive Ratios per State from K-means Clustering

|  |  |
| --- | --- |
| State | Expensive Ratio |
| Australian Capital Territory | 0.38095238095238093 |
| New South Wales | 0.1919191919191919 |
| New Zealand | 0.0 |
| Northern Territory | 0.6 |
| Queensland | 0.144 |
| South Australia | 0.37209302325581395 |
| Tasmania | 0.3684210526315789 |
| Victoria | 0.25 |
| Western Australia | 0.3402061855670103 |

## Predicted Expensive Ratios per State using Gradient Boosting

|  |  |
| --- | --- |
| State | Predicted Expensive Ratio |
| Australian Capital Territory | 0.38095238095238093 |
| New South Wales | 0.19696969696969696 |
| New Zealand | 0.0 |
| Northern Territory | 0.6 |
| Queensland | 0.144 |
| South Australia | 0.37209302325581395 |
| Tasmania | 0.3684210526315789 |
| Victoria | 0.25 |
| Western Australia | 0.3402061855670103 |

## Feature Importance from Gradient Boosting

|  |  |
| --- | --- |
| Feature | Importance |
| Weight | 0.7937688946281836 |
| State | 0.08352739084499208 |
| Domestic\_Charge | 0.039485103073474914 |
| Process\_Charge | 0.03388466374865773 |
| Total\_Charge | 0.0213518233633482 |
| International\_Charge | 0.01423469951182467 |
| Qty | 0.013747424829518835 |

## Confusion Matrix: Original vs Predicted Clusters

The confusion matrix shows the following:

- \*\*True Positives (Expensive)\*\*: The number of orders correctly predicted as 'Expensive'.

- \*\*True Negatives (Not Expensive)\*\*: The number of orders correctly predicted as 'Not Expensive'.

- \*\*False Positives (Expensive)\*\*: The number of orders incorrectly predicted as 'Expensive'.

- \*\*False Negatives (Not Expensive)\*\*: The number of orders incorrectly predicted as 'Not Expensive'.