Density of Purchase Cycles by Service Line

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Executive Summary

This report provides an analysis of purchase cycles by account and service line. It includes the average and median purchase cycles, number of opportunities, and the most recent purchase date. Outliers (cycles greater than 1000 days) have been excluded to provide a clearer picture of the data.

Summary Statistics of Opportunity data

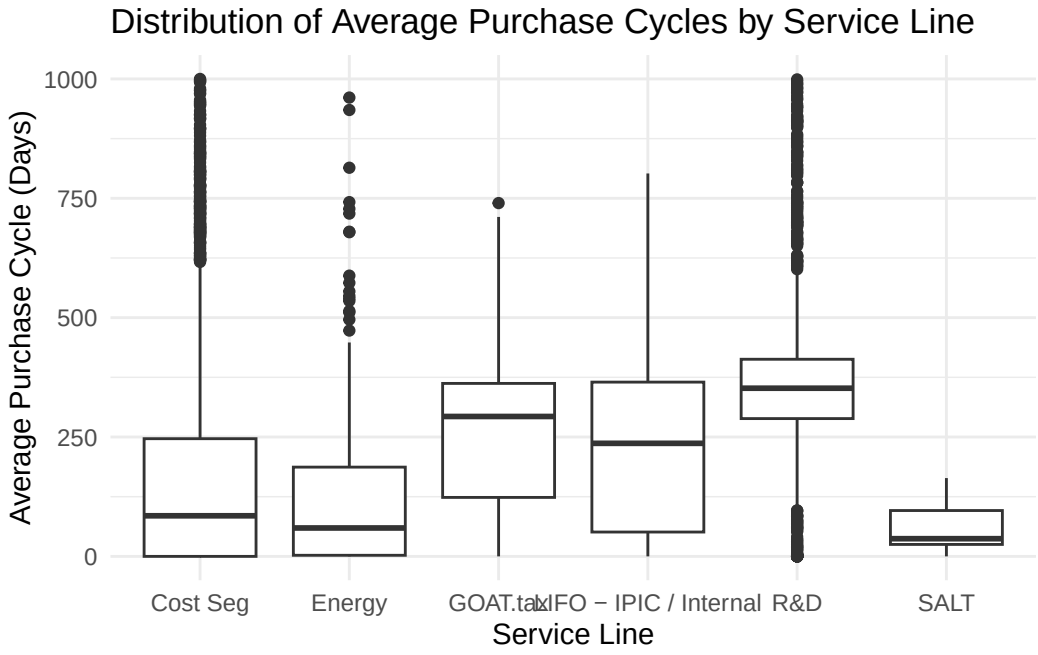
Record Types have been filtered to Cost Seg, SALT, R&D (Recurring & New), LIFO, GOAT.tax., Energy. The original data set contained 67,602 rows. After filtering for Record Type, Closed Won opps, empty values the remaining data set contains 35,253 rows.

```
# A tibble: 7 x 3
  Record_Type_Name       distinct_accts num_opps
  <chr>                           <int>    <int>
1 Cost Seg                         8556    26483
2 Energy                            629     1969
3 GOAT.tax                          200      368
4 LIFO - Auto                         3        3
5 LIFO - IPIC / Internal            286      462
6 R&D                              1981     5797
7 SALT                              161      171
```

Distribution of Average Purchase Cycles by Service Line

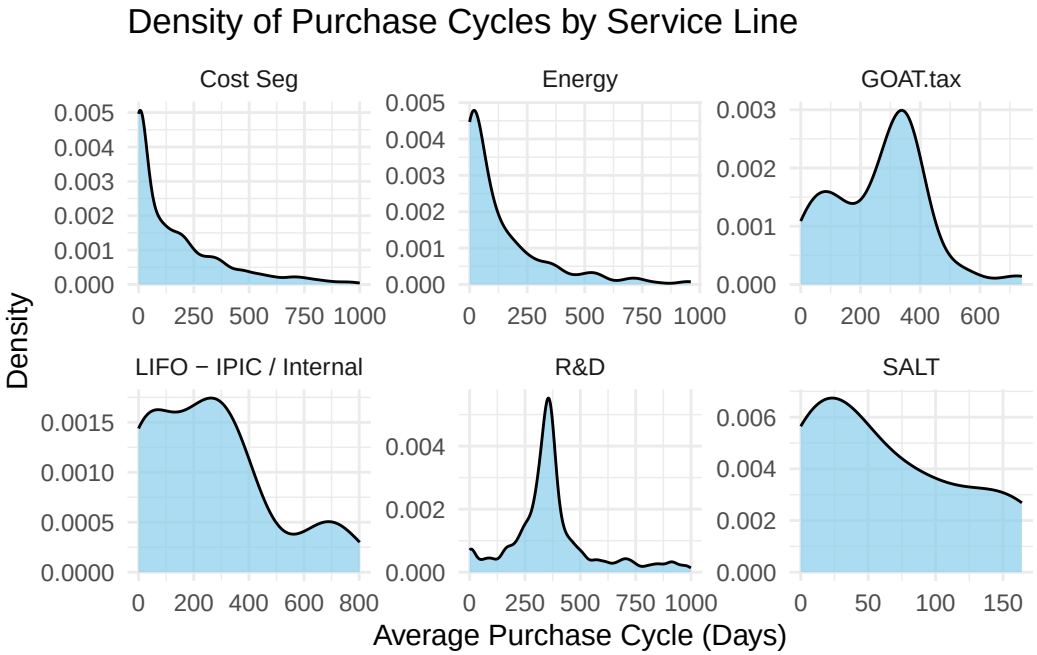
The following box plot is used to visualize the distribution of purchase cycles across different service lines. The X-axis represents each service line, while the Y-axis shows the average purchase cycle in days. Each box represents the interquartile range (IQR), which is the middle 50% of the data, with the line inside the box indicating the median. The "whiskers" extend to

the smallest and largest values within 1.5 times the IQR, and any points outside this range are plotted as outliers. This plot helps compare the variability and central tendency of purchase cycles across different service lines, showing which service lines have more consistent cycles and which exhibit greater variability.



Density of Purchase Cycles by Service Line

A density plot shows the relative concentration of data points around different values on the X-axis. In this case, the X-axis represents `avg_cycle`, the average purchase cycle (in days) for each account and service line, while the Y-axis indicates the probability density, meaning how likely data points are to occur around each X-value. Unlike a histogram, the Y-axis is scaled so that the total area under the curve sums to 1, allowing for comparison of relative distributions rather than absolute counts. The density plot uses a smoothing technique (KDE) to create a continuous curve, showing where most of the purchase cycles are concentrated. Facet wrapping (`facet_wrap(~ Record_Type_Name)`) creates separate plots for each service line, allowing for comparison across service lines with independent Y-axes



The `echo: false` option disables the printing of code (only output is displayed).