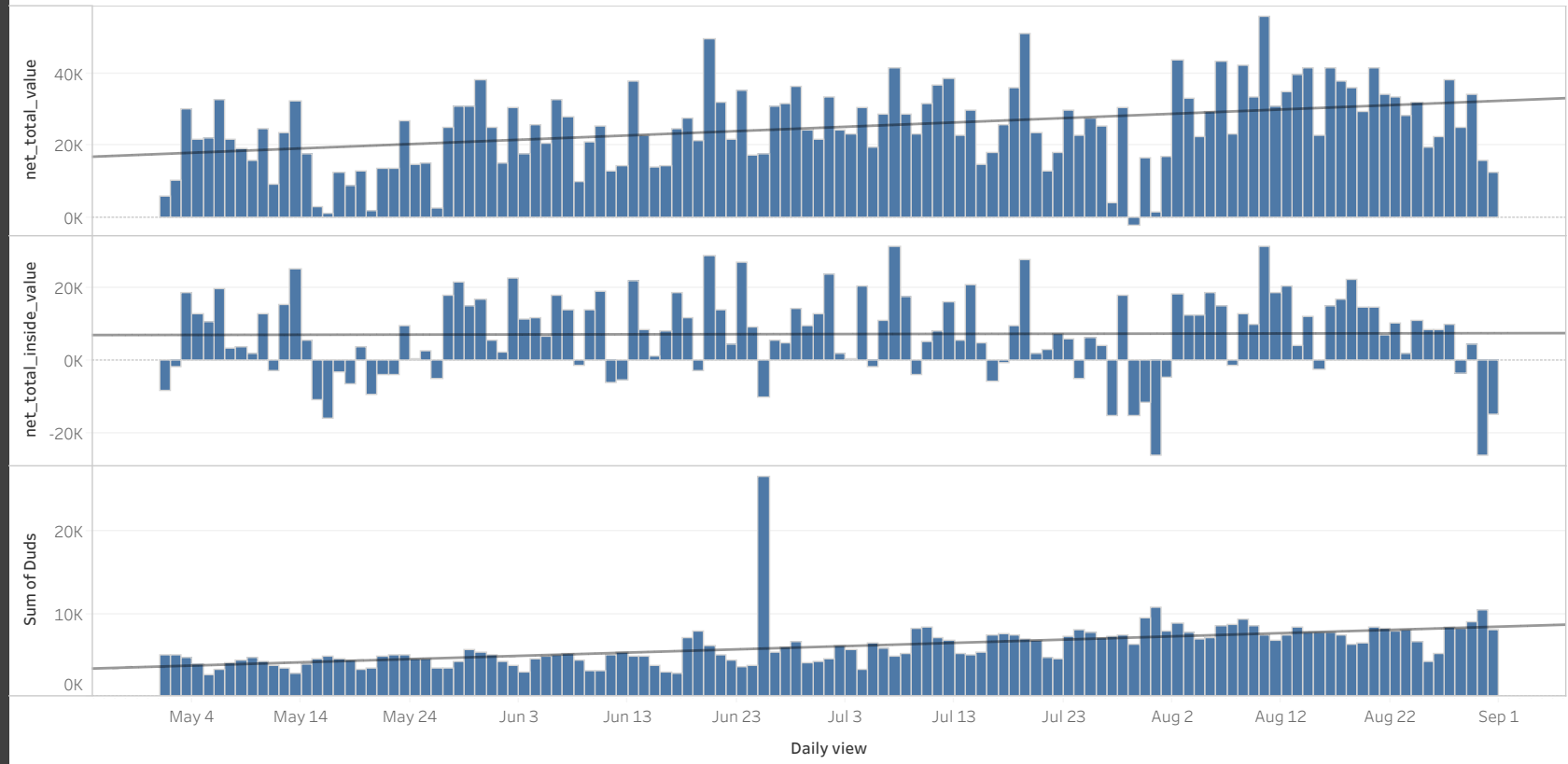
Assumptions/Limitations

- This analysis is intended for an executive audience, as such, it is high-level and focused on visualizations to tell narrative.
- Every shopper has one sales event and outcome. In the real-life setting, outcomes could take multiple attempts to verify. In this dataset, one row equals one unique interaction with sales as validated by the number of unique shopper ids equaling the number of rows.
- The analysis is limited by the relative short window of information. Multi-year seasonally-adjusted aggregations would allow for robust comparison of sales and marketing performance. Also, market source historical performance would help assess quality. Generalizations will need to be validated with data from longer time period.

What changed over this time period in terms of the total performance of the life insurance business?

- During the 4-month span, this chart indicated that a daily net total value demonstrated a positive trend in profitability. However, the net total inside sales value was observed to be relatively flat. Also, it was observed that there was a steady increase to no-value shoppers (”Dud”) with a huge jump on June 25th.
- One hypothesis for this discrepancy, between net total market and sales ROI, would be that Marketing optimized source selection towards net profit where they can benefit from the Partner market. This action could cause downstream effects on sales performance.

Net Market Total Profit:
SUM((Policy_Value + Partner_Rev) - Market Cost)))
Net Market Inside Profit:
SUM (Policy_Value - Market_Cost))
Dud: Sum of No value shoppers



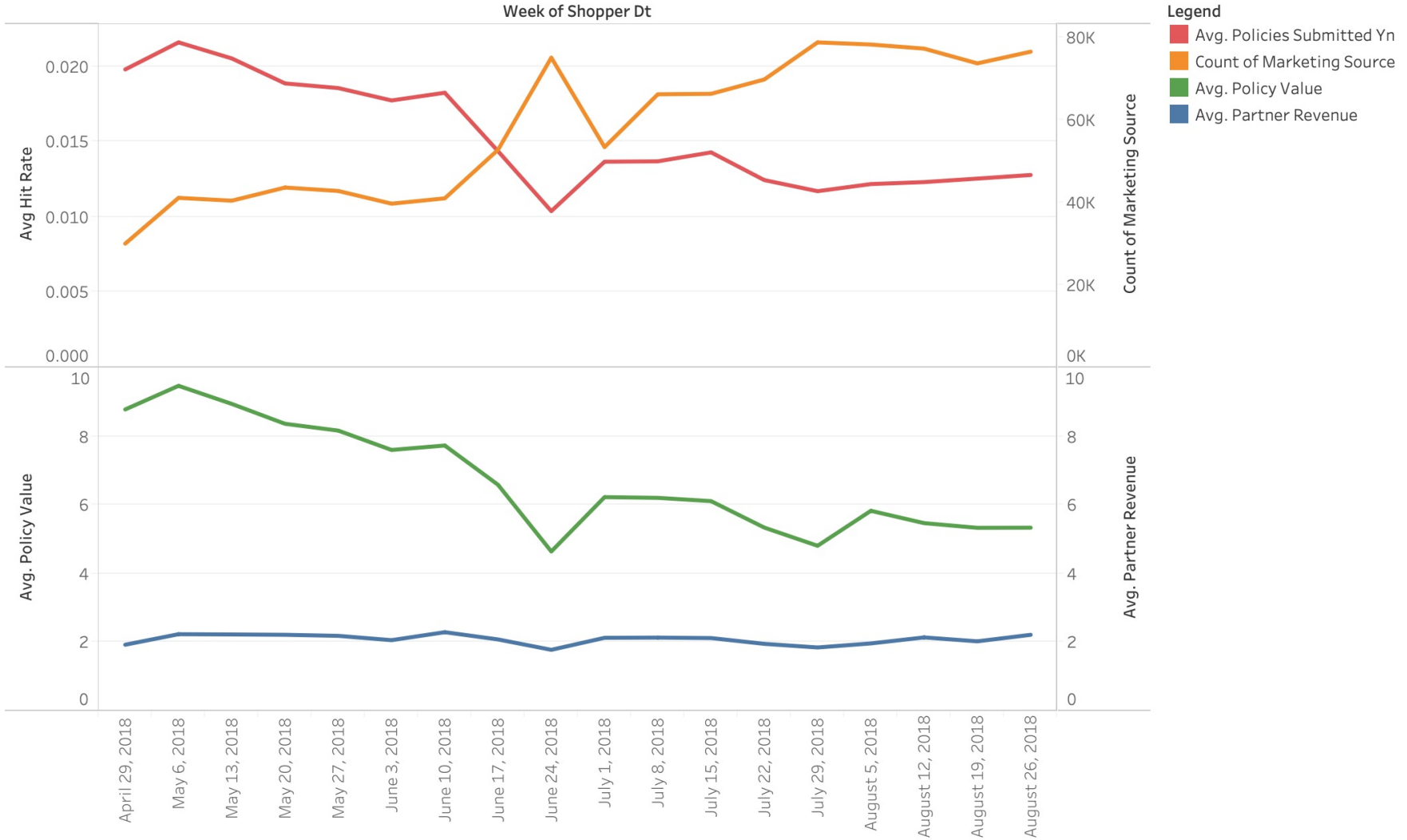
The plots of sum of net_total_value, sum of net_total_inside_value and sum of Shopper Dud for Shopper Dt Day.

When viewed weekly, it was observed that average sales hit rate suffered a sharp decline starting the week of June 10th to June 30th. Concurrently, an overall increased count of market sources was observed. These metrics appear to indicate a negative relationship. In addition, average policy value followed similar downward pattern as average sales hit rate.

Collectively, it suggests that, as time went on, sales was selling less and, when a sell was made, it was for less value.

Note: Average Hit Rate is average of a binary outcome of policy submitted (1 = Y, 0=N).

Weekly Snapshot:
*Total Market Source Count vs Avg Sales Hit Rate
*Avg Policy Value and Avg Parter Revenue

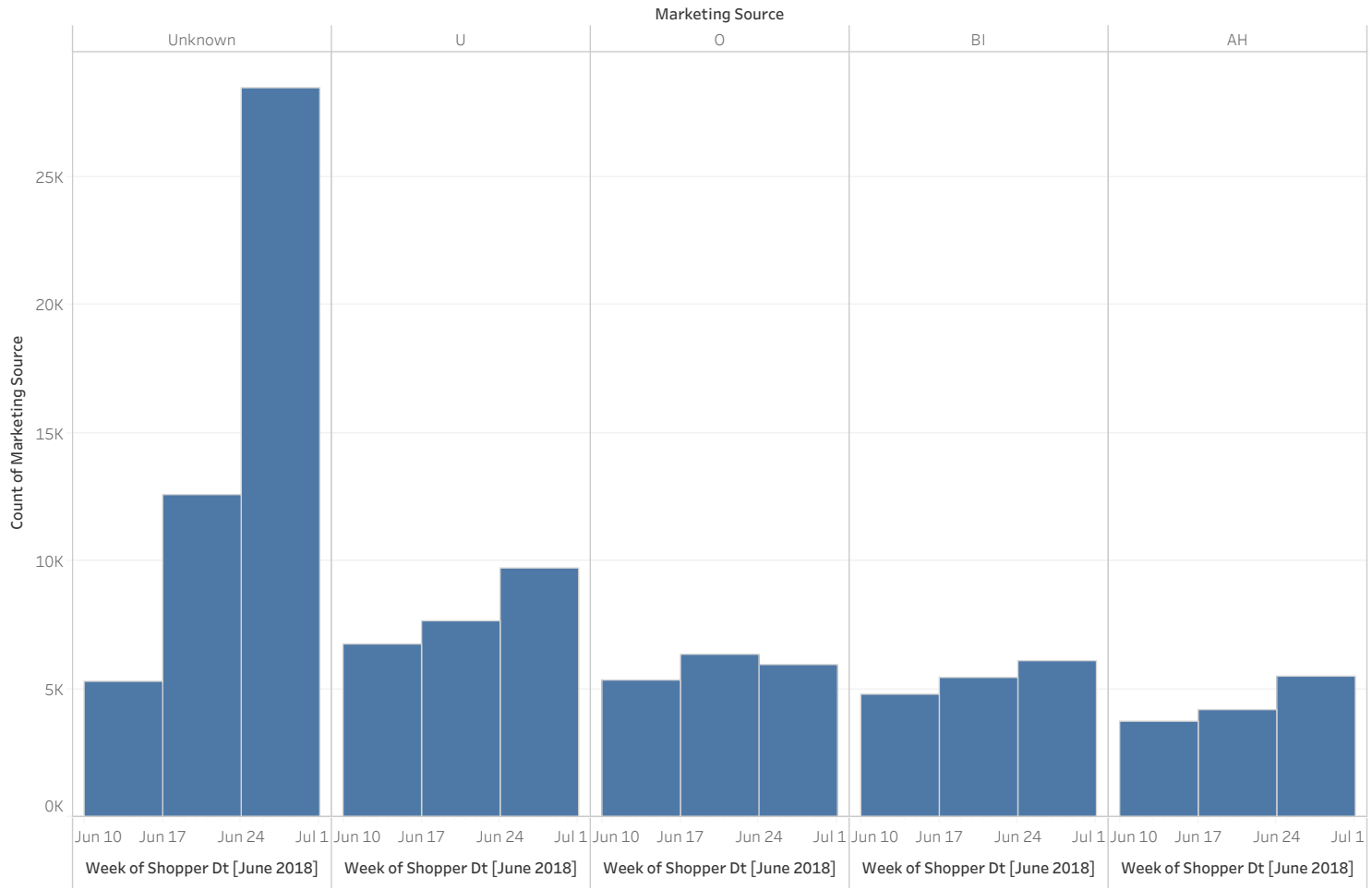


The trends of Avg. Policies Submitted Yn, count of Marketing Source, Avg. Policy Value and Avg. Partner Revenue for Shopper Dt Week. Color shows details about Avg. Policies Submitted Yn, count of Marketing Source, Avg. Policy Value and Avg. Partner Revenue.

- During the sharp decline in average sales hit rate, June 10th to June 30th period, these market sources showed the biggest total increase by count. The biggest increase is in the “Unknown” market source.

- The “Unknown” marketing source has avg overall sales hit rate of 0.001, compared to overall market source average of .014. Also, for “Unknown”, the avg net market revenue per shopper is 1.08, compared to .61 avg total inside sales value, which indicates how impactful Partner revenue was to net total market ROI.

Top 5: Market Source on Week June 10th- June 30 2018

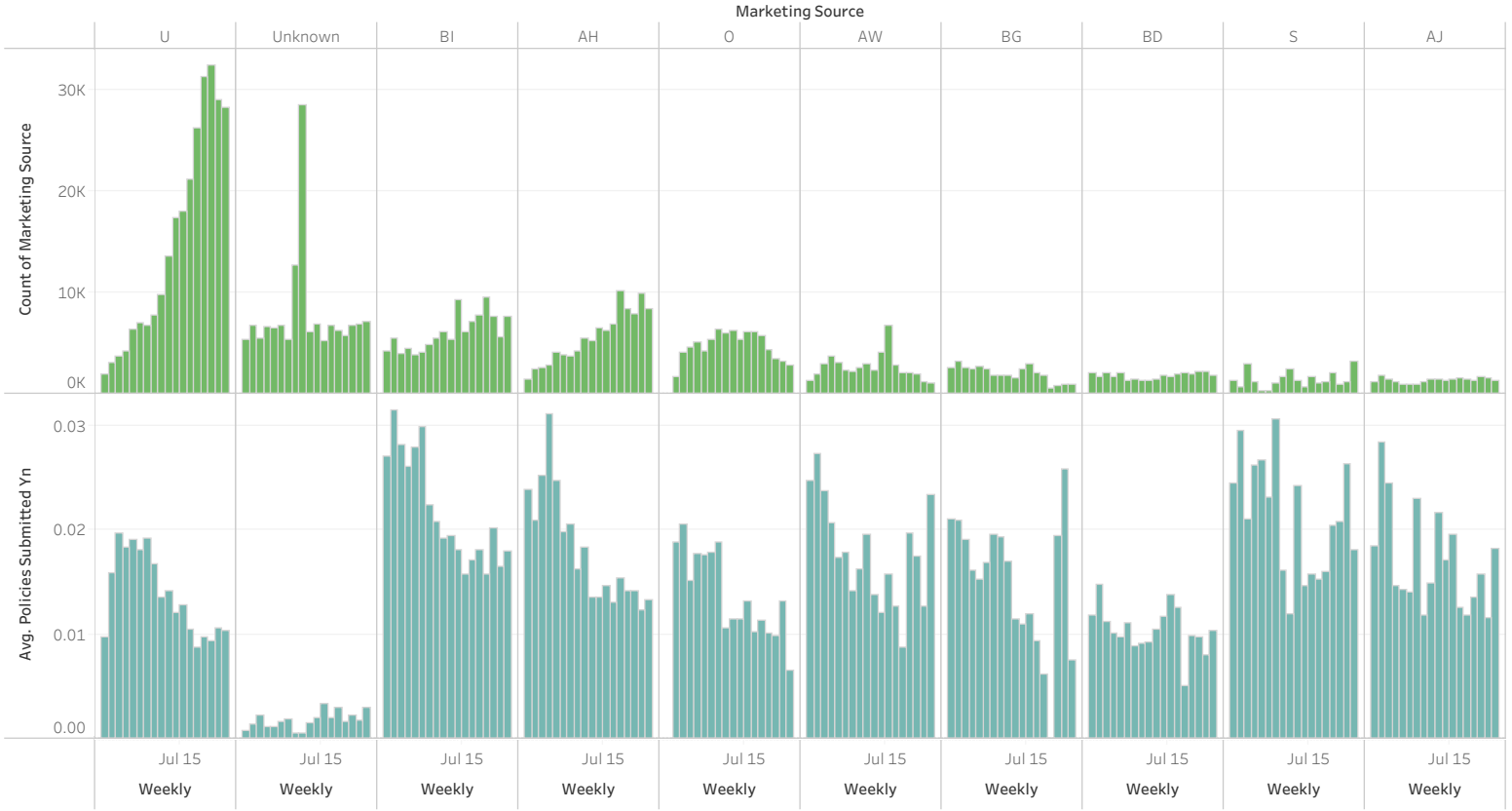


The plot of count of Marketing Source for Shopper Dt Week broken down by Marketing Source. The data is filtered on Shopper Dt Day, which keeps 21 of 123 members. The view is filtered on Marketing Source, which keeps AH, BI, O, U and Unknown.

Is there any evidence that the quality of marketing might have changed and contributed to any of the changes?

- The weekly snapshot of the top ten marketing sources observed a negative relationship between average sales hit rate and market source counts. Specifically, it was observed as counts in specific marketing sources increased, the average inside sales hit rate decreased (e.g., for “U”, “Unknown”, “BI”, and “AH” market sources).

Top 10 Market Source by count
Count of Market Source
Avg Hit Rate by Market Source



The plots of count of Marketing Source and average of Policies Submitted Yn for Shopper Dt Week broken down by Marketing Source. The view is filtered on Marketing Source, which keeps 10 of 62 members.

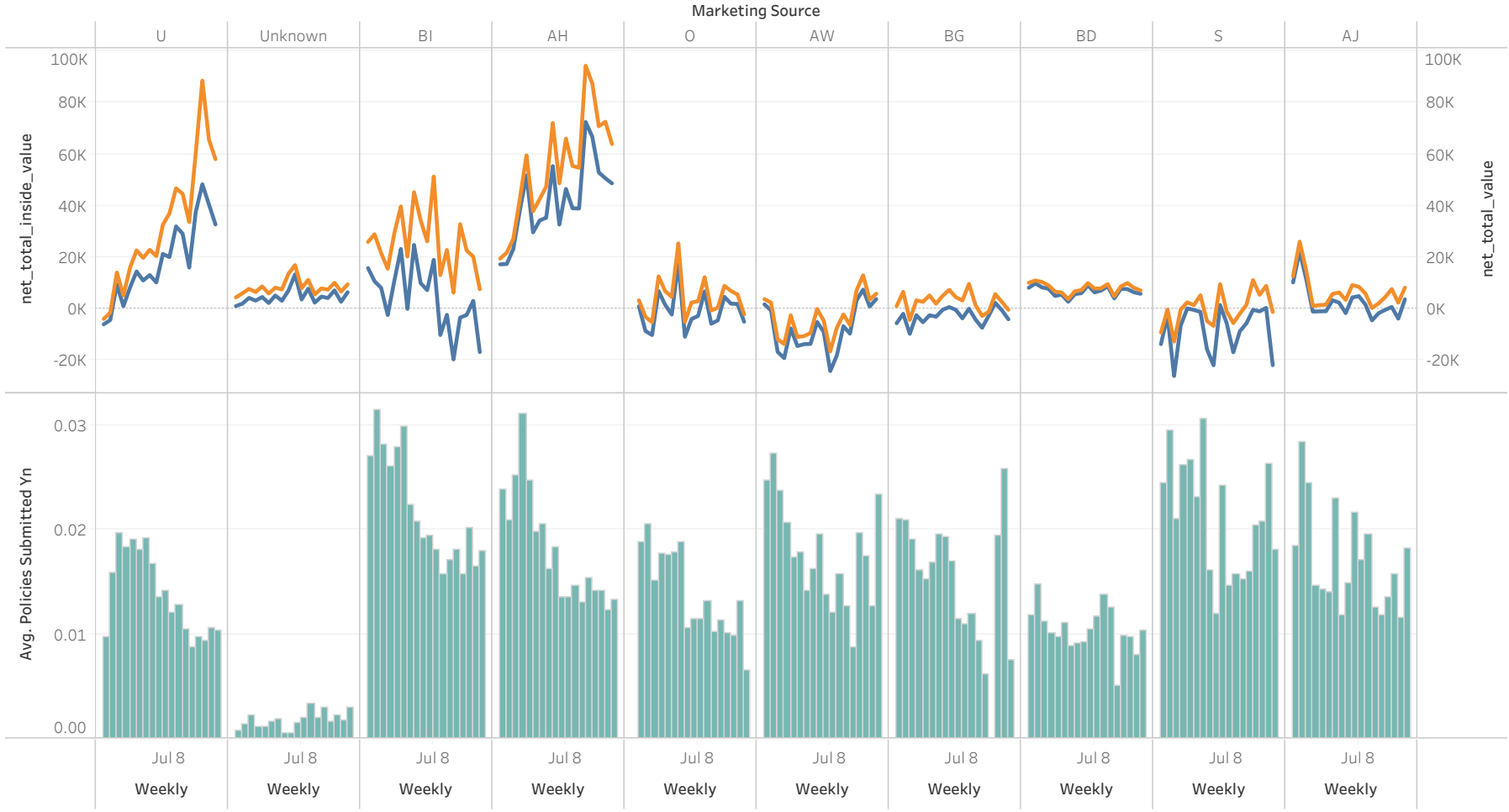
Across Top 10 specific market sources by weekly snapshot, it can be observed that net total value line is always higher than the net total sales value. The dual-axis line chart illustrates the magnitude of the gaps across weeks. The most pronounced gaps are in “U”, “BI”, ”AH”, and ”S” marketing sources.

It should also be noted that net total sales value held negative ROI values for multiple weeks for six out of the ten top marketing sources by count (i.e., “BI”, “O”, “AW”, “BG”, “S”, and “AJ”).

Top 10 Market Source by count

Net Total Profit SUM((Policy_Value + Partner_Rev) - Market Cost)

Net Inside Profit SUM(Policy_Value - Market_Cost)



The trends of net_total_inside_value , net_total_value and average of Policies Submitted Yn for Shopper Dt Week broken down by Marketing Source. For pane Sum of net_total_value: Color shows details about net_total_inside_value and net_total_value. For pane Sum of net_total_inside_value : Color shows details about net_total_inside_value and net_total_value. The view is filtered on Marketing Source, which keeps 10 of 62 members.

- This chart indicates the market source proportion of total market count by width of box within a month.

- Within each box, underneath the marketing source label, the value of the difference from avg market ROI and avg sales ROI.

- This chart give us insight on what the marketing source mixture was for each month paired with the average advantage marketing ROI possessed over sales ROI. We can distinguish what mixture could exacerbate the gap between marketing and sales.

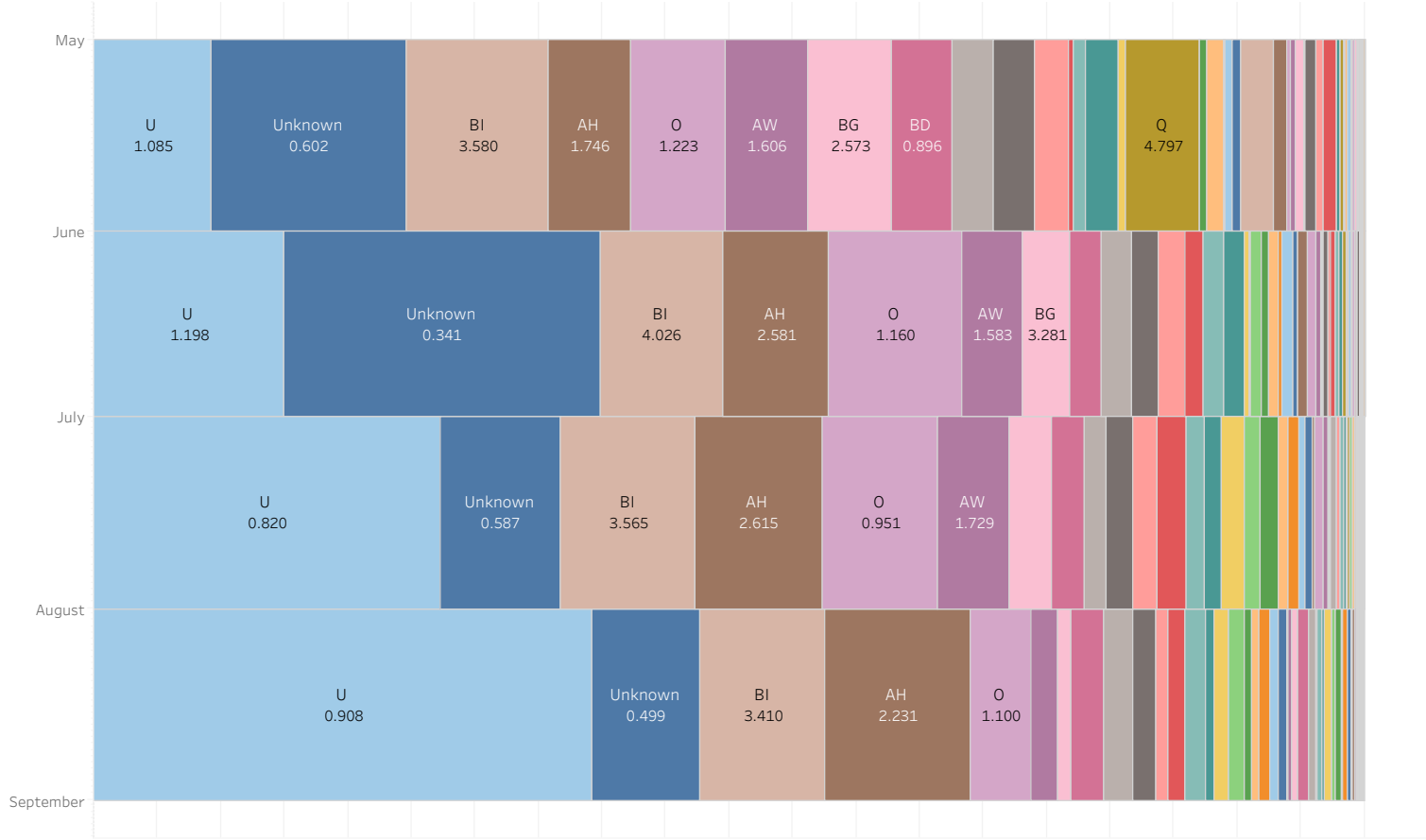
Diff Net Marketing ROI vs Net Sales ROI

75%tile: 5.07

Median: 3.38

25%tile: 2.60

Marketing Source Mixture by Month

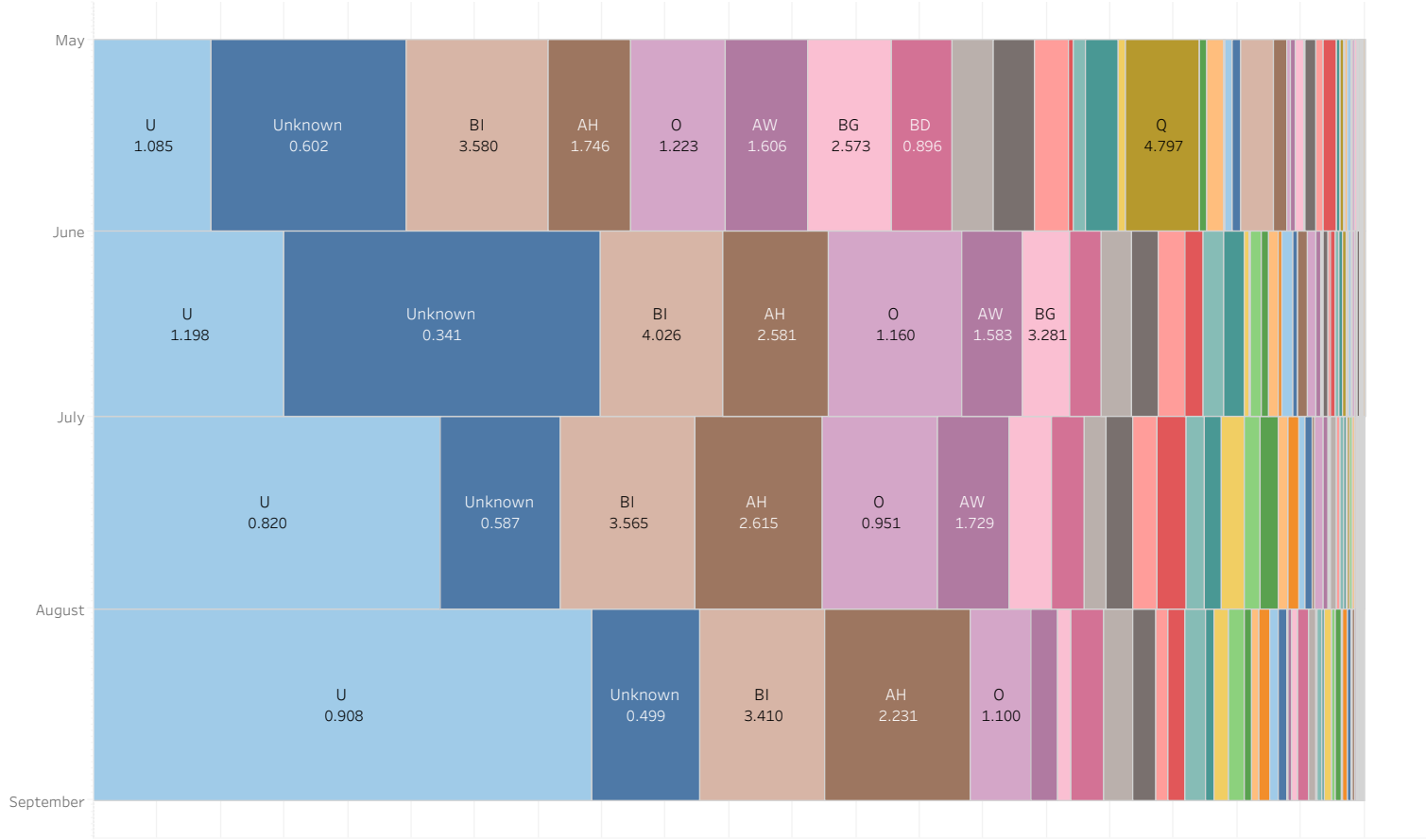


The plot of % of Total Count of Marketing Source for Shopper Dt Month. Color shows details about Marketing Source. The marks are labeled by Marketing Source and average of diff_net_total_vs_inside_value. Details are shown for Marketing Source. The data is filtered on Action (Marketing Source), which keeps 62 members. The view is filtered on Marketing Source, which keeps 62 of 62 members.

- Monthly, Marketing spend in specific market sources caused gaps between rates of marketing and sales ROI. For example, some May drivers of this gap would be ”U’, “BI”, ”AH”, ”O”, ”BG”, and “Q”.

Note: Despite the high volume in “Unknown” market source, its average ROI difference is never above 1.0. It could suggest that ”Unknown” was a low performer for sales and marketing ROI.

Marketing Source Mixture by Month



The plot of % of Total Count of Marketing Source for Shopper Dt Month. Color shows details about Marketing Source. The marks are labeled by Marketing Source and average of diff_net_total_vs_inside_value. Details are shown for Marketing Source. The data is filtered on Action (Marketing Source), which keeps 62 members. The view is filtered on Marketing Source, which keeps 62 of 62 members.

Is there any evidence that the sales team performance is any better or worse?

- Across a daily snapshot, it can be observed that daily avg sales hit rate had a negative trend line which indicated sales performance decreased daily during 4-month span. In addition, it was observed that daily average quality opportunities had a negative trend line. Sales performance could have suffered from lack of quality opportunities.
- This finding is despite a steady increase in daily call volumes and stable daily average ”dud” rate (calls with no policy or partner value) within the sample’s date range.

*Slowly increasing trend of call volume
*Decreasing quality opp (200+ sec call)
*Relative stable ”dud” leads (no internal & external value)

The trends of Daily Avg Hit as an attribute, Daily Avg Qual Opp as an attribute, Daily Call Volume as an attribute and Daily Avg Dud as an attribute for Shopper Dt Day. The data is filtered on Shopper Dt Day, which excludes June 27, 2018.

Note:

June 25th had an outsized impact on sales metrics. Upon further inspection, it was observed that most of the spike came from ”Unknown” marketing source during 12am- 2am. Possible follow up with Marketing team to understand this marketing source and strategy.

Conclusions

- The overall performance in life insurance group was positive over the 4-month span (3.05M in total net value, 884k in total sales net value).
- However, weekly snapshot of avg sales hit rate and count of marketing source indicated that sales was impacted by increased levels of specific market sources (i.e., “U”, “Unknown”, “BI”, and “AH”; see slide 4, 6).
  - Huge outlier observed on June 25th from ”Unknown” market source between 12am-2am. It accounts for ~23k out of 30k of the daily total.
- These increased levels of market sources created gaps in ROI between marketing and sales with the most visible in “U”, “BI”, ”AH”, and ”S” market sources (slide 7).
  - Net total sales value held negative ROI values for multiple weeks for six out of the ten top marketing sources by count (slide 7).
- As time progressed, sales conversion performance and quality opportunities decreased (slide 10).
- Suggestions:
  - Assuming May as baseline capacity, follow up with sales scalability to handle increased volume from July-August.
  - Develop an optimization model for market spend to fill sales capacity bucket with high sales ROI sources as their time is finite. Rest of market dollar spend can go to higher market ROI that focuses on Partner revenue with lower sales hit rates.
  - Another scenario would be if both sides need to share limited market sources. One could develop an equitable market metric that would balance proven higher sales conversion market sources with lower values on the difference of sales ROI and marketing ROI.