Marketing Mix Model Report

Content

Model Overview

$Sales = intercept$

$+ CCI + Sales\ Event + Black\ Friday + July\ 4th$

$+ National\ TV + Magazine$

$+ Paid\ Search + Display + Facebook + WeChat$

$+ Competitor\ Media\ Spend$

$+ Error$

Executive Summary

Executive Summary

- National TV has the highest contribution
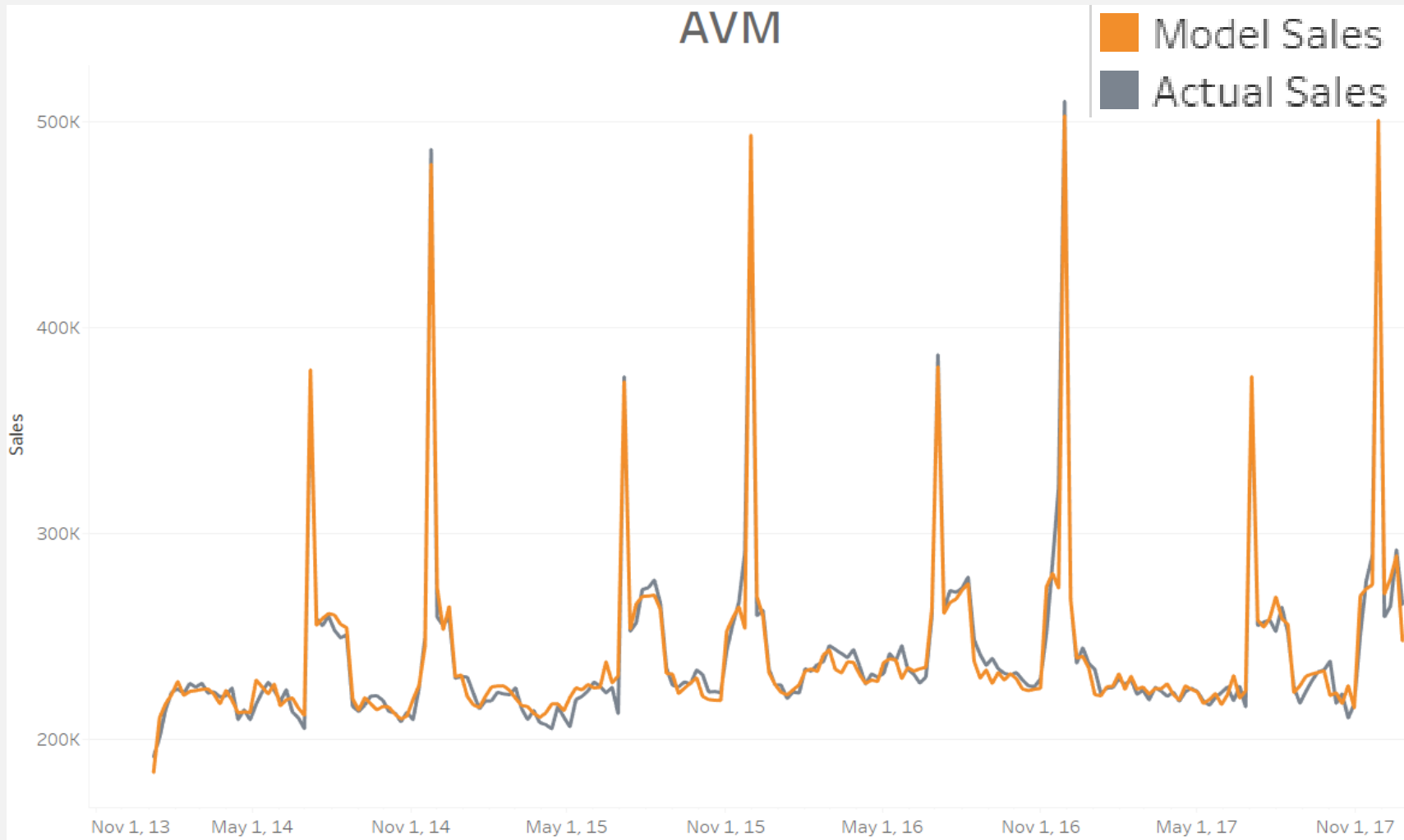
- Facebook is the most efficient channel

- Increase budget for Facebook, Display, Search and WeChat

- Optimized Sales estimated to increase by 2.6%
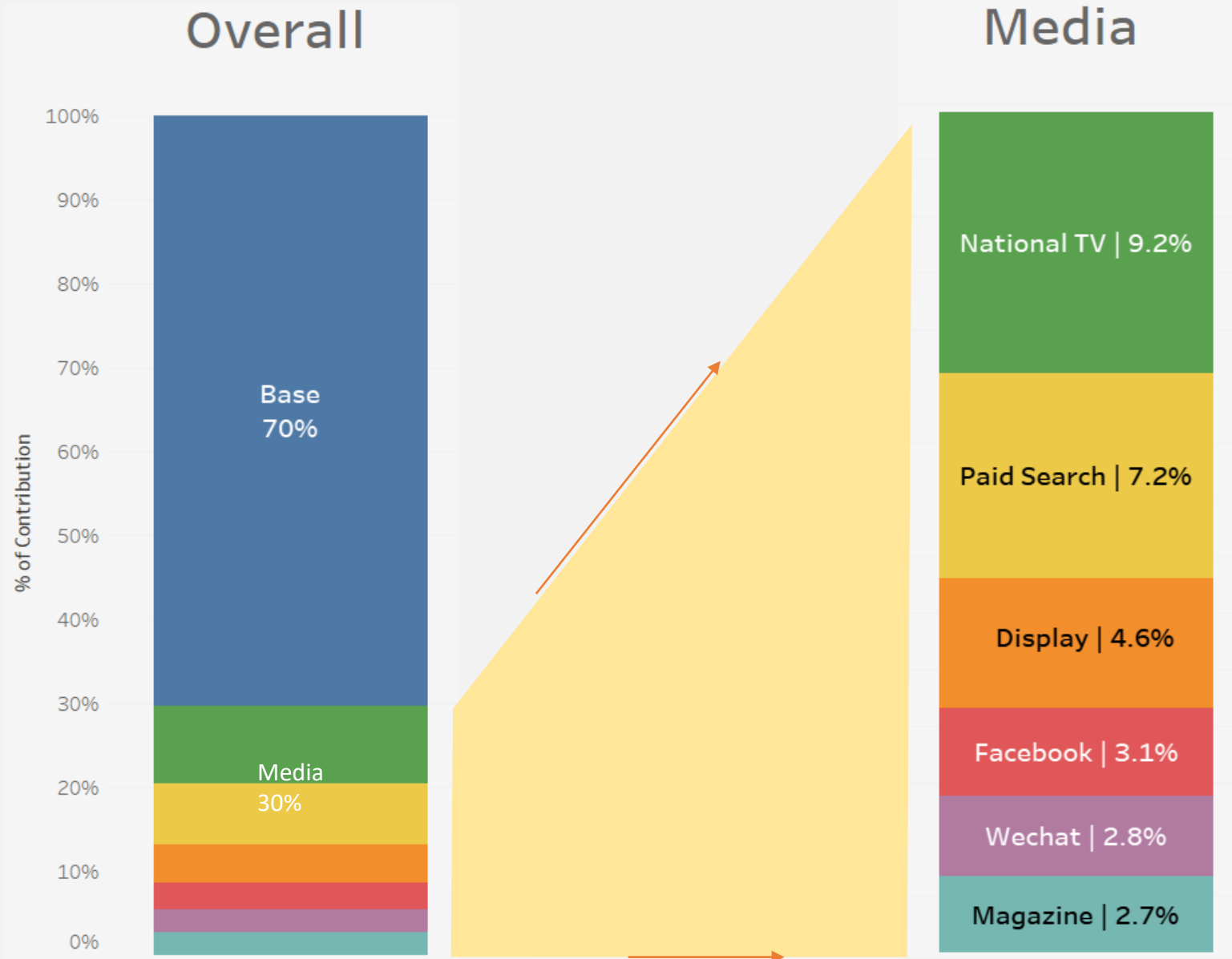
Overall Analysis

Overall Analysis

AVM

Legend: **Model Sales** (orange), **Actual Sales** (gray)

Y-axis: Sales — 200K, 300K, 400K, 500K

X-axis: Nov 1, 13 | May 1, 14 | Nov 1, 14 | May 1, 15 | Nov 1, 15 | May 1, 16 | Nov 1, 16 | May 1, 17 | Nov 1, 17

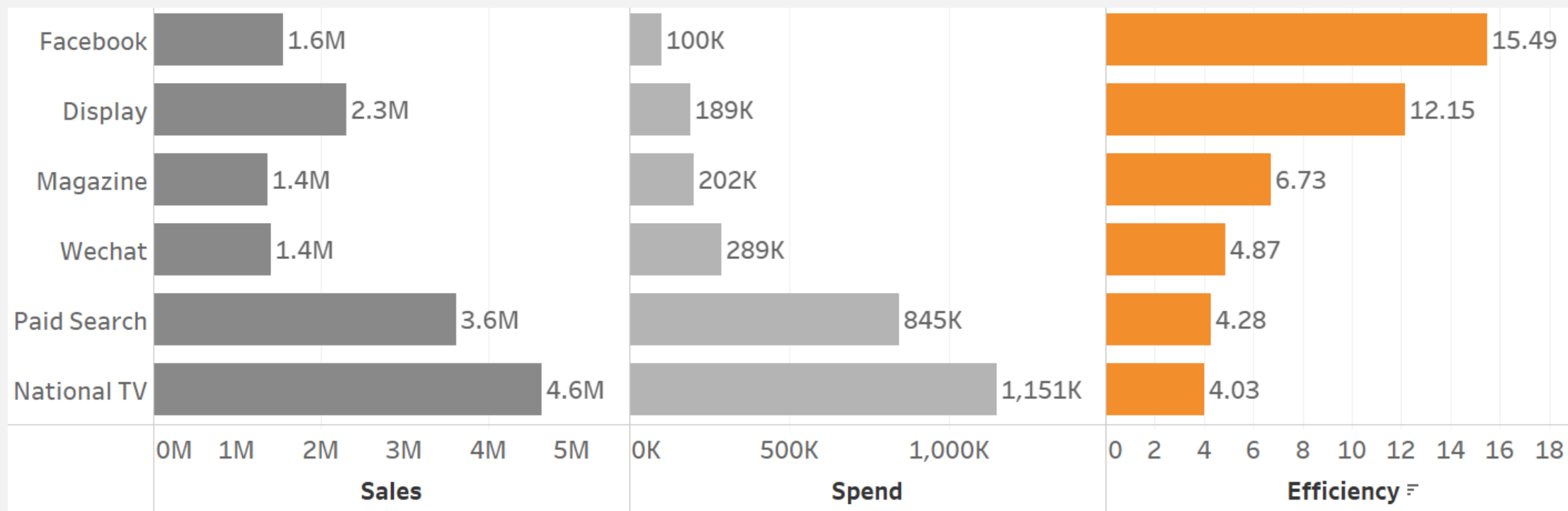**97%** of the sales variance could be explained by the model

*More details in appendix

Contribution

- **National TV** contributes the most sales

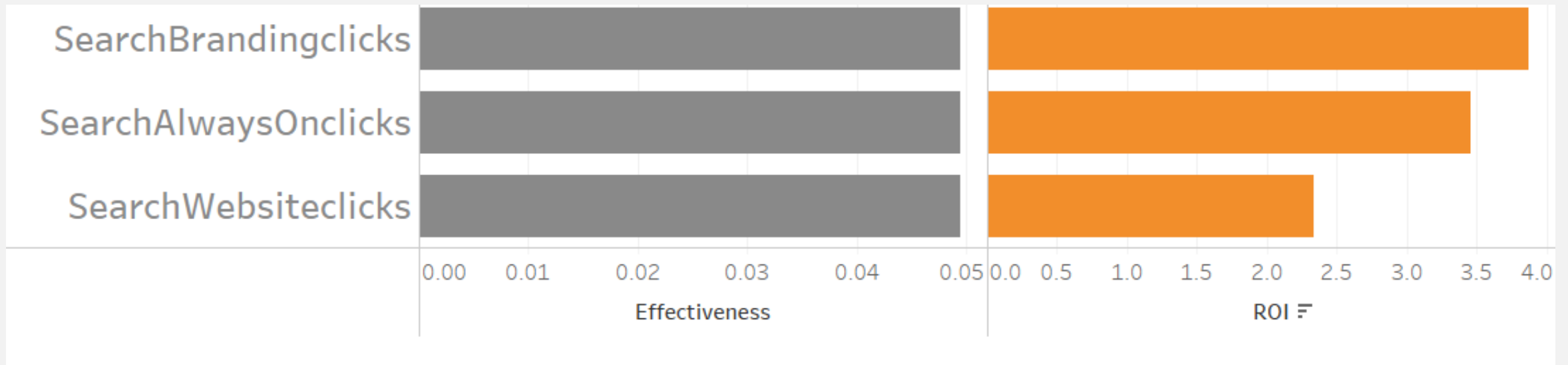- **Online media (+...)** is also very essential

Efficiency

Online media is the most efficient (Facebook, display)

Side Model
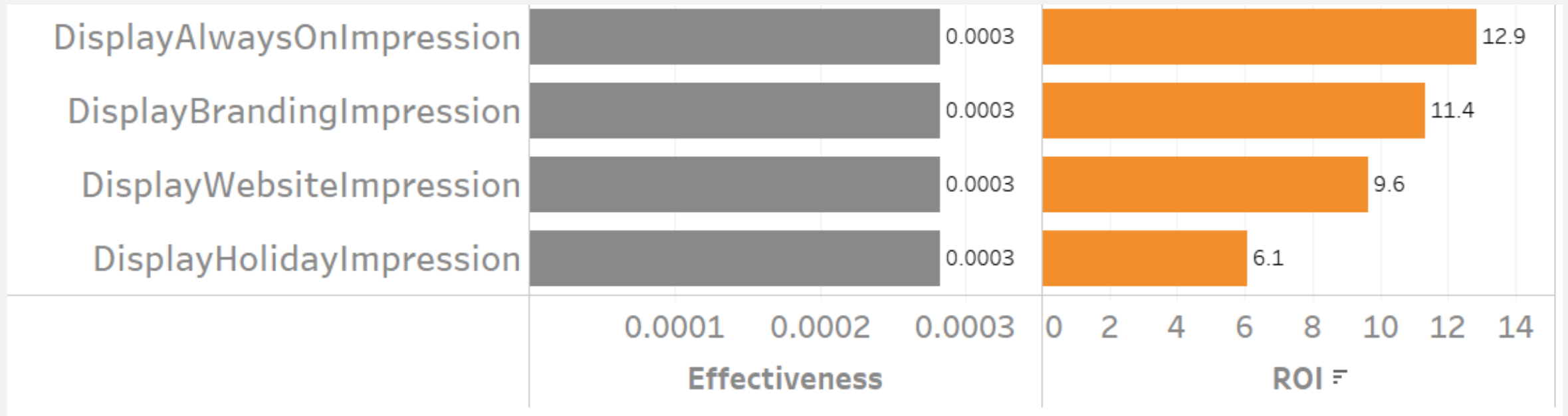
Paid Search Channel

- **SearchBrandingclicks** is the most efficient campaign

- Collect feedback from users to keep improving
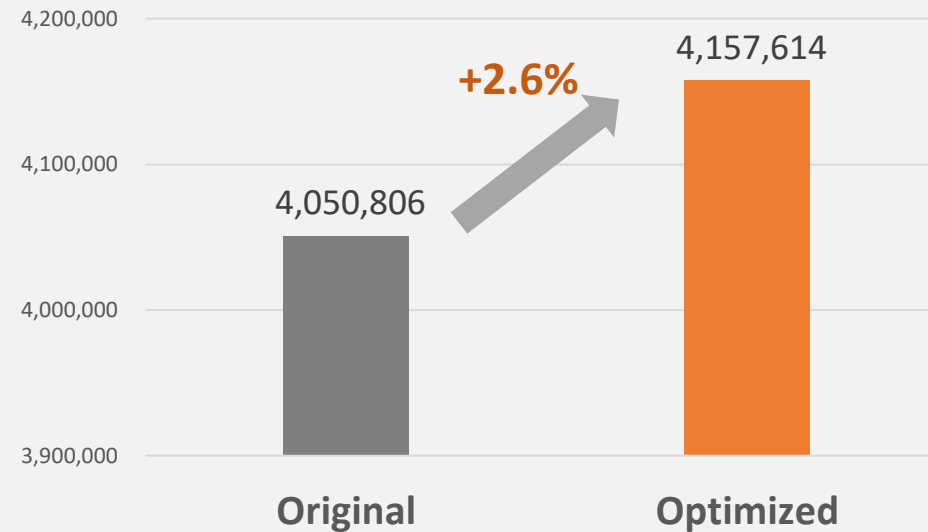
Facebook Channel

Display Channel

DisplayHolidayImpressions has the lowest efficiency

Optimization

Optimization

Sales Optimization

	National TV	Magazine	Paid Search	Display	Facebook	Wechat
Original Spend	$ 274,552	$ 57,547	$ 209,566	$ 46,368	$ 25,771	$ 9,533
Optimized Spend	$ 227,814	$ 46,037	$ 251,480	$ 55,642	$ 30,925	$ 11,439
+ / -	⬇ (46,738)	⬇ (11,509)	⬆ 41,913	⬆ 9,274	⬆ 5,154	⬆ 1,907

Thank you! 😎

Transformation Parameter

```python
transform = {'National TV GRPs':        {'lag':1, 'Alpha':0.3, 'Decay':0.8},
             'Magazine GRPs':           {'lag':1, 'Alpha':0.1, 'Decay':0.7},
             'Paid Search':             {'lag':0, 'Alpha':0.99, 'Decay':0.99},
             'Display':                 {'lag':0, 'Alpha':1  , 'Decay':1  },
             'Facebook Impressions':    {'lag':0, 'Alpha':0.7, 'Decay':1  },
             'Wechat':                  {'lag':1, 'Alpha':1  , 'Decay':0.9}}
```