

AV&Co Data Scientist Demonstration Case

# Summary of Findings

# Executive Summary

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**73.1% of the budget is spent on un-proven media tactics.**  
This report identifies and ranks 7 impactful tactics where the spend has historically delivered a proven return on investment.

**9.8% of sales can be attributed to structural occurrences.**  
We identify and rank the impactful events so strategy can consider how to leverage and mitigate them as appropriate.

# Agenda

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Relative Contribution of Media Tactics to Sales

2

Relative Efficiency of Media Tactics

3

Impact of Structural Variables on Sales

4

Towards an Optimized Spend Plan

# Contribution and Efficiency of Media Tactics

- Seven media tactics were identified as having a significant impact on sales.
  - Together, they contribute 32% of all sales.
- For the remaining thirteen tactics, there is no evidence to suggest that they impact sales outcomes.

Tactic	Contribution
9	6.1%
4	5.7%
14	4.9%
11	4.5%
8	3.8%
19	3.5%
15	3.5%

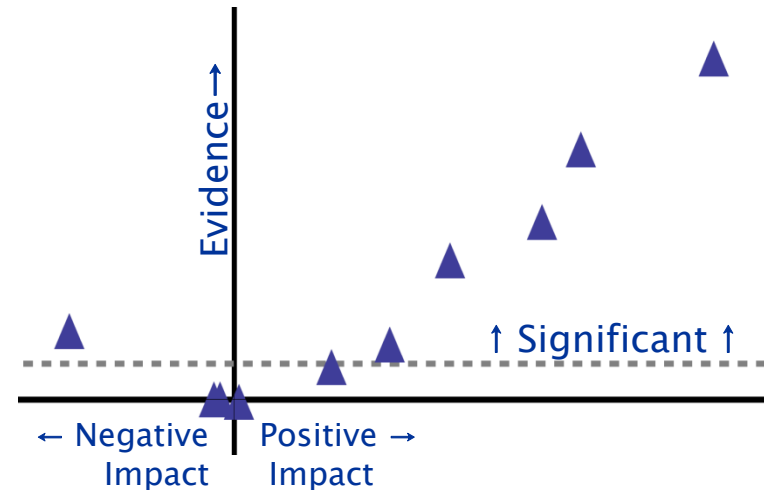
- Among the seven tactics found to be effective, **efficiency\* varies widely**.
- The **most efficient tactic** has a return on investment (ROI) of 17.7 units in sales per dollar spent.
- The **least efficient** tactic has a ROI of 2.1 units in sales per dollar spent.

Tactic	Efficiency*
15	17.7
11	16.1
9	11.3
8	7.8
4	6.9
14	4.8
19	2.1

\*Contribution to sales units per dollar spent on tactic.

# Impact of Structural Variables on Sales

- Seven structural occurrences were identified as having a significant impact on sales.
  - Together, they have a net **impact amounting to 9.8%** of all sales.
- The business may want to consider whether the six positively impactful occurrences can be further leveraged.
- Ways to **mitigate the negative impact of occurrence number 6** is an other possible point for exploration.

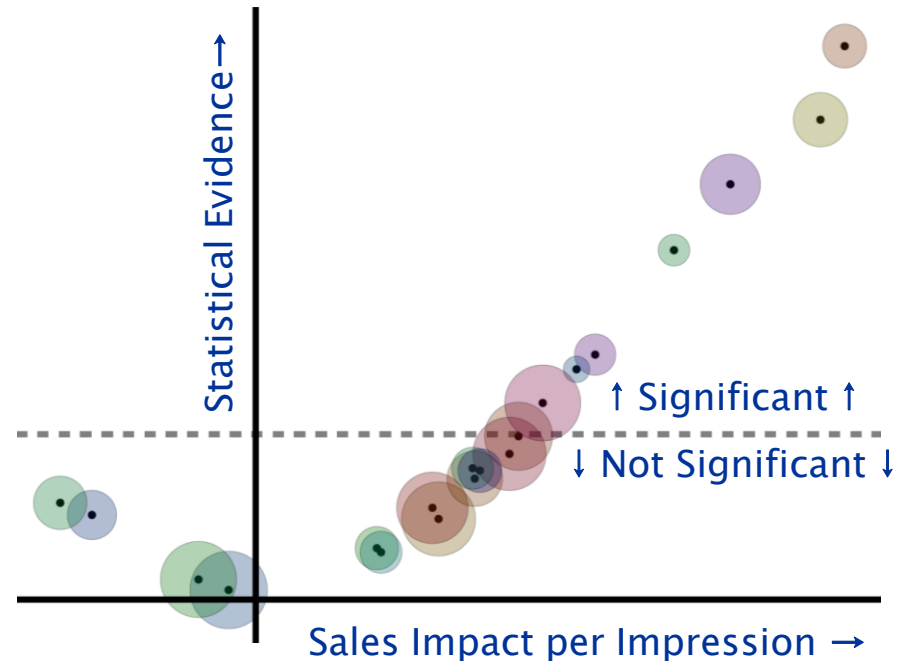


**Figure 1.** Impact and statistical significance of structural occurrences. .

Occurrence	Contribution
1	3.3%
5	2.4%
2	1.8%
7	1.7%
10	0.9%
3	0.8%
6	-1.0%

# Towards an Optimized Spend Plan

- Only 26.9% of the budget is spent on tactics which the evidence shows are effective.
- Re-allocating budget previously spent on tactics not seen to be effective has the potential to further leverage tactics with proven ROI.
- Prioritizing effective tactics with the highest efficiency (see above) would provide a good starting point.
- Business considerations may further inform the need for a diversity in tactics.
- Numerical optimization based on a simple (linear) model will not be sufficient to arrive at a diverse, practical portfolio of tactics.
- A more sophisticated model may capture not only tactic efficiency but also saturation (i.e. diminishing returns with increasing tactic spend), leading to more realistic predicted outcomes.



**Figure 2.** Impact and statistical significance of tactics. The area of disks depicts relative spend on each tactic.