

From Zero to Hero:

How Any Marketer Can Derive Value from Digital Data Like a Pro

By Allan Woodstrom

Query failed.
FML.

COMPOSE QUERY

- Query History
- Job History
- Scheduled Queries
- Transfers

bigquery-public-data

- google_analytics_sample (1)
 - ga_sessions_ (366)
- google_political_ads (6)
 - advertiser_stats
 - advertiser_weekly_spend
 - campaign_targeting
 - creative_stats
 - geo_spend
 - top_keywords_history

New Query ?

Query Editor UDF Editor X

```
1 SELECT
2 date,
3 channelGrouping as channel,
4 totals.visits,
5 totals.transactions,
6 totals.transactionRevenue
7 FROM `bigquery-public-data.google_analytics_sample.ga_sessions_20170801`
8 WHERE channelGrouping channelGrouping (STRING, NULLABLE)
9 ORDER BY transactionRevenue
10 LIMIT 1000
```

Standard SQL Dialect X

Ctrl + Enter: run query, Tab or Ctrl + Space: autocomplete.

RUN QUERY Save Query Save View Format Query Schedule Query Show Options

Results Details

Query Failed

Error: Unrecognized name: channel at [8:7]

Job ID: elite-striker-240720:US.bqjob_59a66ed1_16abd6630fa

Most people stop here.

The screenshot shows the Google BigQuery interface. On the left, there is a sidebar with a 'COMPOSE QUERY' button and a list of data sources under 'bigquery-public-data'. The 'google_analytics_sample' dataset is expanded, showing 'ga_sessions_' (366) and 'google_political_ads' (6). The 'google_political_ads' dataset is further expanded, showing several tables including 'advertiser_stats', 'advertiser_weekly_spend', 'campaign_targeting', 'creative_stats', 'geo_spend', and 'top_keywords_history'. A blue arrow points from the 'channel' column in the SQL query to the error message.

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8 WHERE channelGrouping < channelGrouping (STRING, NULLABLE)
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```

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Error: Unrecognized name: channel at [8:7]

Job ID: elite-striker-240720:US.bqjob_59a66ed1_16abd6630fa

It feels
too hard.

The screenshot shows the Google BigQuery interface. On the left, a table list is expanded to show columns from the 'bigquery-public-data' dataset. A blue arrow points from the 'channel' column in the 'google_analytics_sample' table to the 'channel' alias in the SQL query. The SQL query is as follows:

```
1 SELECT
2 date,
3 channelGrouping as channel,
4 totals.visits,
5 totals.transactions,
6 totals.transactionRevenue
7 FROM `bigquery-public-data.google_analytics_sample.ga_sessions_20170801`
8 WHERE channelGrouping < channelGrouping (STRING, NULLABLE)
9 ORDER BY transactionRevenue
10 LIMIT 1000
```

The error message at the bottom reads: "Query Failed", "Error: Unrecognized name: channel at [8:7]", and "Job ID: elite-striker-240720:US.bqjob_59a66ed1_16abd6630fa".

**These
guys,
the “data
scientists”
will tell
you it’s too
hard too.**



You tell them...

**You are not
doing
data science.**

**You are doing
analytics.**

**You don't need
a model. Just
some data.**



Data Science vs Business Analytics

Data Science

- Data inputs, produce an output.
 - Mining huge data sets.
 - Predict the future with mathematical models.
 - Model output used in applications in real time, like approvals for financing
 - Development based on use cases.
 - Constant retraining of models.

Business Analytics

- Seeking understanding, not predictions.
 - Reports based.
 - Ad hoc questions.
 - More triangulation, less computation.
We did x, we saw z.
 - Recognition that results are often a result of data we don't have visibility to.
Could be cost prohibitive to collect, or unable to collect anything reliably.

How to derive value from digital data better than these guys using simple business analytics...



Mathematical Complexity \neq Value

Mathematical Complexity \neq Value

Why is that?

Can you replicate the model?

Can you explain the model?

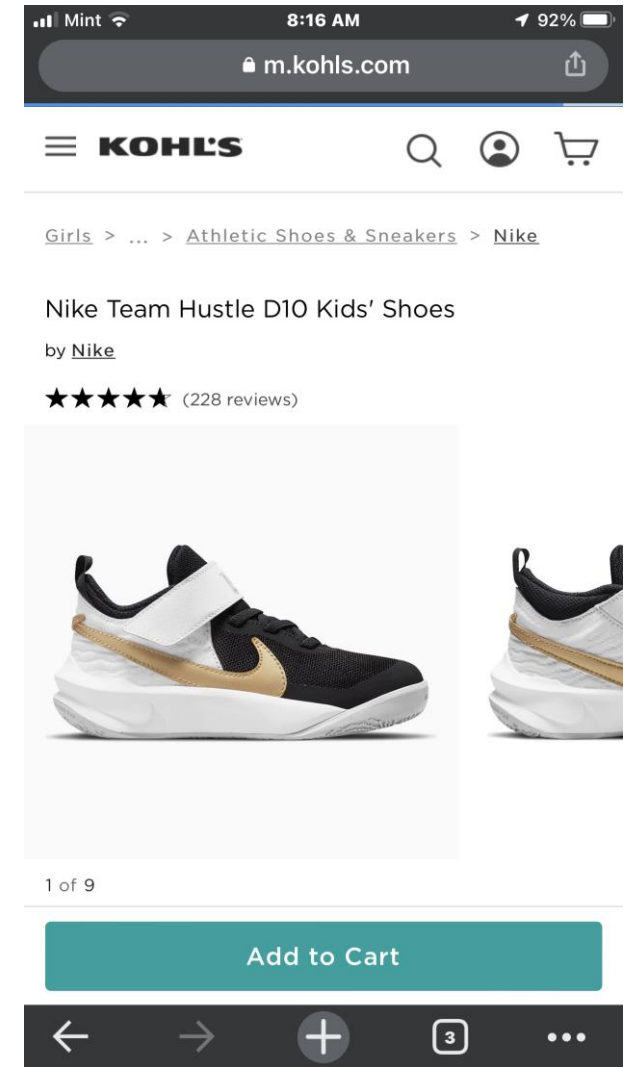
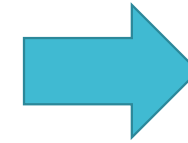
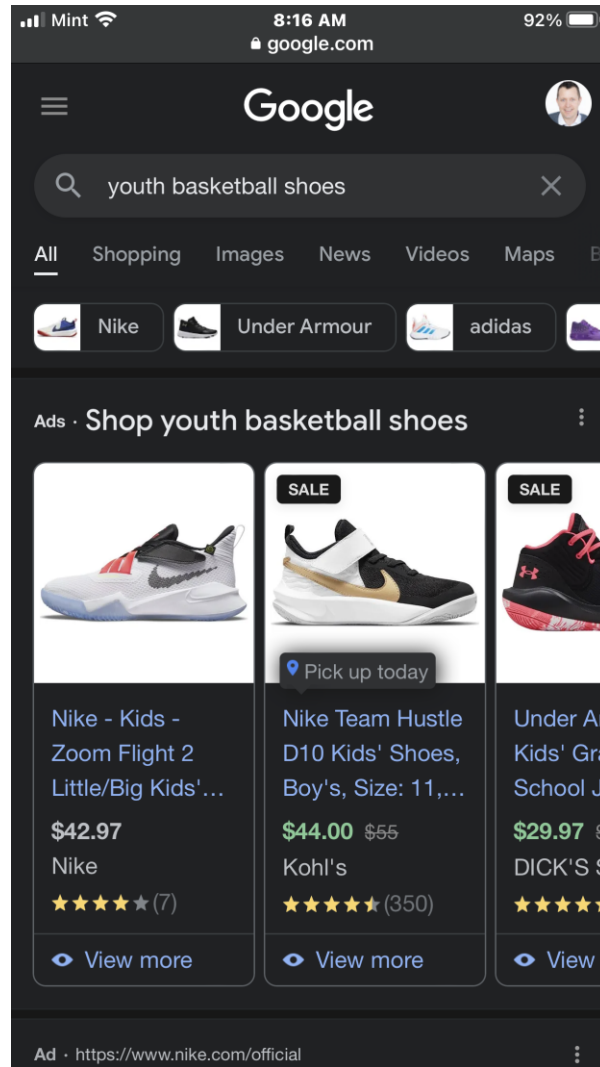
Can you scale the model?

Is the model overfit?

Can the model run in real-time?

#1 – Walk the experience as a customer.

Look at data in areas that you found difficulty.



#2 – Perform a high-low analysis of key reports.

High traffic, low conversion.

Low traffic, high conversion.

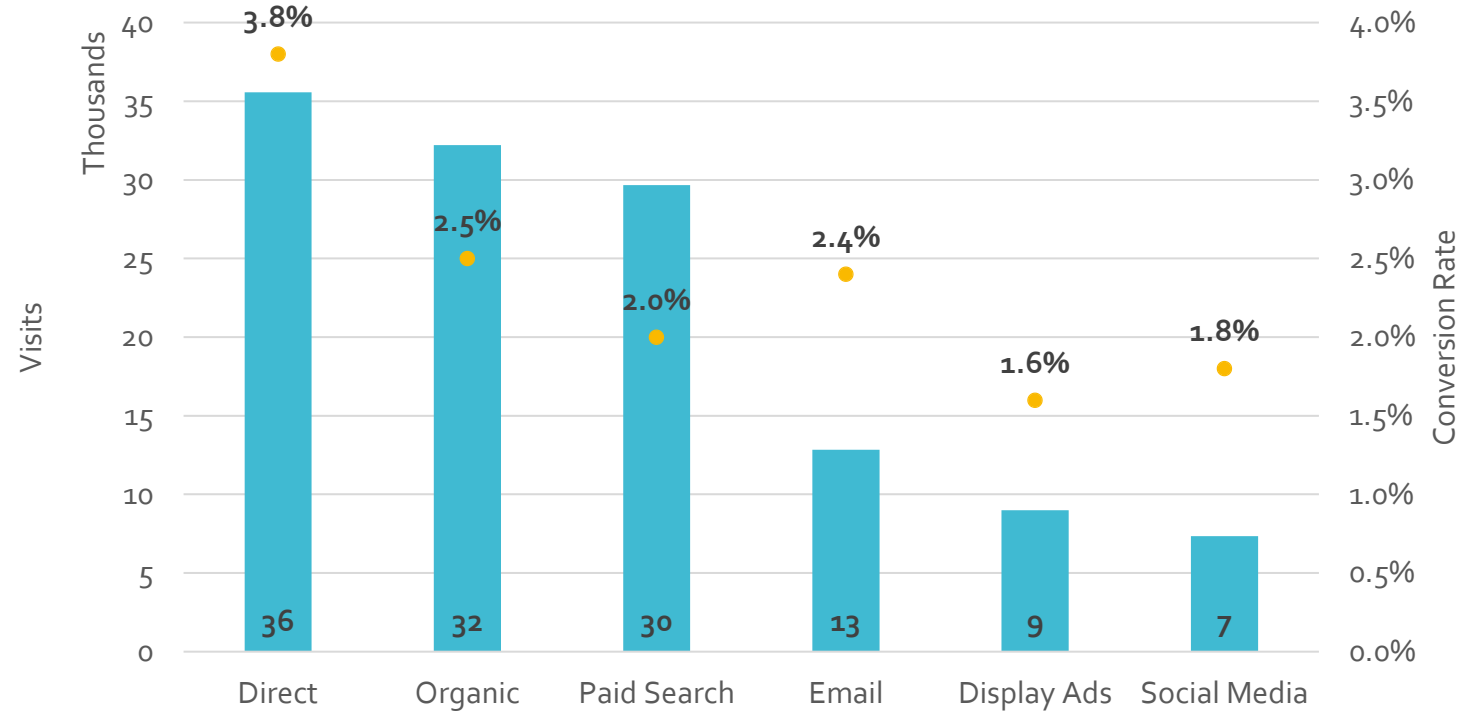
Conversion is the action you want customers to take.

Key Reports:

- Pages
- Entry Pages
- Traffic Sources
- Internal Search
- Navigation Links

#2 – Perform a high-low analysis of key reports.

Traffic Sources



#3 – Quantify the potential benefits.

Paid search conversion was lagging.

Clean up your landing pages.

What if conversion from paid search increased to 2.5%, instead of 2%?

Math:

- Paid Search Traffic: **29,000** visits last month.
- Current: $29,000 \times 0.02 = 580$ orders
- What if: $29,000 \times 0.025 = 725$ orders
- $725 - 580 = 145$ new orders at **\$125 average order value**
- $145 \times \$125 = \$18,125$ increase (just for last month)
- Annualization: Revenue for last month / Revenue for last 12 months
- $\$435,000$ last month / $\$6.8\text{M}$ last 12 months = 6.3% of year
- $\$18,125 / 0.063 = \sim\$287,000$ annually

Pro tips:

- Round your final numbers to show your level of certitude.
- Give a range. Cut your lift in half, cut your benefit in half. What if conversion increases were between 2.25% and 2.5%? \$140k - \$285k annually.

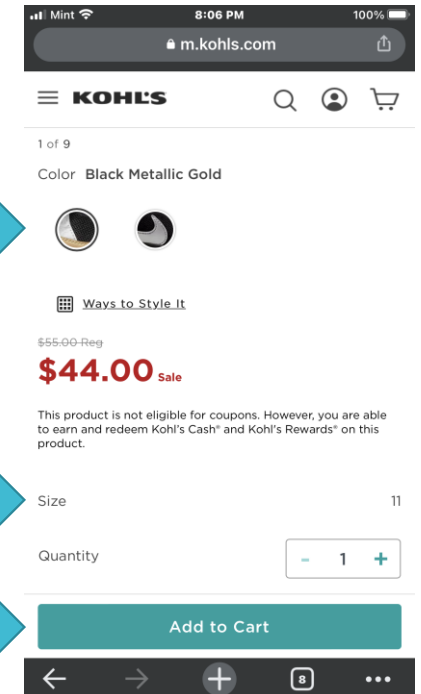
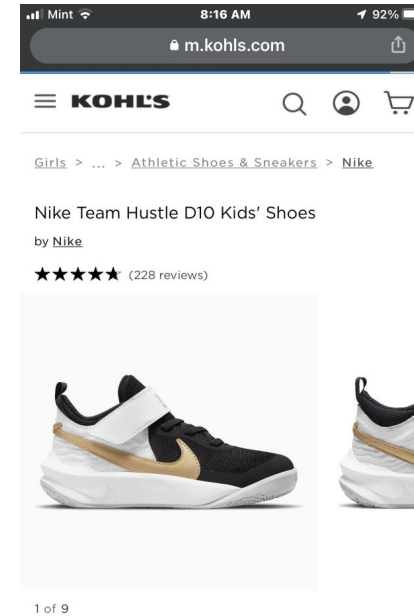
#4 – Perform an analysis of elements on the paid search landing page.

Look at page content:

High traffic, low conversion.

Low traffic, high conversion.

Move things above and below the fold.



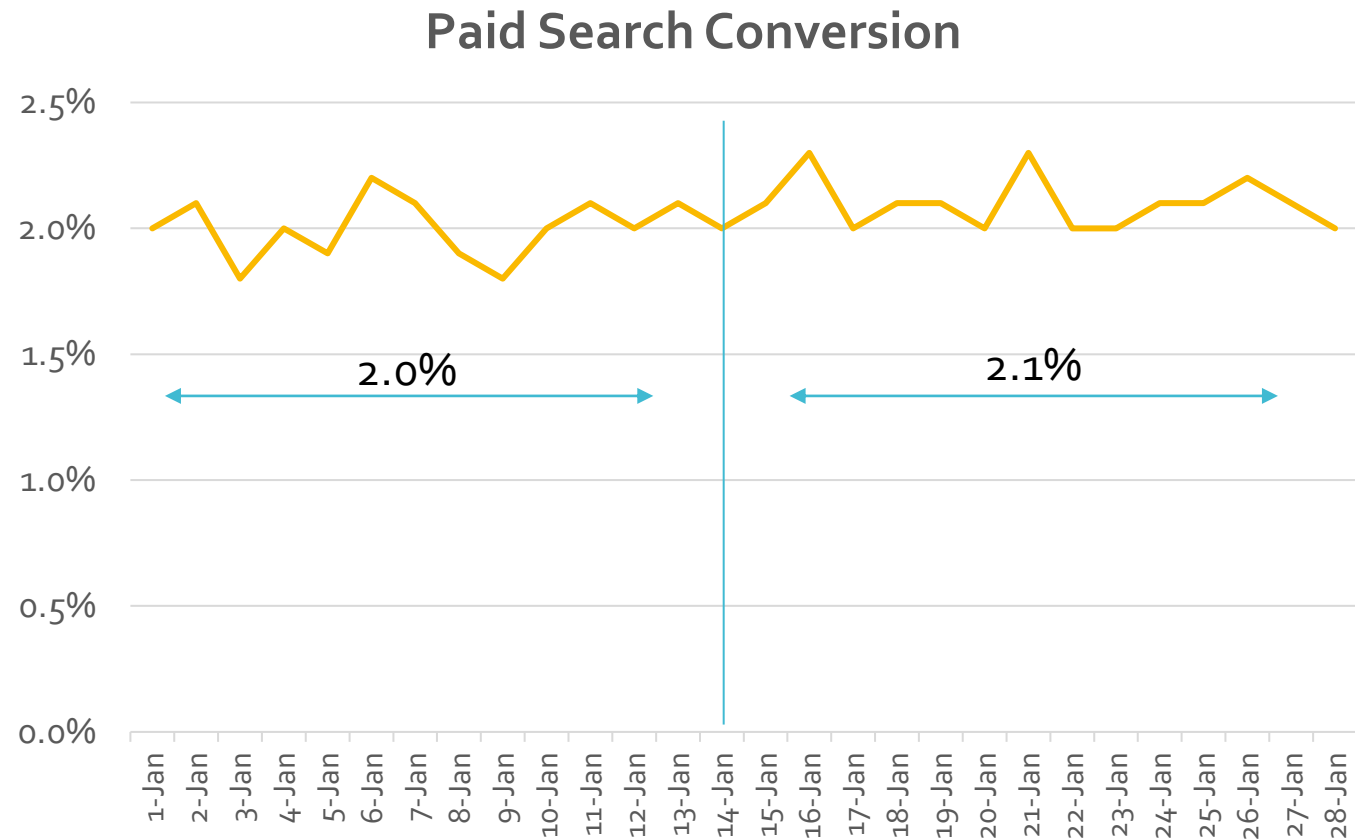
#5 – Do the work or influence others.

Present the opportunity to others.

1. Provide your key insights, but not too much detail.
2. Talk about the potential in terms of how it helps customers and makes money.
3. Leave room for others to talk about possible solutions, especially if you need their help to execute. Build the shared ownership.

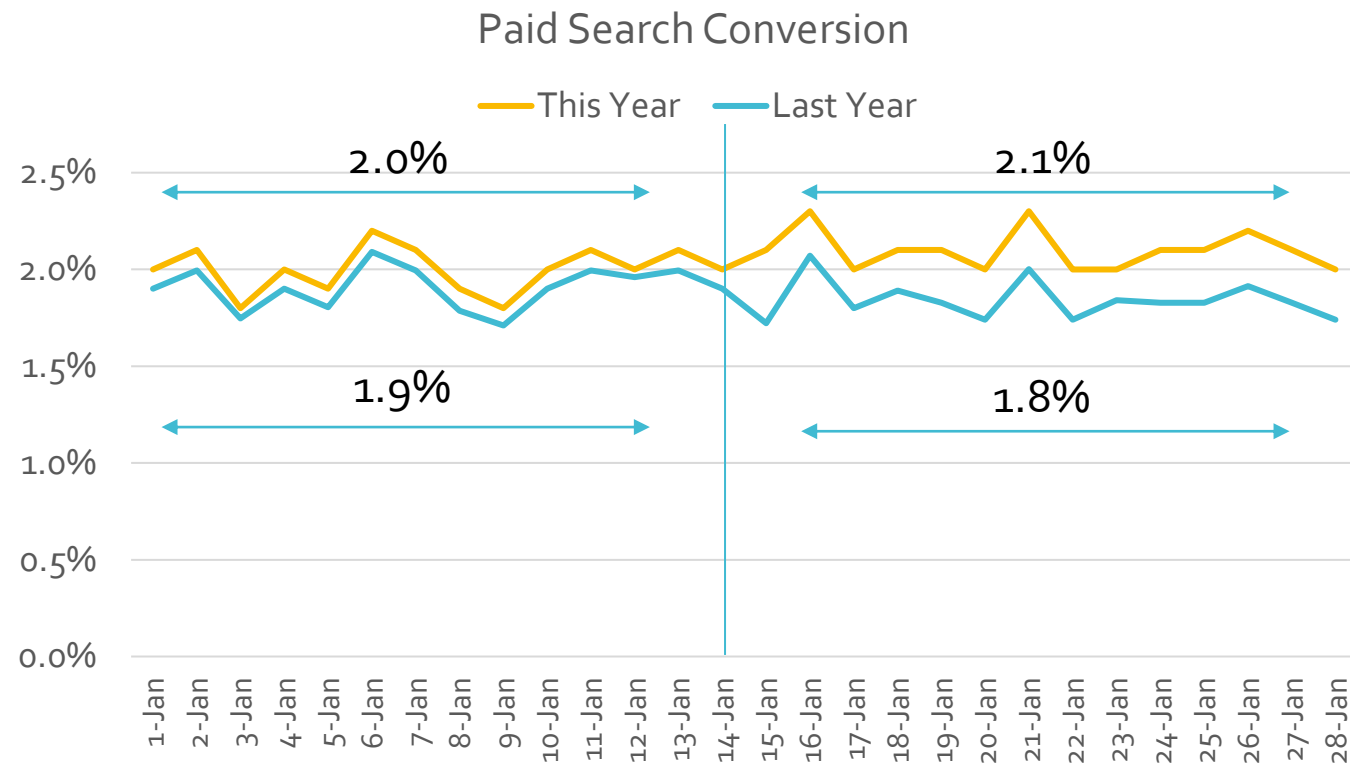
#6 – Measure the impact. Double Delta Analysis

A delta is a change.



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A double delta is looking at the change of one metric (test) and comparing to the change of another metric (control).



Test = This Year | Control = Last Year

An alternative control could be the trend of organic conversion over the same time period.

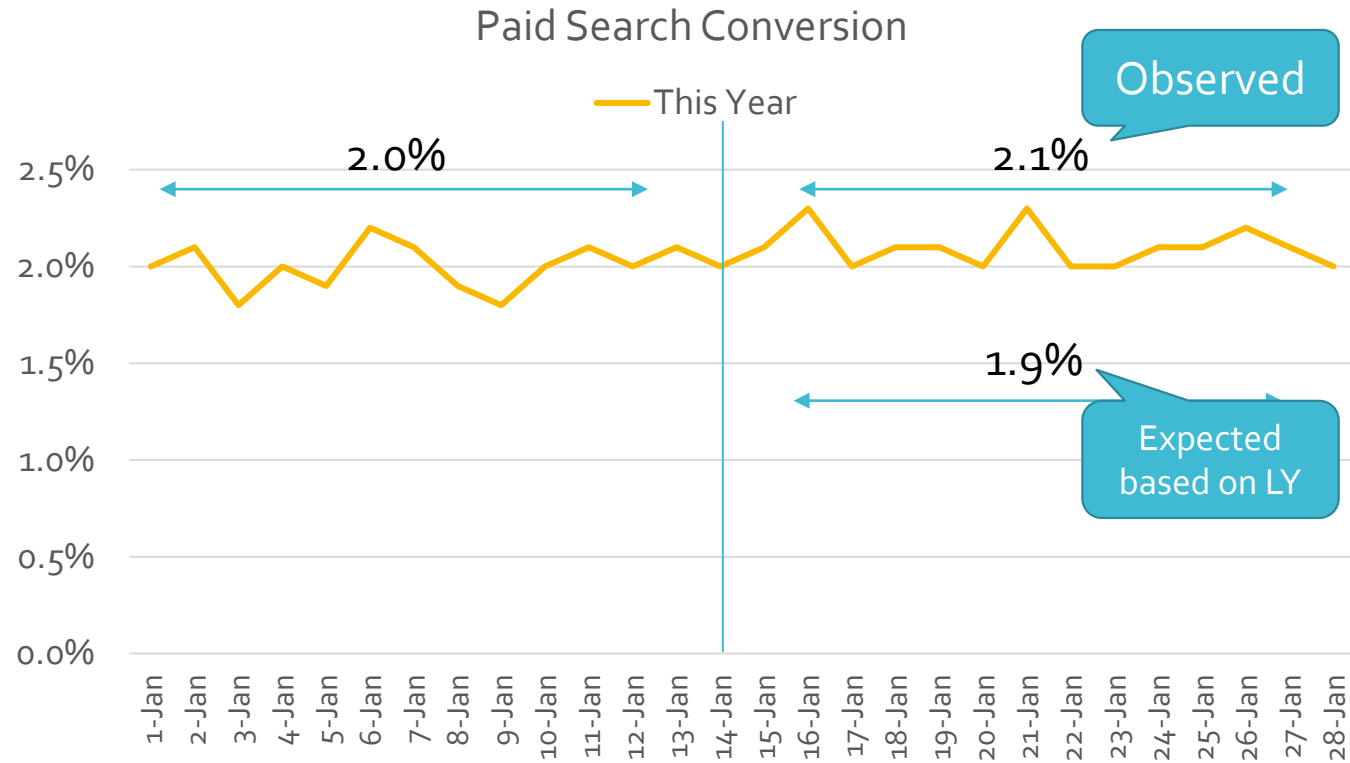
#6 – Measure the impact. Double Delta Analysis

	Pre	Post	Delta
This Year	2.0%	2.1%	5% lift
Last Year	1.9%	1.8%	-5% drop
			10% lift

Notes:

1. "Last Year" is the baseline.
2. -5% is last year's delta. In other words, that is what we would have expected to happen based on seasonality.
 $(1.8-1.9)/1.9$ or $-0.1/1.9 = -5\%$
3. +5% is this year's delta.
4. The delta of the deltas (double delta) = 10% conversion improvement from what we would have expected. $(5\% - -5\% = 10\%)$

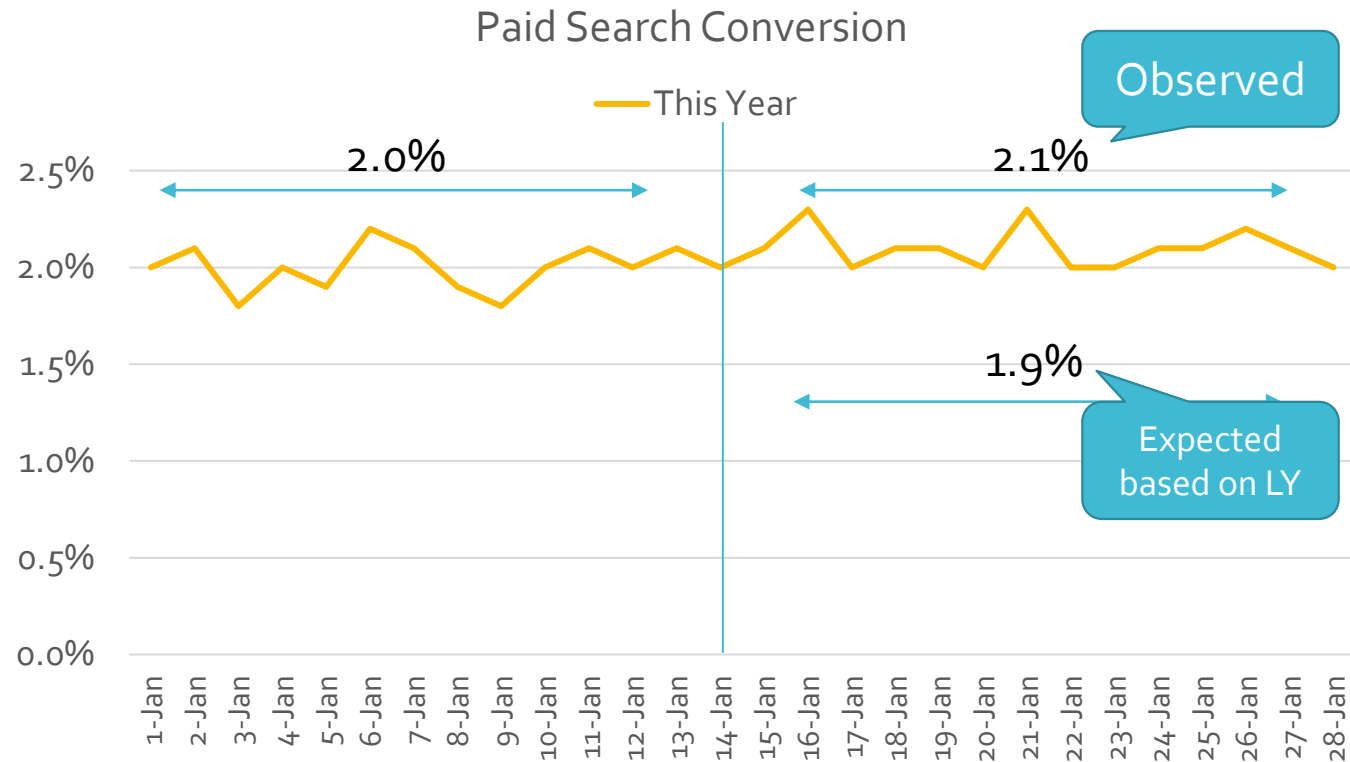
#6 – Measure the impact. Double Delta Analysis



Math:

- Paid Search Traffic: 15,000 visits in post period.
- Observed: 315 orders ($15,000 \times 2.1\%$)
- Expected: 285 orders ($15,000 \times 1.9\%$)
- 30 more orders \times \$125 average order value = \$3,750
- Annualization:
Revenue last 2 weeks / Revenue for last 12 months
- \$215,000 last 2 week / \$6.8M last 12 months =
3.1% of year
- $\$3,750 / 0.031 = \sim \$121,000$ annually

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You're short the \$280k you promised?

Remember that no one gets it exactly right the first time. Go back and look for more optimization opportunities.



Final Key Takeaways

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Seek to derive value from your data.

We collect data to do something with it.

Don't be afraid to ask for it.

I believe any one in the room can do the examples outlined.

Final Key Takeaways

Walk the experience to gain domain knowledge.

I pretend I am my mom or sister.

Where would they have issues? What would be the impact to conversion if you stripped those obstacles out?

Final Key Takeaways

Run a high-low analysis.

High traffic, but no one is buying.
Seize the opportunity.

Low traffic, but everyone seems to be buying.
Show more people.

Final Key Takeaways

Size the prize.

What if conversion increased?
Or revenue per visit increased?

Pro tips:

- Err on the side of being conservative.
- Put estimates in ranges.
- Make sure it passes the smell test.

Final Key Takeaways

Don't just include others, inspire others.

Pro tips:

- Only go after what you truly believe in.
- Share the ownership.
- Come with a focus on customers and financial benefits.

Final Key Takeaways

Measure the impact.

Remember, the double delta.

Measure the change of what you are updated as compared to a time or metric when you didn't change anything.

**Final Key
Takeaways**

You are smart enough.

Complexity \neq Value

And thank you for hanging around until
the end of the conference!