

The background of the slide features a white commercial airplane flying from left to right against a blue sky with white clouds. Below the plane is a body of blue water, and in the foreground, there's a sandy beach with some small, scattered items like a hat and a bottle.

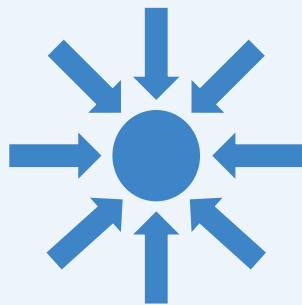
# **Internet Marketing**

**Search Engine Optimization**

23 November 2019

Team 10

# Business Problem



Competitive  
Business



Internet  
Marketing



**Search Engine  
Optimization**





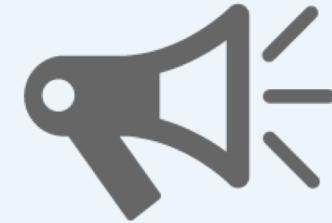
# Business Goal



Profit  
Optimization



Reduce  
Cost

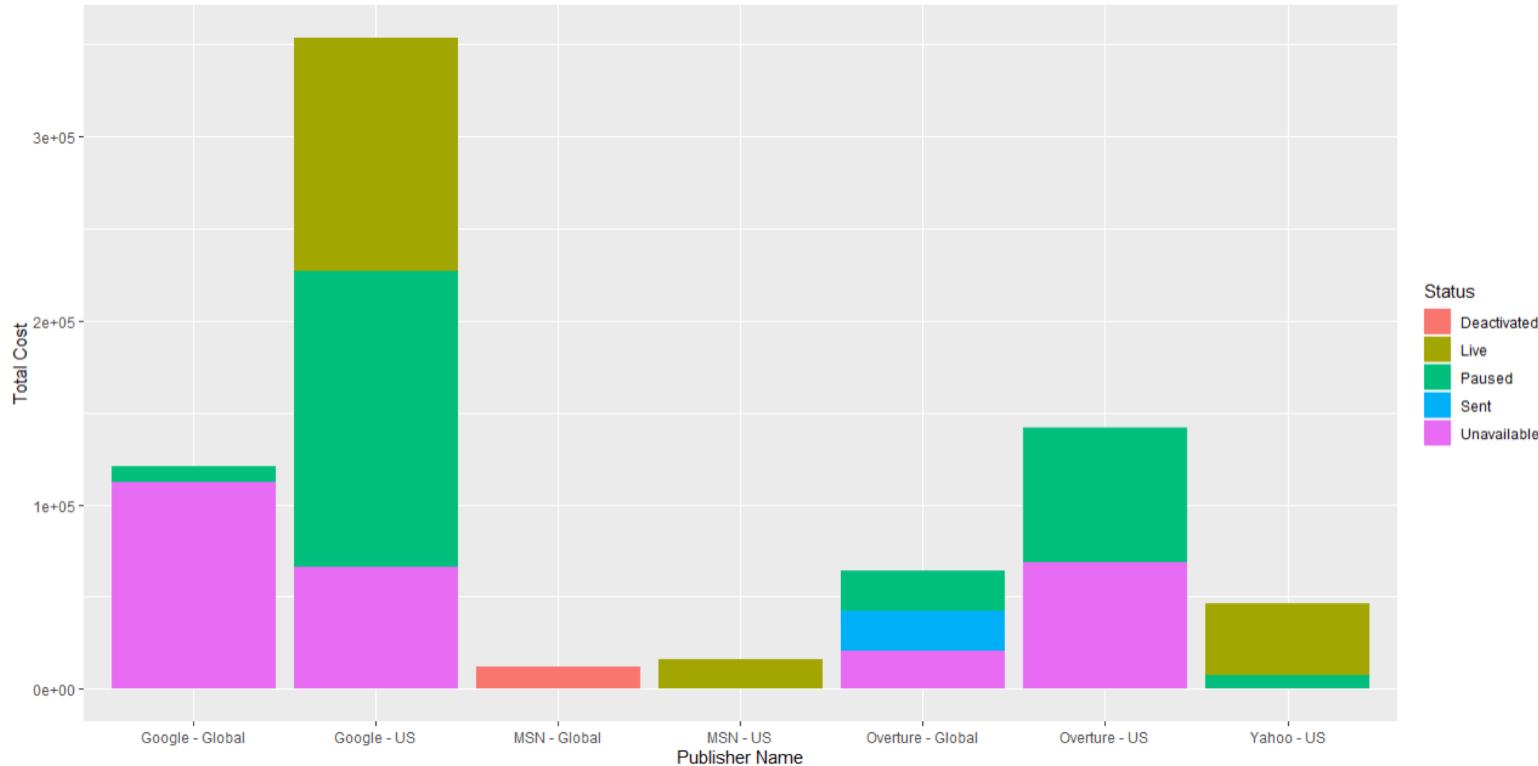


Improve  
PR





# Raw Data Total Cost

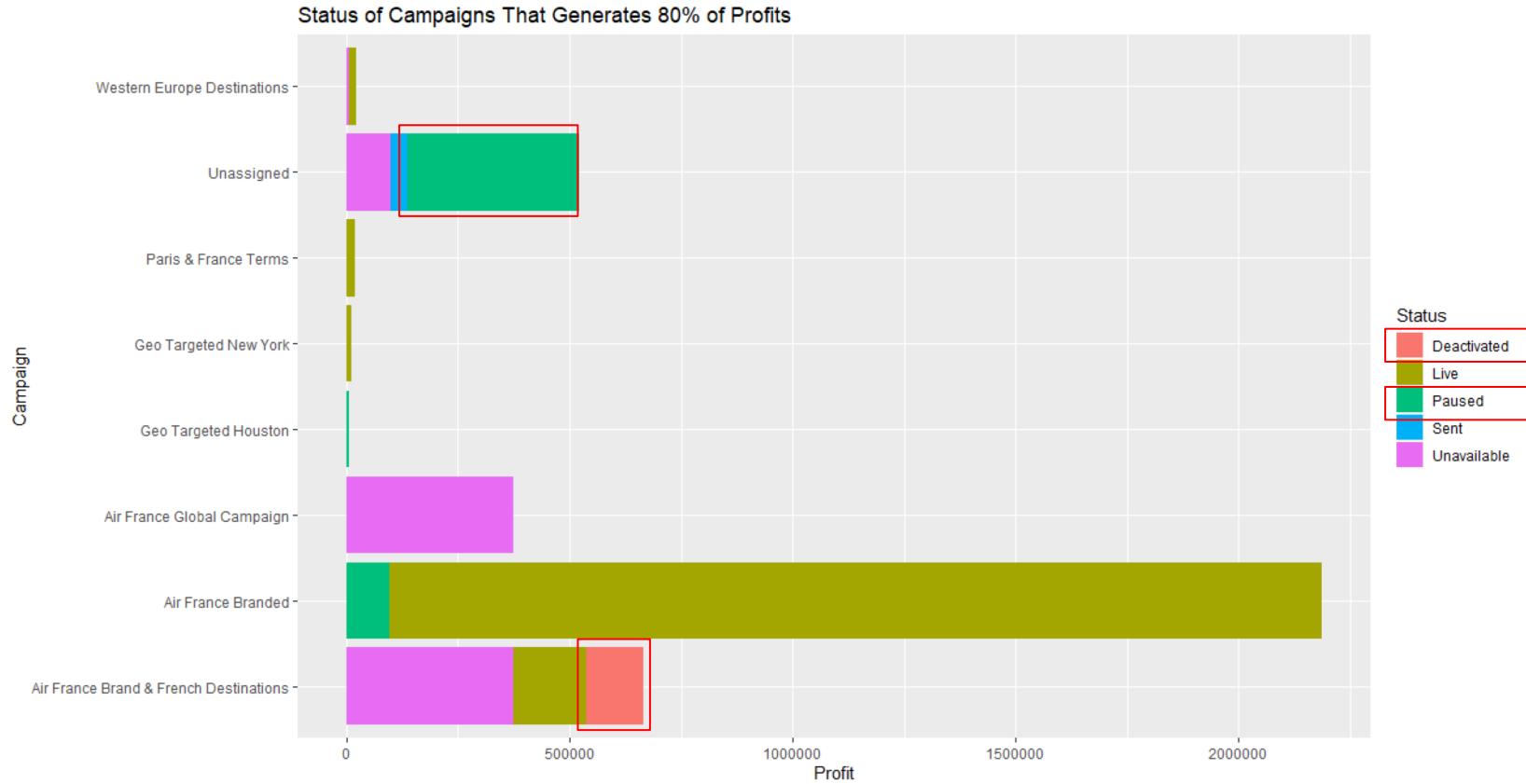


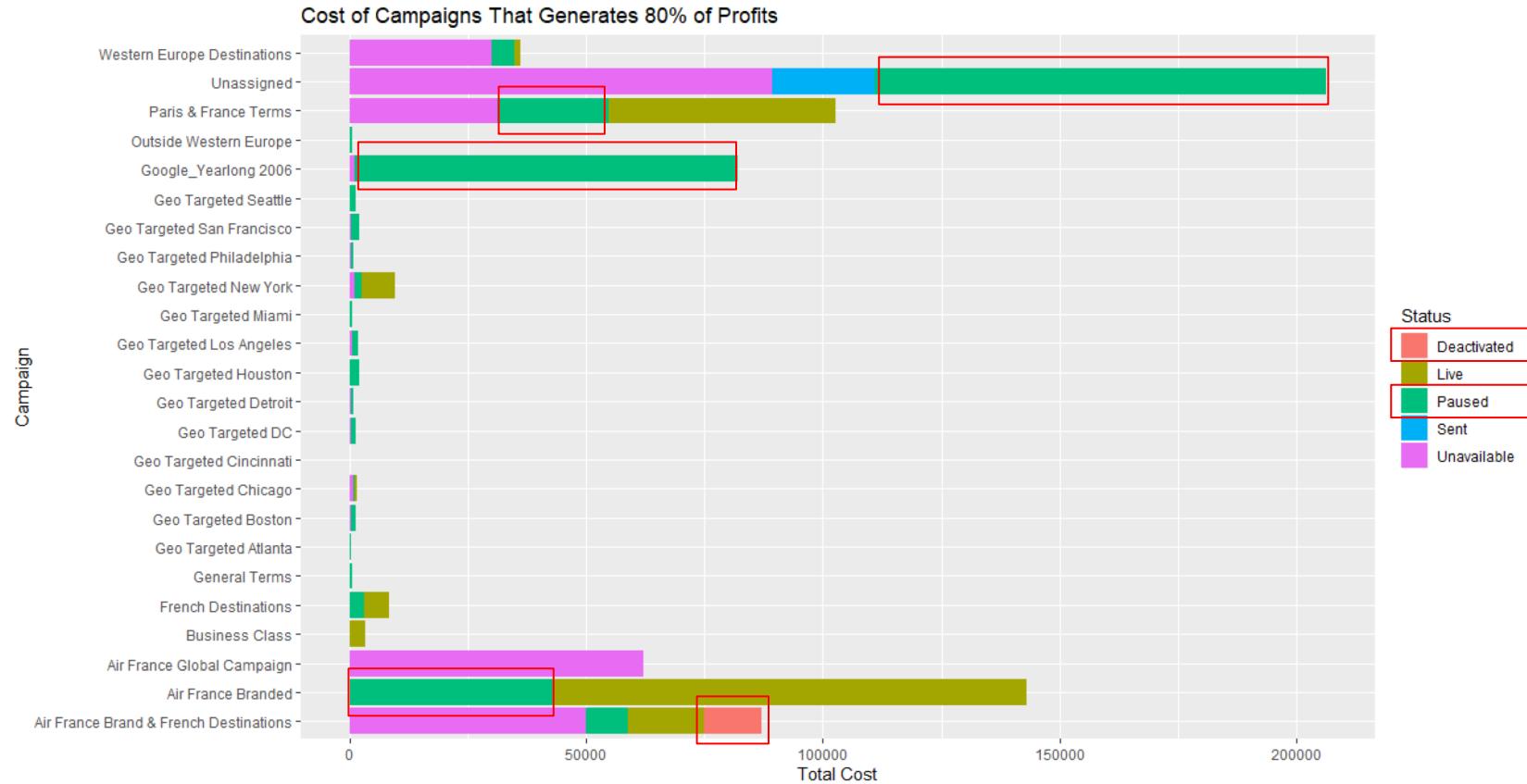


# Key Data Rubbing

Data Type	Original Data	Filtered (Profit > 0)	Filtered (Top 80% Profit Generator)
# of Observations	4510	324	65







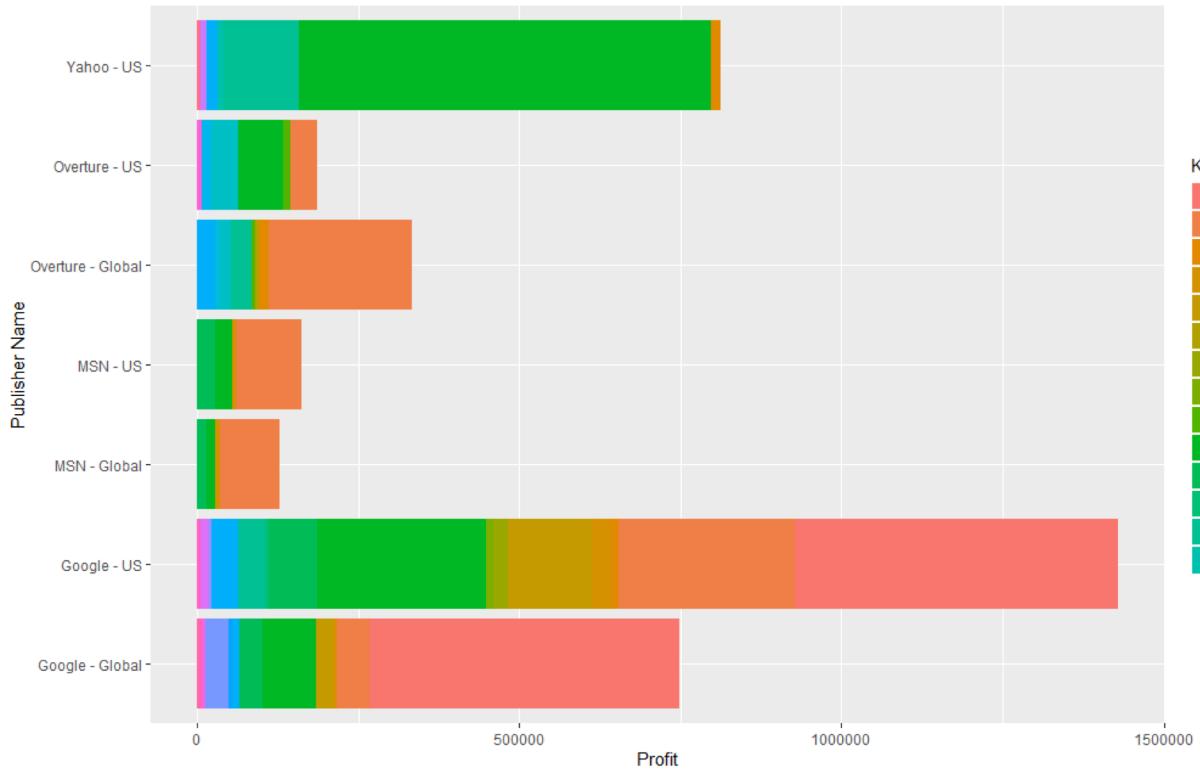


# Highlights

Campaign Name	Status	Profit	Total Cost
Air France Branded	Live	\$ 2,185,548.35	\$ 137,883.52
	Paused	↑ ☺	↓ ☺
Paris & France Terms	Live	\$ 19,243.99	\$ 31,785.572
	Unavailable	↓ ☹	↑ ☹
	Paused		



### Keywords That Generates 80% of the Profit



### Keyword

[air france]	airline ticket
air france	cheap fare to paris
air france airline	europe travel
air france airlines	flight to paris
air france com	flights to france
air france reservation	flights to paris
air france us	flights to spain
air france usa	fly to florence
air france.com	france airlines
airfrance	france travel
airfrance com	greece travel
airfrance us	paris cheap flights
airfrance.com	paris flights
airfrance.us	rome travel

- Key Keywords
  - air france ~2.9 M
  - airline ticket
  - + Keywords on Pink Scale
- Strong Correlations



Keywords That Impressed Customers and Generates 80% of the Profit

Publisher Name

Yahoo - US



Overture - US



Overture - Global



MSN - US



MSN - Global



Google - US



Google - Global



0

2500000

5000000

7500000

Impression

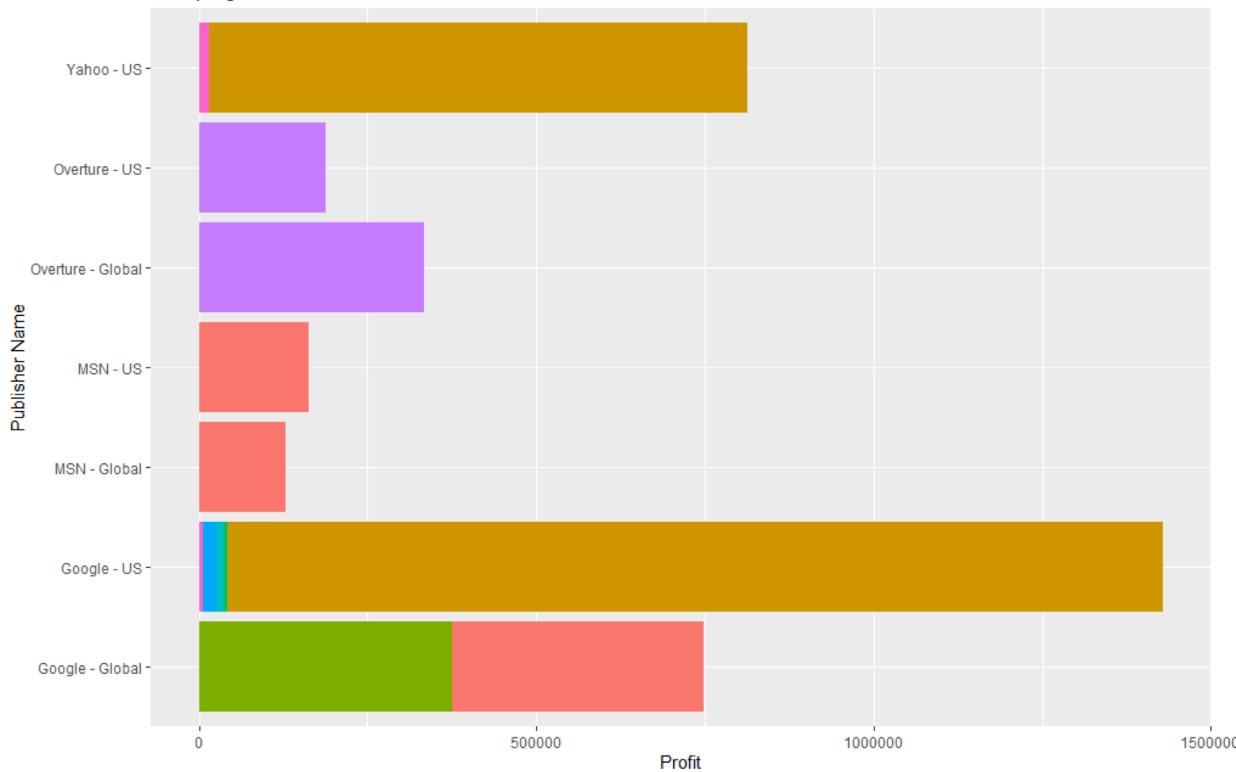
Keyword

[air france]	airline ticket
air france	cheap fare to paris
air france airline	europe travel
air france airlines	flight to paris
air france com	flights to france
air france reservation	flights to paris
air france us	flights to spain
air france usa	fly to florence
airfrance.com	france airlines
airfrance	france travel
airfrance.com	greece travel
airfrance.us	paris cheap flights
airfrance	paris flights
airfrance.com	rome travel
airfrance.us	

- Key Keywords
  - air france ~ 1.9 M
  - airline ticket ~ 8.5M
  - + Keywords on Pink Scale
- Strong Correlations
  - Engine Click Thru vs Conversion Rate for Overture



Campaigns That Generates 80% of the Profit



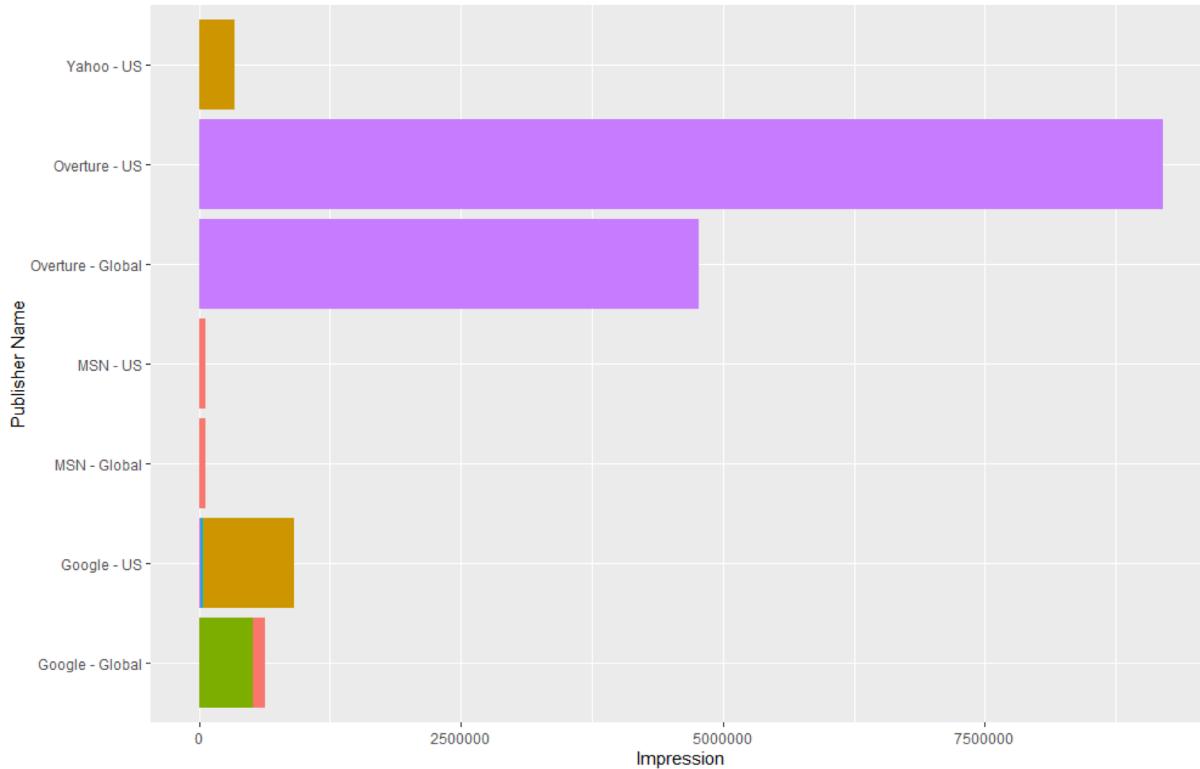
Campaign

- Air France Brand & French Destinations
- Air France Branded
- Air France Global Campaign
- Geo Targeted Houston
- Geo Targeted New York
- Paris & France Terms
- Unassigned
- Western Europe Destinations

- Key Campaigns
  - Air France ~ 2.1M
  - Unassigned
  - Western Europe Destination
- Strong Correlations



Campaigns That Impressed Customers and Generates 80% of the Profit



- Key Campaigns
  - Air France Branded
  - Unassigned ~ 13.9M
  - Western Europe Destination
- Strong Correlations
  - Engine Click Thru vs Conversion Rate for Overture



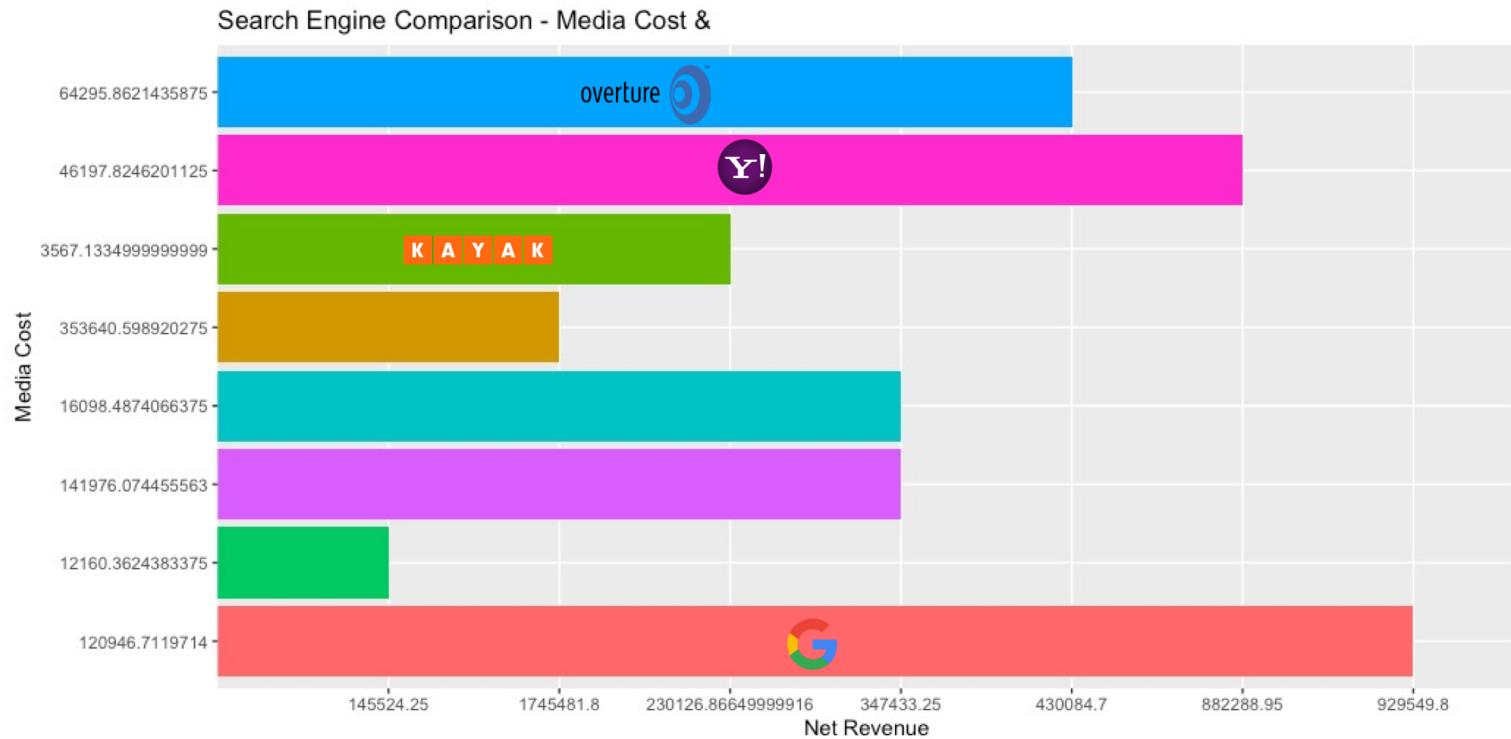
K A Y A K

- Metasearcher
- Separate analysis
- Exhaustive search



### Search Engine Comparison - Clicks & Bookings







# Summary & Recommendation

- Tailor each publisher strategy to maximize ROA
- Focus on top 80% profit contribution
- Increase brand awareness using identified effective keywords and campaigns

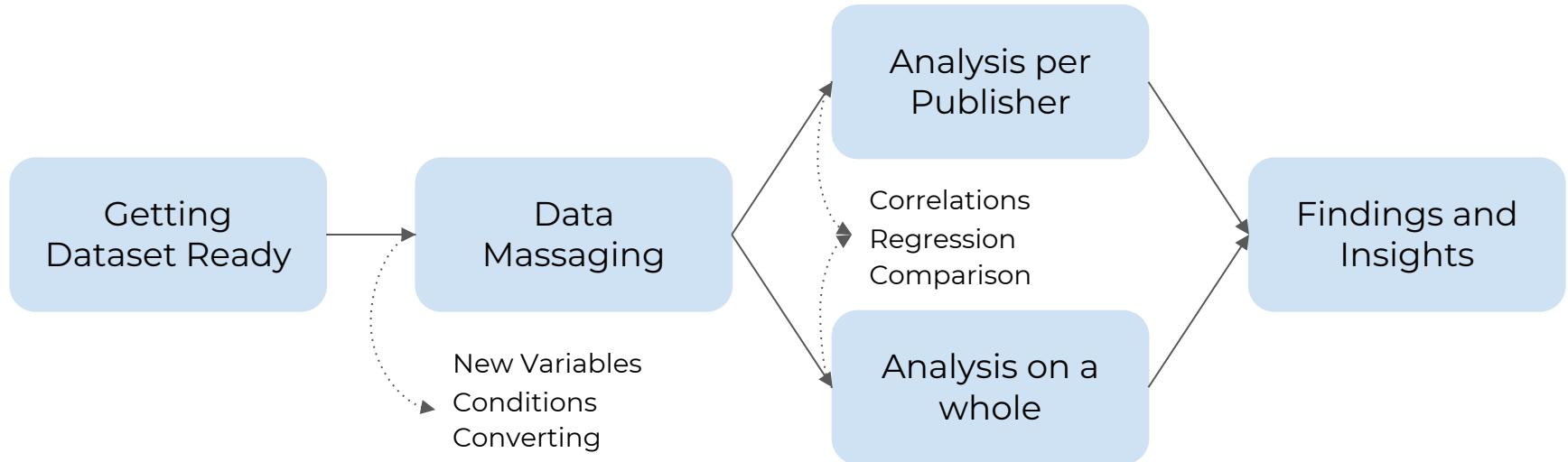


thank you



# Appendix

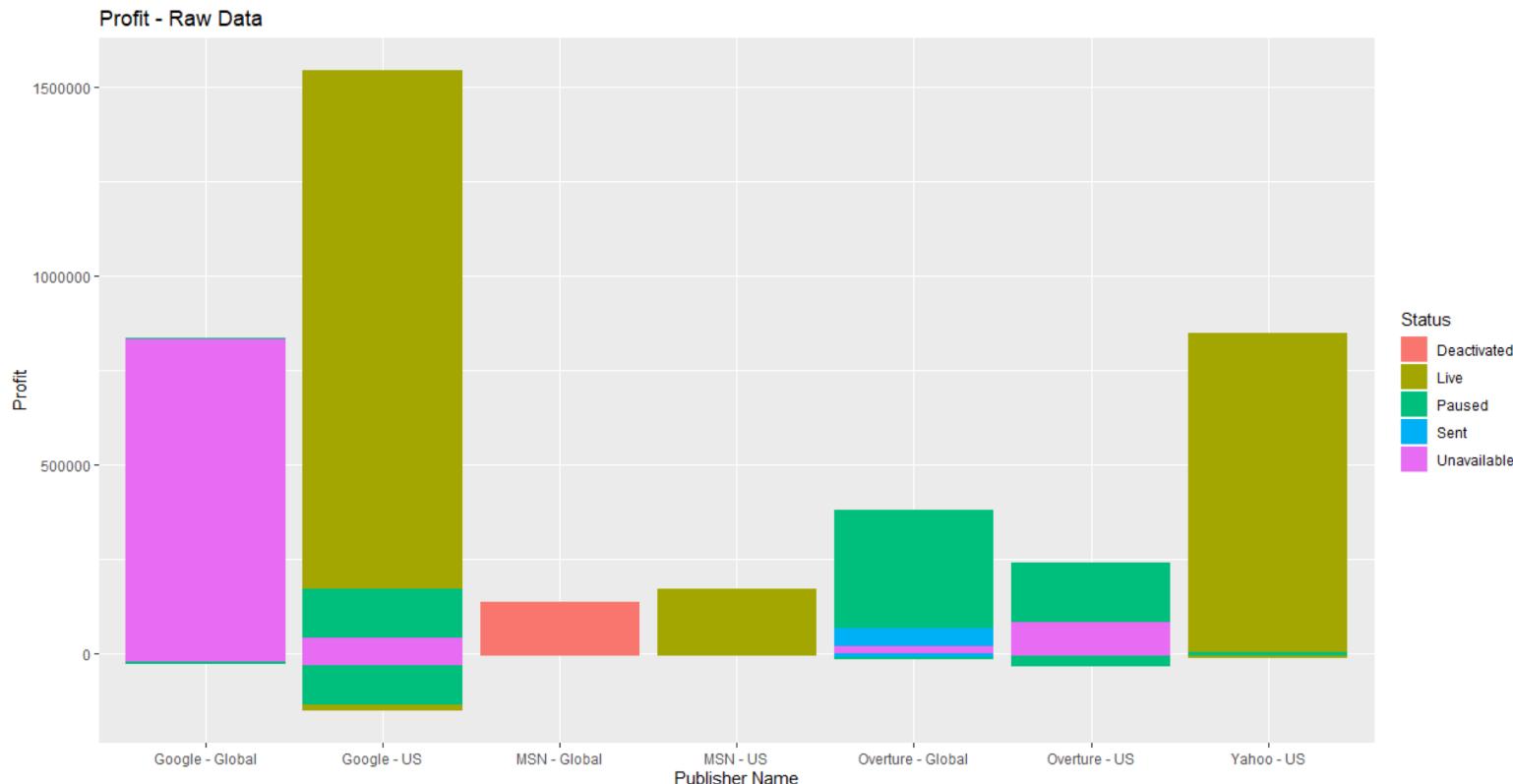
# High-level Analysis Process



# Key Steps Process Breakdown

1. Create a new column Profit = Revenue - Cost
2. Subset Profit > 0
3. Understand how many (%) keywords are associated to generating 80% of the Profit
  - a. Subset Publishers → Check → Campaigns → Keywords
  - b. Subset → those data associated with quantile (.80) Profit
4. Check correlations: metrics per Publisher (Profit, Impressions, Conversion Rate, Engine Click Through etc.)
5. Come up with observations and conclusions

# Raw Data Profit



# Correlation

```
> #create new variable corr to save the correlation between few metrics
> #Correlation yahoo
> corr_data_yus<-yahoo_us_data[,c(24,19,16,17)]
> cor(corr_data_yus)
      profit Trans. Conv. % Impressions Engine click Thru %
profit      1.00000000 -0.04127913  0.62626493   0.29527640
Trans. Conv. % -0.04127913  1.00000000 -0.10743594   0.05919919
Impressions    0.62626493 -0.10743594  1.00000000  -0.08829554
Engine click Thru %  0.29527640   0.05919919 -0.08829554   1.00000000
> #Correlation google US
> corr_data_gus<-google_us_data[,c(24,19,16,17)]
> cor(corr_data_gus)
      profit Trans. Conv. % Impressions Engine click Thru %
profit      1.00000000 -0.09068653  0.01643051   0.09018353
Trans. Conv. % -0.09068653  1.00000000 -0.05578788   0.28919820
Impressions    0.01643051 -0.05578788  1.00000000  -0.10534047
Engine click Thru %  0.09018353   0.28919820 -0.10534047   1.00000000
> #Correlation google Global
> corr_data_ggl<-google_global_data[,c(24,19,16,17)]
> cor(corr_data_ggl)
      profit Trans. Conv. % Impressions Engine click Thru %
profit      1.00000000 -0.04063302  0.3664819    0.3458494
Trans. Conv. % -0.04063302  1.00000000 -0.1663517    0.2127649
Impressions    0.36648185 -0.16635168  1.00000000  -0.1946993
Engine click Thru %  0.34584936   0.21276487 -0.1946993   1.00000000
```

# Correlation

```
> #Correlation msn US
> corr_data_mus<-msn_us_data[,c(24,19,16,17)]
> cor(corr_data_mus)
      profit Trans. Conv. % Impressions Engine click Thru %
profit      1.0000000 -0.2537752  0.98716358      0.12785601
Trans. Conv. % -0.2537752  1.0000000 -0.23931638     -0.44359742
Impressions   0.9871636 -0.2393164  1.00000000      0.03747015
Engine click Thru % 0.1278560 -0.4435974  0.03747015      1.00000000
> #Correlation msn Global
> corr_data_mgl<-msn_global_data[,c(24,19,16,17)]
> cor(corr_data_mgl)
      profit Trans. Conv. % Impressions Engine click Thru %
profit      1.0000000 -0.16750195  0.9721372      0.14540909
Trans. Conv. % -0.1675020  1.00000000 -0.2235928     -0.06674965
Impressions   0.9721372 -0.22359281  1.00000000     -0.03538630
Engine click Thru % 0.1454091 -0.06674965 -0.0353863      1.00000000
> #Correlation overture US
> corr_data_ous<-overture_us_data[,c(24,19,16,17)]
> cor(corr_data_ous)
      profit Trans. Conv. % Impressions Engine click Thru %
profit      1.00000000 -0.07255473  0.38994944     -0.06337519
Trans. Conv. % -0.07255473  1.00000000 -0.1948649      0.67725940
Impressions   0.38994936 -0.19486494  1.00000000     -0.27577464
Engine Click Thru % -0.06337519  0.67725940 -0.2757746      1.00000000
> #Correlation overture Global
> corr_data_ogl<-overture_global_data[,c(24,19,16,17)]
> cor(corr_data_ogl)
      profit Trans. Conv. % Impressions Engine click Thru %
profit      1.0000000 -0.12171150  0.1476618      0.01145450
Trans. Conv. % -0.1217115  1.00000000 -0.1658898      0.09475679
Impressions   0.1476618 -0.16588977  1.00000000     -0.15282719
Engine Click Thru % 0.0114545  0.09475679 -0.1528272      1.00000000
```

# References

- Egli, L., Lambert, J., Neely, L., Gieraltowski, A., Miller, J., Sharma, R. (2009). *Air France Internet Marketing: Optimizing Google, Yahoo!, MSN, and Kayak Sponsored Search*. Case Number: 5-407-753. Evanston, IL : Kellogg Case Publishing, Northwestern University.
- Travel Weekly. (2012, August 3). 80% booking holidays online, finds study. Travel Weekly. Retrieved from:  
<http://www.travelweekly.co.uk/articles/41280/80-booking-holidays-online-finds-study>.
- Deloitte. (n.d.). Managing strategic risk in aviation. Deloitte. Retrieved from: <https://www2.deloitte.com/us/en/pages/consumer-business/articles/disrupt-aviation.html>.
- Sullivan, D. (2002, March 4). How Overture (GoTo) Works. Search Engine Watch. Retrieved from:  
<https://www.searchenginewatch.com/2002/03/04/how-overture-goto-works/>.
- Hillhouse, E. (2018, October 17). Come Fly with Me: The Art of Airline Public Relations. Platform Magazine. Retrieved from:  
<https://platformmagazine.org/2018/10/18/come-fly-with-me-the-art-of-airline-public-relations/>.
- SVB. (2007, December 21). KAYAK.COM MERGES WITH SIDESTEP.COM; SECURES \$196M IN FINANCING ROUND. SVB. Retrieved from: <https://ir.svb.com/news-releases/news-release-details/kayakcom-merges-sidestepcom-secures-196m-financing-round>.