Workbook

Part 1: Motivation

Problem Statement

- High Costs per click with SEM (Search Engine Marketing)
- Airline industry a Competitive market with Low margins

State the Questions

- Where do we allocate our marketing budget most efficiently?
- How can we reduce Cost/Click, increase revenue and optimize performance?
- Do branded keywords bring in more revenue?
- What is the single-click conversion rate of branded / unbranded keywords?
- Are broad or focused keywords more profitable?
- Can assist keywords help increase conversion rate?
- Which search engine delivers the most ROI
- customer segments / search engine –> Specific pattern in buying behavior?

Main Objectives

- Minimize Cost/Click
- Maximize Revenue
- Maximize Single-click conversion
- Maximize Profitability
- Maximize Conversion Rate

What could be a positive outcome?

Part 2: Method

What key resources do we acquire?

Data: - Description - Type: xls

Libraries:

```
library(readxl)
library(tidyr)
```

What is our approach to solve the problem?

Inspect & Import data

R tries to import the first sheet of the excel file which resolves in an error. This is why the argument read_excel function has to be used to specifiy the column.

```
# Inspect sheets of excel-file
excel_sheets('C:/Users/LK/Nextcloud7/Personal/Docs/case-studies/Air France/assets/Air France Case Sprea
```

```
## [1] "DoubleClick" "Copyright"   "Kayak"
```

```
# Import data
kayak <- read_excel("C:/Users/LK/Nextcloud7/Personal/Docs/case-studies/Air France/assets/Air France Cas
                                                    sheet = "Kayak")
```

```
## New names:
## * `` -> ...2
## * `` -> ...3
## * `` -> ...4
## * `` -> ...5
## * `` -> ...6
## * ...
```

```
doubleclick <- read_excel("C:/Users/LK/Nextcloud7/Personal/Docs/case-studies/Air France/assets/Air Fran
                          sheet = "DoubleClick")
```

Are all the imported variables important? Useful variables in the dataset

$campaigns $impressions $click-through $Cost/Click $Revenue $Single-click conversion $Profitability $Conversion Rate

Explore Data

```
#Convert to dataframe

doubleclick <- as.data.frame(doubleclick)
#Look for weird stuff
table(doubleclick$`Match Type`)
```

```
##
## Advanced    Broad    Exact      N/A Standard
##      969     2591       22       48      880
```

```
#$`Keyword ID` <- as.numeric(doubleclick$`Keyword ID`)
?replace_na
```

```
## starting httpd help server ... done
```

##Massaging

##Descriptive

Plots Statistics Correlation Association

Predictive

Feature Selection Apply ML-Algorithmus

Mechanics

Distribution

Stats

Boxplot

Outlier

Message

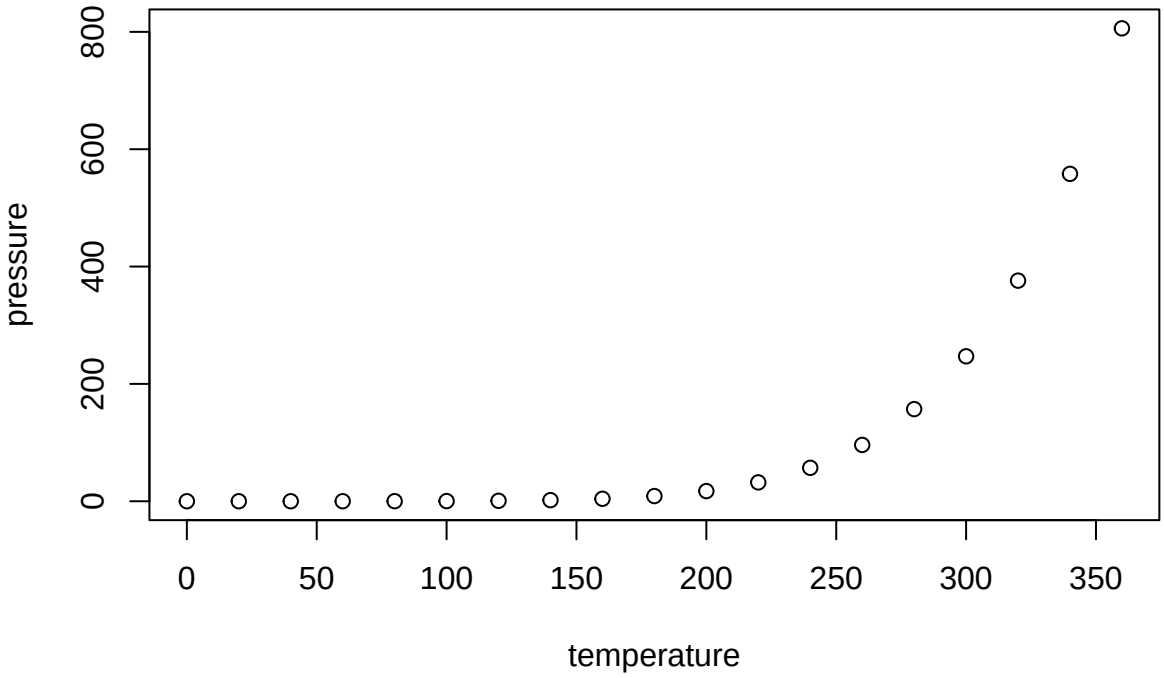
Key Findings

The C-suite of _____ face the following (problem/challenge), which is best solved with _ (solution) having an impact and/or making profits via _____ . The unique advantages/differentiators of the MVP are _____ , when comparing with the following key competitors / alternatives: _____

Next steps

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.