How customers’ approach on booking through Expedia

Presented by:

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Specified the U.S customer approach:

- Mobile device effect
- Seasonal effect
- Location and destination effect
Mobile device effect are highly influenced by region

1. United States has the highest probability to book.
Another interest thing we found was the ratio on people who book package on mobile device in each state.

The graph shows the frequency that people using the app on mobile device. California has the highest frequency, along with the Washington state, Illinois, New York and Texas.
Seasonal effect based on when people start browsing.

```
glm(formula = is_booking ~ Month, family = binomial, data = data)

Deviance residuals:
       Min        1Q   Median        3Q       Max
-2.408854 -0.40907 -0.407781  0.362 2.2338

Coefficients:
            Estimate Std. Error   z value Pr(>|z|)
(Intercept) 0.020883   0.008152   2.621  0.0091 **
Month020 0.041808   0.007821   5.346  9.0e-08 ***
Month030 0.064966   0.007930   8.173  2.9e-16 ***
Month050 0.068028   0.007808   8.789  2.6e-16 ***
Month060 0.042535   0.007656   5.556  2.7e-08 ***
Month070 0.015233   0.007589   2.006  0.0454 *
Month080 0.071142   0.007829   9.025  2.6e-16 ***
Month090 0.141340   0.007881  18.033  2.6e-16 ***
Month100 0.143412   0.007933  18.033  2.6e-16 ***
Month110 0.129779   0.008073  16.075  2.6e-16 ***
Month120 0.122477   0.008186  14.963  2.6e-16 ***

Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 3248206  on 4533631  degrees of freedom
Residual deviance: 3247214  on 4533620  degrees of freedom
AIC: 3247238

Number of Fisher scoring iterations: 5
```
Location and destination effect

We find out people who booked hotels in inner region more specific by brands but people who booked near coastal region not really sensitive on brands.

Most of people who booked through Expedia are more likely being party of two. And they might reach agreement on searching a typical band they both knew.