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## Expedia: Clicks, Trip Length, and Conversions Among Packages

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The main determinants of the price of a trip are likely to be group size, trip duration, travel distance, and whether it is a package or not. We perform descriptive statistics to predict and analyze conversion rate among different subsets of the data to determine how these factors affect whether a user books a trip or not, as well as the characteristics of people a lost segment of customers for Expedia.

We discovered that 81.4% of unique users booked 1 or zero trips, with 51.9% booking one trip and 29.4% booking zero trips. We wanted to focus on what may cause people to visit an Expedia service but not book travel plans, especially among the unique users who had a high amount of clicks. We subsetting the users who have booked zero and one trips respectively, then used the 3rd quartile of all booked users' clicks (17) as a metric to judge what a "high" amount of clicks before successful conversion is.

### Methods and Variables

We focused mainly on subsets of the data involving unique users who had booked one or zero times. We created variables for the length of trip based on requested start and end date, as well as number of clicks per unique person, total visits each day by user, and conversion rate (bookings per click by user).

We also analyzed some predictive factors for conversion rate, such as how far in advance the user booked, and if the booking was done on mobile or on the web.

### Suggestions or Recommendations

Currently, packages (8.97% of total books) convert at a much lower rate per click than non-packages (91.03% of total books) at 4.02% vs 9.98%. We can imply that package users are more selective and require more clicks to convert, but have a higher payoff in the case of success. We determined that a large subsection of the high click non-converters (a full 1/3) were looking at package deals compared to 15% of all one book users and 27% of high click one book users, with no meaningful differences between the groups in group size and number of rooms, or distance, historical price, and popularity bands.

Since 40% of those booking "long" trips (4 days or greater, compared to the 3.5 day average) also requested a package, and package users having longer trips on average, we can see that package deals often lead to longer trips. With longer trips also implying a nicer average hotel and further distance travelled, we assume that longer trips also lead to more profit for Expedia. Therefore, a focus to **increase conversion rate and average sales** would be to focus on making packages more attractive to users. Expedia should also focus on improving conversion rate through mobile browsing, given that browsing is often done on mobile and package users browse more heavily than others.

### Conclusion

Expedia ultimately wants to improve conversion rate and increase web traffic of users who will book. We found that overall conversion rate and profit margins could be increased by focusing on increasing conversions through package deals and mobile browsing, which lead to more profitable trips but are much harder to get booked compared to non-package trips.