**Case Study**

**An Example of Global Travel Management Company**

**American Express Global Travel:**

American Express Global Business Travel (GBT), a global leader in business travel and meetings management committed to helping business succeed through cost-effective program management, world-class customer service, and enhanced traveller productivity support worldwide.

Data Analytics Centre of Excellence brings the talent, tools, and consulting acumen needed to help manage companies’ T&E spend and maximize the return on their investments in employee travel and other areas of indirect cost. Specialized expertise includes: T&E policy, sourcing and supplier management, change management and compliance management, business intelligence, on-going travel category management, payment and expense reimbursement management, and related business process best practices.

Website: <https://www.amexglobalbusinesstravel.com/>

**Case Problem**

During their annual travel spend review, XYZ Inc. wanted to understand whether their employees were traveling more by airlines that were expensive. As part of the study, they chose particular segments of travel for various airlines flying at the same time. How do we infer whether the employees were traveling more by expensive airlines?

**Data:**

The XYZ gets a lot of data shared by their travel management partner and the list of variables for analysis can run into hundreds. A few of them are:

|  |  |  |
| --- | --- | --- |
| Date of Travel | Employee Name | Hotel Class (Star Category) |
| Time of Travel | Employee ID | Room Category (Executive, Deluxe, Business, Suite etc.) |
| DEPARTMENT | Class of Service Compliance | Room Tariff |
| Origin City | ROUTE | Room Discount |
| Destination City | Ticket Count | Complimentary Breakfast/Benefits |
| Domestic/International | Ticket Amount | Lunch |
| Carrier | Flight Miles | Days of Stay |
| Class Type | Flight Time | Airport Pickup/Drop |
| Vendor Payment details | Hotel Booked | Type of Cab |
| Tax Management | Mode of Payment | Total Expense for the trip |

We consider a subset of that big data here. Two Routes and two airlines are considered for the study here. The domestic route is Rayleigh Durham to San Francisco and the airlines considered are American Airlines and United Airlines. In the international segment, the travel route is San-Francisco to Barcelona and the airlines considered are Delta and United Airlines.

The name of the data file is **Case Study – XYZ Travel.csv**

**Questions:**

1. Hypothesis Testing: Test whether XYZ employees are traveling more often on expensive airlines