**Airline Crash Insights**

**Project Task1: Dashboard**

Your first task is to create an internal dashboard for your peers and data science management team that outlines the facts – what are the stats and what are the trends? Is there any supplemental data that you can use to support that air travel is still in fact the safest? Is there anything politically going on that would cause this type of media attention to be at a peak – remember, this is for an internal review by your peers and management – and will likely spark a lot of discussion for how you approach the next level of discussion with your executive leadership team. Is there anything to show sales are down or are headed that way? Do the safety incidents appear to be in a specific geographic area or by a specific airline every time? Do some analysis of the data you have and look for other sources to see what you can find to help inform your internal team.

**Source Datasets:**

Main data file: **airline-safety.csv**

Codebook:

|  |  |
| --- | --- |
| **Header** | **Definition** |
| airline | Airline (asterisk indicates that regional subsidiaries are included) |
| avail\_seat\_km\_per\_week | Available seat kilometers flown every week |
| incidents\_85\_99 | Total number of incidents, 1985–1999 |
| fatal\_accidents\_85\_99 | Total number of fatal accidents, 1985–1999 |
| fatalities\_85\_99 | Total number of fatalities, 1985–1999 |
| incidents\_00\_14 | Total number of incidents, 2000–2014 |
| fatal\_accidents\_00\_14 | Total number of fatal accidents, 2000–2014 |
| fatalities\_00\_14 | Total number of fatalities, 2000–2014 |

**Supplemental Data:**

File: 100 worst aviation accidents including ground fatalities.

<https://aviation-safety.net/statistics/worst/worst.php?list=worstground>

Codebook:

|  |  |
| --- | --- |
| **Header** | **Definition** |
| Fat. | Fatalities |
| Date | Date and hyperlink to airline crash documentation |
| Type | Airplane Model |
| Registration | Registration of airplane |
| Operator | Airplane Carrier |
| Location | Location of the crash |
| Pic | Picture of the plane |
| Cat | Category of the collision |

File: Annual Financial Results: U.S. Passenger Airlines

<https://www.airlines.org/dataset/annual-results-u-s-passenger-airlines/>

Codebook:

|  |  |
| --- | --- |
| **Header** | **Definition** |
| **Fatalities\_US** | Fatalities |
| Year | Year of fatalities |
| Profit\_US | Annual Profit |

**Transformations:** All data was transformed using Tableau.

**Project Goal:** To discover in using dashboard the truth behind the negative buzz regarding air travel through historical facts.

**Analysis:**

After performing transformation, I noticed a trend in the US with 2001. On September 11, 2011, terrorist hijacked planes in the United States affecting New York, Washington DC and Philadelphia. There were no survivors on all three of the planes and loss of life on ground in both target places, world trade center and the pentagon.

1. Fatalities Per Incidents

There were two data files 1985 to 1999 and 2000 to 2014. The files were merged to create a scatterplot of Fatalities Per Incident. The data indicated that China, Aeroflot, Malaysia, Delta/Northwest, and American Airlines had more fatalities per incident.

1. Fatalities Per Year

A line chart was created to explore the fatalities per year. In 2001, there seem to be an increase in fatalities.

1. Total Fatalities by Country (Map) 1985 to 2014

An interactive map was created to demonstrate the global map of fatalities. The United States led the way for fatalities which was due to September 11,2001 terrorist attack.

1. Fatalities by Airplane Model

I became curious regarding the airplane model and found that Boeing seem have the most fatalities worldwide.

1. Location of Fatalities

The interactive map provided me with the fatalities per country, but I wanted to explore the actual location of the crash. Once again, the USA led the way followed by Atlantic Ocean, Iran, Indonesia, Japan, etc.

1. USA Airline Financials

I wanted to further explore the financials after the September 11, 2011 and found the USA lost revenues from 2001 to 2007. There was an increase and it appeared finally in 2008 the airlines began to see a profit.

1. Fatalities Per Capacity

In the final analysis, I explored the fatalities that occurred per capacity. It appeared China Airlines, Malaysian, Kenya Airways, Pakistan, Gulf Air airlines have higher fatalities per capacity.

**Conclusion:**

It appears that 911 had a detrimental affect on the airline industry. The United States change many laws and regulations after that tragic. The only reason the United States had the most fatalities was due to the 911. In exploring other countries, it appears that many of the crashes were due to loss of control. Recently, Boeing airplanes were in the news regarding a defective part which cause pilots to lose control of the airplanes. Many planes in the United States are grounded until that problem is resolved. Overall, I feel it is safe to travel within the United States.