

Story Behind Global Terrorism Database

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Background & Objective

When I write down this proposal, the deadly St. Petersburg metro attack that was carried out by a suicide bomber in Moscow on April 3 has caused 14 deaths. This suicide bomber has been defined as a terrorist. According to Wikipedia, terrorism is the use of intentionally indiscriminate violence to create terror or fear to achieve a political, religious, or ideological propose. Recent years, several countries have suffered a lot in these terrorist attacks. By analyzing the global terrorism database, we can find the trend of the terrorism activities, the active terrorism areas and other informative story behind this global terrorism database. By using the analyzed results, we may can implement these results for avoiding terrorism areas and preventing potential risk of deaths or injuries in the future.

The objective of my individual project is to analyze different countries historical terrorism activities and corresponding detailed information of terrorist behavior in order to get a general idea of the terrorism activities during the year 1970 to 2015.

Research Questions

What's the trend of terrorism activities during the year 1970-2015?

What's the attack type trend of terrorism behavior during the year 1970-2015?

What's the main targets of these terrorism attacks and what's the trend of these targets attacks?

What's the motives behind these terrorism attacks?

What's the weapon types and what's the most used weapons?

What's the damage caused by these attacks?

Data Sources

The dataset I will use in my project comes from the Kaggle website. The link is as follows:

<https://www.kaggle.com/START-UMD/gtd>

The detailed data description is as follows:

Categories	Content
Dataset	Global Terrorism Database

Time Period	1970-2015
Unit of analysis	Attack
Total Variables	137
Total Entries	156772
Geography	Worldwide

Some variables data are available after 1997. Based on this circumstance, when I analyze the data, I will mainly focus on the data after 1997 (from 1997 to 2015).

Visualization Types

The potential visualization types are as follows:

- Line chart
- Parallel coordinates
- Scatter plot
- Heat map
- Area chart
- Bubble chart
- Table
- Map

Technology & Tools

The technology and tools for analyze are as follows:

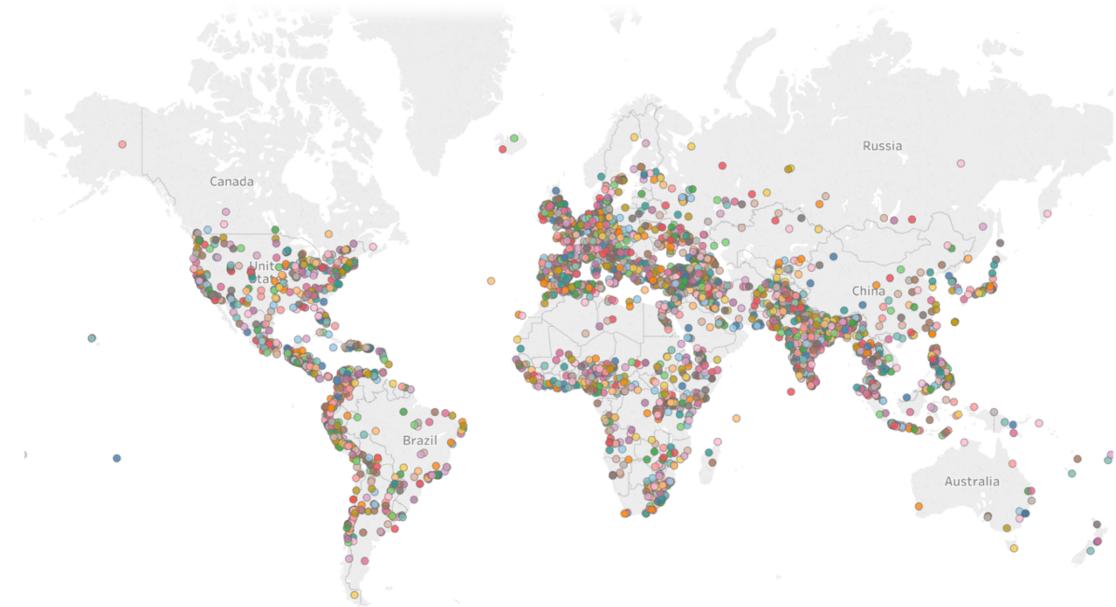
- R: R is so easy to use. By using the package dplyr, I can simply handle this big dataset and try to find meaningful relationship.
- Rattle: Rattle is good for data mining. By implementing Rattle, I may can find some interesting relationship among different variables.

The visualization tools are as follows:

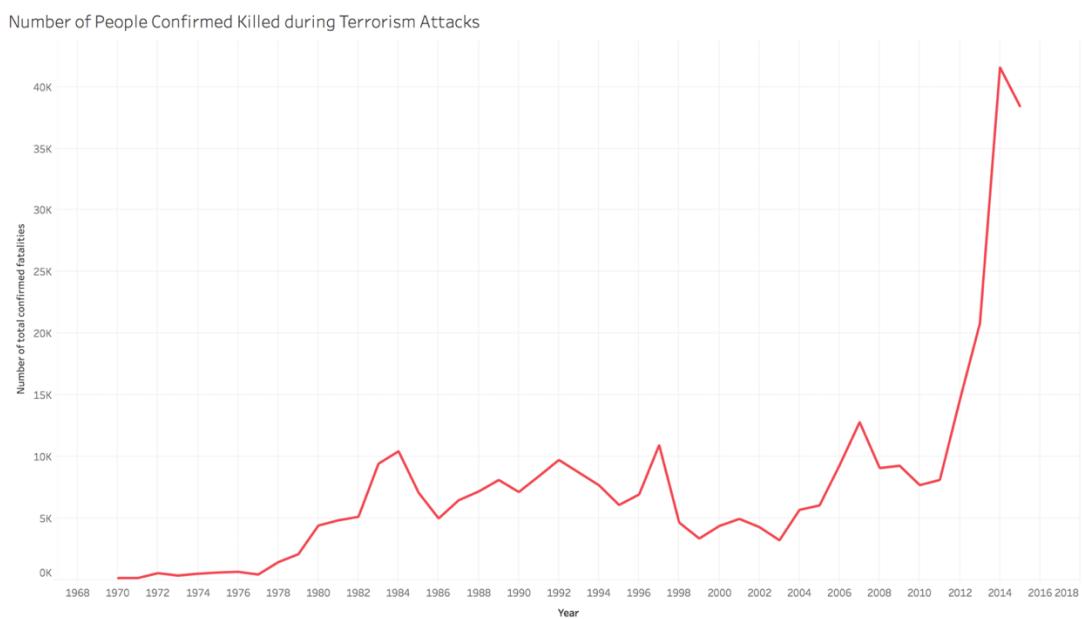
- Tableau: Tableau is a powerful tool for visualization. The specimen I provided in this proposal are all made by Tableau. It's beautiful, flexible and powerful.
- Plotly: Plotly provides very interactive visualizations in Python and R.
- Bokeh: Bokeh is also another powerful tool for interactive, which can produce colorful and wonderful plots.

Visualization Specimen

- Cities that was attacked during the year 1970-2015

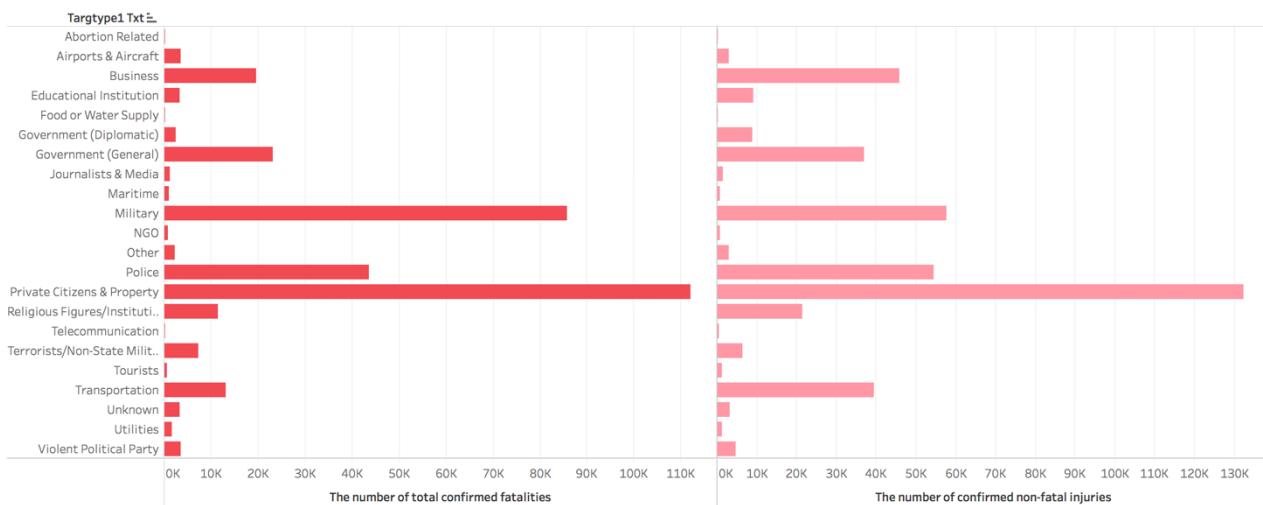


- The number of people confirmed killed during each year



- The target of the terrorist attacks caused deaths and injuries

The target of the terrorism attacks



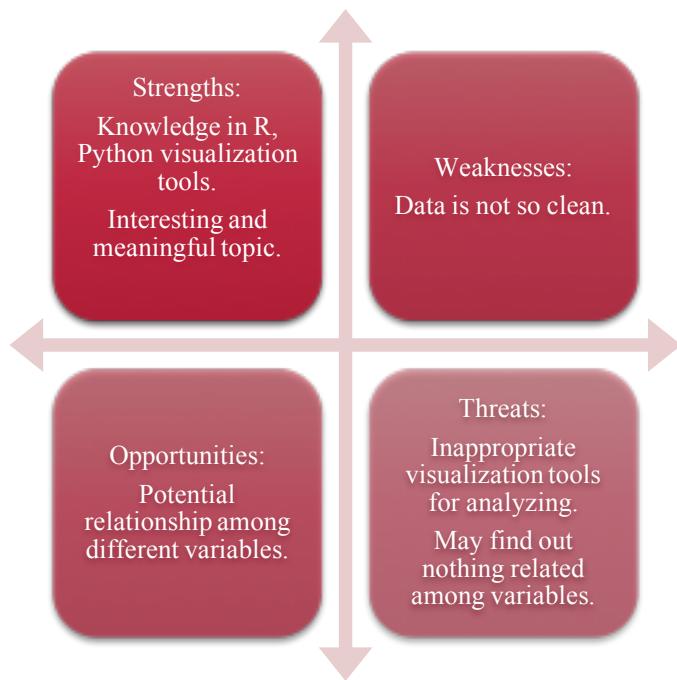
Expectation

By analyzing different variables and the relationship of different variables, I expect to see an overview of the possibility of occurrence of the terrorist attacks and try to predict the potential loss. By using what we have analyzed, we may find the relationship of given variables and may prevent or decrease the occurrence of the terrorist attacks.

Schedule

Week	Time	Content
1	April 12 - April 19	Clean Data
2	April 20 – May 26	Get the trend of terrorism activities during the year 1970-2015 and the attack type trend of terrorism behavior during the year 1970-2015. Try to find appropriate way to visualize these trends.
3	April 27 – May 3	Find the main targets of these terrorism attacks and the trend of these targets attacks. According to the data, try to find the motives behind these terrorism attacks.
4	May 4 – May 10	Find the most popular weapon types and the most/least used weapons? Measure the damage caused by these attacks and visualize the results.
5	May 11 – May 15	Prepare for the final report and presentation.

SWOT Analysis



References

<http://www.cnn.com/2017/04/04/europe/st-petersburg-russia-explosion/>

<https://en.wikipedia.org/wiki/Terrorism>