**Global Terrorism Analysis**

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**Abstract:**

The Global Terrorism Database (GTD) is the most comprehensive unclassified database of terrorist attacks in the world. It is an open-source database, which provides information on domestic and international terrorist around the world since 1970.For each event, a widespread information is available, including the date and location of the incident, the weapons used, nature of the target etc. This project main objective is Perform ‘Exploratory Data Analysis’ on dataset ‘Global Terrorism”.

Our Project is Investigate patterns and explanations in the context and convey the results in a dynamic and visual manner.

***Keywords:*** ***Exploratory Data Analysis, Global Terrorism.***

**1.Problem Statement**

The GTD defines terrorist attacks as: The threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation.

The Global Terrorism Database will be used to study and gain insight into the numerous terrorist activities that have occurred.

Use descriptive statistics to draw inferences such as — key causes of terrorism, primary groups behind terrorism, types of terrorists targets, locations of terrorist attacks—after preprocessing our database.

The objectives of this Project are:

* Performing EDA analysis on dataset “Global Terrorism”
* To study and analyze different terrorism acts that have taken place in different parts of the world, at different years.
* To find the hot zones of Terrorism.
* Distribution of terrorism attacks.

**2. Introduction**

Terrorism is defined in the Oxford Dictionary as “the unlawful use of violence and intimidation, especially against civilians, in the pursuit of political aims.” terrorism is difficult to distinguish from other forms of political violence and violent crime, including state-based armed conflict, non-state conflict, one-sided violence, hate crimes and homicide. There are 5 kinds of terrorism

**1.Global Terrorism:**

Global Terrorism is a type of terrorism that is partly an outgrowth of the forces of globalization, which enable the different kinds of terrorism to spread worldwide

**2. Nationalist terrorism:**

Nationalist terrorism is a type of terrorism that is closely associated with struggles for political autonomy and independence

**3. Domestic Terrorism:**

Domestic Terrorism is a type of terrorism that occurs within the borders of a particular country and is associated with extremist groups

**4. State Terrorism:**

State Terrorism is a cold, calculated, efficient, and extremely destructive form of terrorism, partly because of the overwhelming power at the disposal of the governments.

**5. Religious Terrorism:**

Religious Terrorism The type of terrorism that grows out of extreme fundamentalist religious groups that believe that God is on their side and that their violence is divinely inspired and approved.

The Global Terrorism Database (GTD) is an open-source database that includes information on domestic and international terrorist attacks around the world from 1970 to 2017. For each event, information is available on the date and location of the incident, the weapons used and nature of the target, the number of casualties, and–when identifiable–the group or individual responsible. The database is maintained by researchers at the National Consortium for the Study of Terrorism and Responses to Terrorism (START), headquartered at the University of Maryland. There are 18,1691 records and 135 columns.

Exploratory Data Analysis refers to the critical process of performing initial investigations on data so as to discover patterns ,to spot anomalies, to test hypothesis and to check assumptions with help of summary statistics and graphical representation.

**3. Steps involved:**

**Importing Libraries:**

Libraires are used in this analysis are:

**1.Numpy**: NumPy is a python library used for working with arrays

**2.Pandas**: Pandas is a high-level data manipulation tool

**3.Matplot**: Matplotlib is an amazing visualization library in Python for 2D plots of arrays

**4.Seaborn**: Seaborn is a library for making statistical graphics in Python

**5.Plotly**: The **plotly Python** library (**plotly**.py) is an interactive, open-source plotting library that supports over 40 unique chart types covering a wide range of statistical, financial, geographic, scientific, and 3-dimensional use-cases.

**Importing Dataset:**

Data set has been imported from google drive and read a dataset using read\_csv.

**Null values Treatment:**

As our dataset contains a huge number of null values, we removed them at the beginning of our project to improve our accuracy. There are 181691 rows × 29 columns after removing Null values.

**Creating heat map and find out the top frequent terrorist attacked years:**

we have created heat map between columns to find the relationship between them and done the analysis for finding the frequent attacked years using pandas (value counts) method.

**Performing Analysis for find out the most attacked countries, reginal area, type of attack, weapon type:**

In this step also we have used value counts method to find out the most attacked countries and regional area from 1970 to 2017.

**Statistical Conclusion:**

From above analyses we have concluded results based on statistical methods.

**4. Observations:**

**1. Year wise Attacks**:

(i). Most number of attacks :16903 in 2014

(ii). Least number of attacks: 471 in 1971

**2. Region wise Attacks**:

(i). Most number of attacks: 50474 in Middle East & North Africa (percentage is 27.78%)

(ii). least number of attacks: 282 in Australasia & Oceania (percentage is 0.15%)

**3. Country wise Attacks:**

(i). Most number of attacks: 24636 in “Iraq” (percentage is 24.7%)

(ii). Least number of attacks: 4292 in “Turkey” (percentage is 4.3%)

**4.City wise attack**:

(i). Most number of attacks: city was Baghdad and 7589 number of times attacked

**5.No.of people killed:**

(i). Most people killed from 1970 to 2017 in Middle East & North Africa its number was 1,37,642

(ii). Most number of people killed in 2014 its number was 44490

**6.No. of people wounded:**

(i). most people wounded from 1970 to 2017 in Middle East & North Africa its number was 214308

(ii). most number of people wounded in 2015 its number was 44043

**7. Attack type wise attacks:**

(i). Most number of attacks :88255 by “Bombing /Explosion”

(ii). Least number of attacks: 659 by “Hijacking “

**8. Target type wise attacks:**

(i). Most number of attacks: 43511 over “Private Citizens & Property”

(ii). Least number of attacks: 263 over “Abortion Related”

**9. Weapons used in attacks:**

(i). Most number of weapons in attack: 92426 Explosives are used

(ii) Least number of weapons in attack: 14 Radiological are used

**10. 2014-year attack (Most number of attacks):**

(i). Country: number of attacks are 3933 in “Iraq”

(ii). Region: number of attacks are 6939 in “Middle East & North Africa”

(iii).Most number of people killed its number was 44490

(iv). Type of attack: 8799 by Bombing /Explosion are used Mostly

(v) Target type: 4331 over Private Citizens & Property

(vi) weapon type: 9521 Explosives are used

A map of the world

Description automatically generated with medium confidence

Figure 1. Represents The Total number of attacks in Globe. (Using plotly library).

**4. Conclusion:**

By this way, we are at the end of this Global terrorism EDA. From this analysis we can concluded that Terrorist attacks are increasing from 1970 2017.Most number of attacks are in 2014 and country is Iraq. Mostly Explosives are used in Terrorist attack. Terrorists are mainly focused on Private Citizens & Property and attack type is Bombing /Explosion.