# Global Terrorism Analysis

## Documentation

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## Abstract:

The given dataset is GTD datset and is used to analyze to draw useful insights with the help of EDA (Exploratory Data Analysis).

By doing such analysis, agencies can be informed and reported to prevent the deadly attacks or even a slight mishap or any irregularity.

Different parameters like date of attack, type and location of attack, method of an attack and many others that are mentioned in the database are explored,visualised with the help of diiferent plots, charts and compared with each other to draw final conclusions.

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

## 1. Problem Statement:

The Global Terrorism Database (GTD) is an open-source database including information on terrorist attacks around the world from 1970 through 2017. The GTD includes systematic data on domestic as well as international terrorist incidents that have occurred during this period and now includes more than 180,000 attacks. 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.

Main objective is to analyze the data and draw a meaningful conclusions.

# 2. Introduction

As incidents of terrorism have increased in the past decade, the phenomenon of terrorism has become of concern to governments and of increasing interest to scholars. The term "terrorism" has no precise or widely-accepted definition. The problem of defining terrorism is compounded by the fact that terrorism has recently become a fad word often applied to a variety of acts of violence that are not strictly terrorism. The paper defines terrorism and cites examples of international terrorist events. Problems discussed include deciding whether to consider activities of separatist groups, violence carried out by terrorists operating within their own country, individual hijackings, and bombings as instances of terrorism.

**There are 8 signs of terrorism**

## 1. Surveillance

Terrorists will likely observe a chosen target during the planning phase of an operation. They do this to determine the strengths, weaknesses, and number of emergency personnel that may respond to an incident. Suspicious actions during this phase may include someone recording or monitoring activities, drawing diagrams or making notes on maps, using vision-enhancing devices, or having possession of floor plans or blueprints of places such as high-tech firms, financial institutions, or government facilities, including military installations. Routes to and from the target are also usually established during the surveillance phase.

## 2. Inquiries

A second sign, inquiries, entails attempting to gain information about a place, person, or operation pertaining to the target. Terrorists may attempt to elicit information about a critical infrastructure such as a power plant, water reservoir, maritime port, military base, bridge,

or tunnel by making unusual inquiries. They may inquire about usage and operations. Additionally, they may attempt to place people in legitimate employment at key locations to monitor day-to-day activities and gather detailed knowledge in order to make their mission or scheme more effective.

### 3. Tests of Security

Terrorists may also test a target's security to gather data. To do this, they may drive by the target, move into sensitive areas and observe security or law enforcement response. They are likely assessing how long before personnel respond to a security breach or the routes responders take to a specific location. Terrorists may also attempt to penetrate physical security barriers or procedures in order to assess strengths and weaknesses.

### 4. Fundraising

Although this is a tough sign to pick up on, it is one of the most important. Without funding, terrorist activity will come to a dramatic halt. Terrorists are very creative in raising, transferring, and spending money they come in contact with. Some scenarios to look for include: (1) credit card fraud, (2) defrauding the elderly, (3) people asking for donations to legitimate organizations but in peculiar ways, and (4) very large amounts of cash used in business transactions.

### 5. Acquiring Supplies

Terrorists may purchase or steal explosives, weapons, ammunition, or attempt to store harmful chemical equipment. In order to gain easier entrance to a secured area, they may also try to acquire uniforms, equipment, or identification of first responders, including military personnel. Other items they may try to obtain include flight passes, flight manuals, passports, or other pieces of identification. If they are unable to steal these types of things, they

may attempt to create counterfeit copies.

## 6. Suspicious/Out-Of-Place Behavior

Profiling individuals is wrong, however, profiling behaviours may indicate suspicious behaviour. Sometimes suspicious people just "don't belong" or behaviour seems out of place. This may include a person in a workplace, building, neighbourhood, or business establishment that does not fit in because of demeanour, language usage, or unusual questions they ask.

## 7. Dry Runs

Before executing the final operation or plan, terrorists may engage in a practice session, or "dry run," to work out flaws or unanticipated problems. Although they normally conduct multiple practice sessions at or near the target area, a "dry run" may be the heart of the planning stage of a terrorist act. During a "dry run,"

terrorists may monitor police radio frequencies and record emergency response times.

## 8. Deploying Assets/Getting Into Position

The deploying assets or getting into position stage is an individual's last chance to alert authorities before the terrorist act occurs.

If any of these above-mentioned signs are identified then the nation or the society is at threat of an attack and the data that we have in our hand consist of such gruesome acts of violence. The Global Terrorism Database(GTD) has info on such incidents from the year 1970 to 2017. Exploratory Data Analysis refers to the critical process of performing initial investigations on data so as to discover patterns, to spot anomalies, test hypotheses, and check assumptions with help of summary statistics and graphical representation.

# 3. Steps Involved:

**Importing Libraries:**

Libraries used in this analysis are:

1. **Numpy:** Numpy is a python library used here in this analysis for working with arrays

2. **Pandas:** This library is imported and used to perform high-level data manipulation on our data

3. **Matplot:** Matplotlib is an amazing visualization library in python for plotting arrays in 2D.

4. **Seaborn:** Seaborn is similar to matplot despite the fact it provides more functionalities for making statistical graphics in python.

**Importing Dataset:**

Dataset has been imported from google drive and read as a dataset using read_csv function in pandas.

**Null value treatment:**

We have our dataset in hand which is raw and uncleaned. As this step completely involves cleaning our data first by eliminating the columns which have maximum null values. We have around 181691 rows × 135 columns in our dataset after neglecting those with null values we currently have around 18 columns with meaningful data that we could work for this analysis.

**Heat Map creation :**

We have created a heatmap that shows the correlation between columns in which we can understand whether the columns are negatively correlating or positively correlating. This map helped us proceed with the analysis for finding frequently attacked cities, countries and regions in the following years using the value counts method in pandas.

**Performing Analysis to find out the most attacked countries, regional areas, type of attack, and weapon type:**

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

# 4. Observations :

1. **Attacks over years**: The year 2014 had the most number of terrorist attacks i.e 15977 attacks and the lowest number of attacks happened in the year 1971.

2. **Terrorist groups**: Taliban is the no. 1 terrorist organisation responsible for more than 7000+ attacks. Followed by it is ISIL and Shining Path.

3. **Countries attacked**: Iraq is the most affected country and has reported more than 22000+ incidends of terrorism.

4. **Region-wishes killing and wounds**: Middle east and north Africa is the regions with the most kills.

5. **Weapon types of terrorists**: Explosives are the most frequently used weapon 83240 times and Radiological weapons are the least used.

6. **Target types of terrorists**: Private Citizens & Property are the most targetted i.e 40464 times and followed by it is Millitary which has been targeted for 27240 times.

7. **City-wise attacks** : Baghdad is the most attacked city with 7326 attacks and Benghazi is the least attacked.

8. **Attack types**: The most frequently used attack type is Bombing/Explosion with 79098 times and the lowest used type is Hijacking.

# 5. Conclusion :

Finally, we conclude that the Terrorist attacks were at their peak in **2014** which eventually got plummeted after that and the organizations that were responsible to carry out most of these gruesome attacks were the **Taliban** and **Iraq** is the most attacked country among all, the death rates were spiked in these places. The most common forms of attacking were **Bombing/Explosion and firearms**. The regions with the most attacks were the **middle east and north Africa**. People who got affected by this were the general **public & private citizens**.