Tech Saksham
Case Study Report

Data Analytics with Power BI

"GLOBAL TERRORISM OF DATASET ANALYSIS"

"ST.JOHN'S COLLEGE"

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ABSTRACT

➢ The Global Terrorism Dataset shortly known as GTD documents more than 200,000 international and domestic terrorist attacks that occurred worldwide since 1970.

➢ With details on various dimensions of each attack, the GTD familiarizes analysts, policymakers, scholars and journalists with patterns of terrorism.

➢ GTD defines terrorist attack 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 or intimidation.

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CHAPTER 1

INTRODUCTION

1.1 Problem Statement

PROBLEM STATED BY THE GTD SOURCES;

Terrorism is the threat or use of violence to coerce in the pursuit of political or ideological goals. It is usually understood to done by non-state actors – individuals or organizations not part of the government.

Terrorism can take many forms, including bombings, armed assaults or hostage-talking. Its target can also vary and can be aimed at civilians, state actors, or public infrastructure.

Terrorism intentionally creates violence during peace time and they have moral justification for their violent acts.

Still we can't exactly describe the factors that creates this violence acts in a crisp and clear manner. The opinion of this violence acts may change from person to person.

- o The Middle East and North Africa suffered the most from terrorism and terrorism attacks and incidents till date. The record clearly indicates how they suffered by the terrorisms.
- o Taliban was the most successful terrorist group till date. Recently they occupied Afghanisthan was the most highlighted news in the entire world.
- o The highest individual target was 40.4k.
- o Bombing and explosions were the most preferred attack type in terrorisms.
- o The most assaults ever were committed in 2014, according to the history records.

o Terrorism gives the major differences in environment , downfall of economic crisis and etc.,

1.2 Proposed Solution

1. For Terrorisms:

- Stay abreast of national and regional developments in the terrorism landscape to ensure tailored and evidence-based interventions are developed.

- Support the development and implementation of legislation, policies and strategies against terrorism and its financing in line with international standards and best practices.

- Enhancing mechanisms for regional and international cooperation.

- Support a whole of society approach to Thousands prevention of violent extremism and terrorism.

- Making awareness of the judicial law against terrorism and pretend people from doing such violent acts.

- Capturing or arresting or finding the people who is the fundamental support of the terrorist by giving financial needs, making equipment like bombs and etc.,

2.About GTD:

- Thousands of students, researchers, journalists, policymakers use GTD each and every day for their purposes.
- START would like to learn more about how the GTD informs your works.

- GTD has been helpful to your efforts to better understand the causes and consequences of terrorisms.

1.3 Feature

1. <u>Features of Terrorism and Terrorists.</u>

- Terrorism is freighting because it is unpredictable. Modern terrorist groups use portable weapons, function in small decentralized cells, often receive funds from drug trafficking, emphasize flexibility in their operations and are increasingly urban. It differs from state terror which occurs through the abuse of legitimate power. Terrorists live among people with duplicate citizenship. Sometimes because of terrorism some of the main decisions of the government should be carefully taken otherwise it will affect the common civilizations too which make them easier to do their works.

2. <u>Features about the information of Terrorisms.</u>

• GTD Program Manager Dr. Erin Miller provides a virtual lecture exploring the most recent terrorism trends found in the Global Terrorism Database (GTD).

• After University of Maryland researchers began developing the GTD on 2002, Miller presents trends from the upcoming publication of new GTD data for 1970 to 2020.

• Topics include patterns of terrorism in the United States and around the world during the first year of the COVID-19 pandemic, developments in Afghanistan leading up to the 2021 collapse of the Afghan government, and the evolving geographic footprint of Islamic State-related termism.

1.4 Advantages

❖ **<u>There are some advantages for terrorists that made them to do terrorism easily and it is listed below:-</u>**

- No verbal skills are needed for them to convey their plans and attacks

- Control of the terrorism planning is possible only when knowing about their plans and places they are going to attack.

- Rational thinking is replaced by emotional thoughts.

- Only the leader of the terrorism group or only some of the terrorist knew the exact plan whereas most of their group members did not know which made them even stronger.

- They made their own weapons and they are directly in the ground level without any differences.

❖ **<u>Advantages of GTD:</u>**

- START has released the first in a series of training modules designed to equip GTD users with the knowledge and tools to best leverage the database.

- This training module provides a general overview of the GTD, including the data collection process, uses of the GTD, and patterns of global terrorisms.

- Participants will learn basic data handling and how to generate summary statistics from the GTD using PivotTables in Microsoft Excel.

1.5 Scope

1) **FOR TERRORISM**

- Violence by rebels and by states
- The link between political violence and organized crime
- Rebellion and revolution and protest
- Religion and right-wing terrorism
- Technology and public policy
- Calculated to create the fear among the people
- Generally targeted against civilians.

2) **FOR GTD**

- Time Period Covered: The GTD includes data on terrorist incidents from 1970 through 2020, with annual updates planned for

the future.

- Number of Cases: It contains information on more than 200,000 terrorist attacks globally. Unlike many other event databases, the

GTD systematically records data on both domestic and international terrorists incidents.

- Attributes Recorded: For each terrorist incident, the GTD captures up to 120 separate attributes, including approximately 75 coded variables that can be used for statistical analysis. These attributes cover various etiological and situational factors related to each attack.
- Data Visualization: The GTD provides visualizations, such as heat maps, to showcase the geographic concentration and intensity of

terrorist attacks worldwide. Intensity is calculated based on the number of people killed or injured in each attack

CHAPTER 2

SERVICES AND TOOLS REQUIRED

2.1 Services Used

- **Terrorist Weapons:** Terrorists use guns, pistols, revolvers, riffles and (semi-) automatic weapons in assassinations, snipping, armed attacks and massacres. Among the former, car-and truck-bombs have become very powerful weapons, especially in suicide attacks.

- **Types of Attacks in Terrorism:** There are some attacks which are used by the terrorists mostly.

  - Explosions: Attacks have occurred in public places and on city streets with 1000s of people around the world injured and killed.

  - Biological Threats: Biological agents are organisms or toxins that can kill or incapacitate people, livestock and crops.

  - Chemical Threats: Chemical agents are poisonous vapors, aerosols, liquids and solids that have toxic effects on people, animals or plants. They can be released by bombs or sprayed from aircraft, boats and vehicles.

+ <u>Nuclear Blast:</u> A nuclear blast is an explosion with intense light and heat, a damaging pressure wave and wide spread radioactive material that can contaminate the air, water and ground surfaces for miles around.

- **Types of Terrorists:** According to Foreign Terrorists Organizations there are 60+ terrorists groups. Example: Taliban

- **Enhancing Awareness and Preparedness:**

   The GTD contributes to public awareness by providing accurate and comprehensive data on terrorist incidents. It helps individuals and communities understand the nature and impact of terrorism. Armed with this knowledge, people can take preventive measures, recognize warning signs, and respond effectively during emergencies.

- **Emergency Management and Rescue:**

   Emergency responders, such as law enforcement, medical personnel, and disaster management teams, benefit from the GTD. They can study past incidents to improve their preparedness and response protocols.

2.2 Tools and Software used

Tools:

- **PowerBI**: The main tool for this project is PowerBI, which will be used to create interactive dashboards for real-time data visualization.

- **Power Query**: This is a data connection technology that enables you to discover, connect, combine, and refine data across a wide variety of sources.
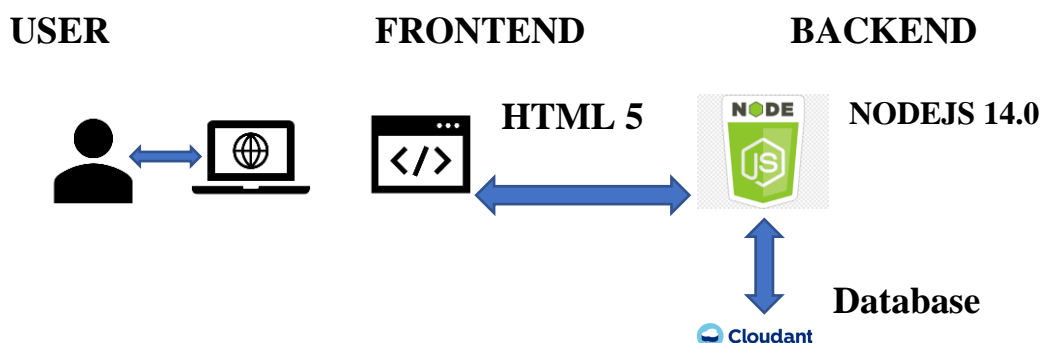
Software Requirements:

- **PowerBI Desktop**: This is a Windows application that you can use to create reports and publish them to PowerBI.

- **PowerBI Service**: This is an online SaaS (Software as a Service) service that you use to publish reports, create new dashboards, and share insights.

- **PowerBI Mobile**: This is a mobile application that you can use to access your reports and dashboards on the go.

CHAPTER 3

PROJECT ARCHITECTURE

3.1 Architecture

USER   FRONTEND   BACKEND

HTML 5   NODEJS 14.0

Database

Here's a high-level architecture for the project:

1. **Data Collection**: The GTD is an open – sources data base including information on terrorist attacks around the world from 1970 through 2017. It also includes systematic data on domestic as well as international terrorist incidents.

2. **Data Storage**: There are some official global terrorism websites like FBI.gov and Relief web.

3. **Data Processing**: Journalism and social medias are the best example for data processing (CCTV, MAC address)

4. **Machine Learning**: AI is a powerful tool that could conceivably be employed to further or facilitate terrorism and violent extremism conducive to terrorism, by, for instant, providing new modalities for physical attacks with drones or self – driving cars.

5. **Data Visualization**: The processed data and the results from the predictive models are visualized in real-time using PowerBI. PowerBI allows you to create interactive dashboards that can provide valuable insights into the data.

6. **Data Access**: The dashboards created in PowerBI can be accessed through PowerBI Desktop, PowerBI Service (online), and PowerBI Mobile.

7. **Architecture and Security Measures:** Beyond institutions, architecture itself plays an unexpected role in counterterrorism. When designing public spaces, architects consider security measures to mitigate risks. For instance, thoughtful planning can enhance safety without compromising aesthetics.

This architecture provides a comprehensive details of global terrorism of dataset analysis. However, it's important to note that the specific architecture may vary depending on the terrorist attacks and terrorism.. It's also important to ensure that all tools and services comply with relevant.

CHAPTER 4

MODELING AND RESULT

Manage relationship

Global terrorism is a multifaceted and complex challenge that has significant implications for formational security worldwide. It encompasses a wide range of threats, actions, and actors. Let's delve into some key aspects:

- **Diverse Actors and Threats:**
- **States:** Some states engage in terrorism through conventional forces or other means to terrorize civilian populations.
- **Extremists:** Non-state actors, such as extremist groups, carry out terrorist acts.
- **Complex Conflicts:** Terrorism intertwines with civil wars, insurgencies, and asymmetric warfare.
- **Religious Extremism:** Ideological, ethnic, and religious factors drive terrorism.
- **Global Reach:** The threat extends beyond specific regions, affecting Africa, Europe, Latin America, and the United States.

- **Patterns and Trends:**

- The U.S. has focused on Afghanistan and Iraq, but the threat has expanded to North Africa, the Middle East, Sub-Saharan Africa, and beyond.

- **Religious Extremism:** This threat may soon spread rapidly to other parts of Asia.

- **Economic Factors:** Failed governance, corruption, and lack of economic development contribute to terrorism.

- **Internal Instability:** Terrorism can emerge anywhere due to internal instability.

- **Data and Uncertainties:**

- Reporting Challenges: Constant changes in analysis methods and reporting make historical comparisons unclear.

- Hate Crimes

- **Form a proper table:**
  Many columns and rows too many null values are in the date set. To form a transform data relationship in global terrorists and remove null values.

- **Data set in global terrorism:**

Power BI Powered Global Terrorism Dataset Analysis.csv

File Origin		Delimiter		Data Type Detection	
1252: Western European (Windows) ▾		Comma ▾		Based on first 200 rows ▾	

eventid	iyear	imonth	iday	approxdate	extended	resolution	country	country_txt	region	region_txt	provstate	city
1.97E+11	1970	7	2		0		58	Dominican Republic	2	Central America & Caribbean		Santo Do
1.97E+11	1970	0	0		0		130	Mexico	1	North America	Federal	Mexico ci
1.97001E+11	1970	1	0		0		160	Philippines	5	Southeast Asia	Tarlac	Unknown
1.97001E+11	1970	1	0		0		78	Greece	8	Western Europe	Attica	Athens
1.97001E+11	1970	1	0		0		101	Japan	4	East Asia	Fukouka	Fukouka
1.97001E+11	1970	1	1		0		217	United States	1	North America	Illinois	Cairo
1.97001E+11	1970	1	2		0		218	Uruguay	3	South America	Montevideo	Montevid
1.97001E+11	1970	1	2		0		217	United States	1	North America	California	Oakland
1.97001E+11	1970	1	2		0		217	United States	1	North America	Wisconsin	Madison
1.97001E+11	1970	1	3		0		217	United States	1	North America	Wisconsin	Madison
1.97001E+11	1970	1	1		0		217	United States	1	North America	Wisconsin	Baraboo
1.97001E+11	1970	1	6		0		217	United States	1	North America	Colorado	Denver
1.97001E+11	1970	1	8		0		98	Italy	8	Western Europe	Lazio	Rome
1.97001E+11	1970	1	9		0		217	United States	1	North America	Michigan	Detroit
1.97001E+11	1970	1	9		0		217	United States	1	North America	Puerto Rico	Rio Piedra
1.97001E+11	1970	1	10		0		499	East Germany (GDR)	9	Eastern Europe	Berlin	Berlin
1.97001E+11	1970	1	11		0		65	Ethiopia	11	Sub-Saharan Africa	Unknown	Unknown
1.97001E+11	1970	1	12		0		217	United States	1	North America	New York	New York
1.97001E+11	1970	1	12		0		217	United States	1	North America	Puerto Rico	Rio Grand
1.97001E+11	1970	1	13		0		217	United States	1	North America	Washington	Seattle

ⓘ The data in the preview has been truncated due to size limits.

‹ [▭▭▭▭▭▭▭▭▭▭]

Extract Table Using Examples

	y_txt	region_txt	success	attacktype1	targtype1_txt	
1	Republic	Central America & Caribbean	1	1	Private Citizens & Property	Domi
2		North America	1	6	Government (Diplomatic)	Belgi
3		Southeast Asia	1	1	Journalists & Media	Unite
4		Western Europe	1	3	Government (Diplomatic)	Unite
5		East Asia	1	7	Government (Diplomatic)	Unite
6	tes	North America	1	2	Police	Unite
7		South America	0	1	Police	Urugu
8	tes	North America	1	3	Utilities	Unite
9	tes	North America	1	7	Military	Unite
10	tes	North America	1	7	Government (General)	Unite
11	tes	North America	0	3	Military	Unite
12	tes	North America	1	7	Military	Unite
13		Western Europe	1	4	Airports & Aircraft	Unite
14	tes	North America	1	7	Government (General)	Unite
15	tes	North America	1	7	Business	Unite
16	any (GDR)	Eastern Europe	1	3	Government (General)	Germ
17		Sub-Saharan Africa	1	9	Military	Unite
18	tes	North America	1	3	Educational Institution	Unite
19	tes	North America	1	3	Business	Unite
20	tes	North America	1	7	Business	Unite
21	tes	North America	1	7	Police	Unite
22		South America	1	2	Educational Institution	Urugu
23	tes	North America	1	3	Educational Institution	Unite
24						

n profiling based on top 1000 rows

Select row and columns:

Next to choose the columns are,

• Country

• Target type

• Year

• Region

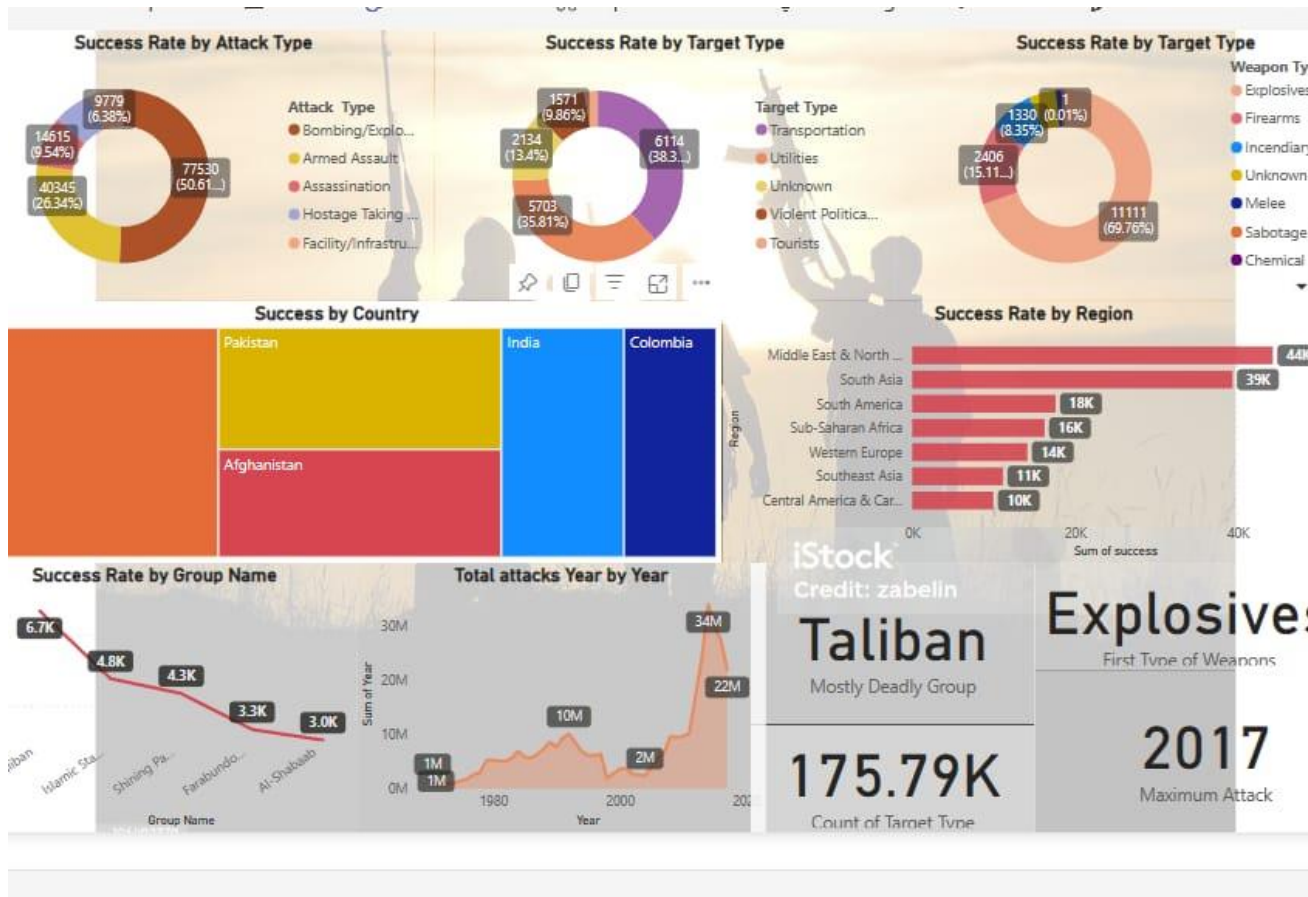• Attack type

• Target Nationality

• Group Name

• Success rate

• Weapons type

Dashboard

These are the relationship between global terrorism in dashboard.

The relationships between

• Success rate and attack Type

• Success rate and target Type

• Success rate and region

• Success rate and country

• Total attack Year by Year

• Success rate and weapons type

CONCLUSION

Terrorism, a menace that transcends borders and ideologies, demands our collective attention. As we reflect on this global threat, let us draw some conclusions:

- **Long-lasting Consequences:** While terrorists may succeed in drawing attention to their political and religious agendas through modern communication methods, the aftermath is far-reaching and enduring. Countries find themselves divided, and the consequences ripple through generations

- **Vigilance and Resilience:** We must remain vigilant, resilient, and committed to safeguarding humanity against acts of violence and fear. By addressing root causes, promoting education, and

fostering understanding, we can work toward a world where terrorism finds no fertile ground.

- **Unity and Cooperation**: Terrorism cannot be eradicated by law enforcement agencies alone. The entire world must unite to confront this growing peril. Cooperation among nations and international intelligence agencies is essential to enhance our collective efficiency in combating terrorism.

FUTURE SCOPE

Future scope of global terrorism is a critical concern that requires comprehensive strategies and international cooperation. Here are some key points to consider:

Global Programmed on Preventing and Countering Terrorism (2022-2027):

- The United Nations Office on Drugs and Crime (UNODC) has launched a Global Programmed with a vision to effectively prevent terrorism.
- The program aims to support Member States in their efforts to prevent and counter terrorism through inclusive strategies, policies, and legal means.

- It emphasizes the safety and protection of people, ensuring that no one is left behind.
- The program builds upon the success of UNODC's previous program, which strengthened the legal regime against terrorism from 2003 to 2022.
- Key outcomes include increased adherence to international legal frameworks, inclusive terrorism prevention measures, and effective criminal justice responses.

Emerging Dynamics:

- Over the next two decades, several factors are likely to exacerbate the conditions exploited by terrorists:
- Regional and intrastate conflicts: Ongoing conflicts create fertile ground for extremist ideologies and recruitment.
- Demographic pressures: Population growth, migration, and urbanization can strain resources and lead to social tensions.
- Environmental degradation: Climate change, natural disasters, and resource scarcity may contribute to instability.
- Democratic enrichment: Erosion of democratic institutions can create grievances and fuel radicalization.
- Challenges and Opportunities: While terrorism may no longer be the leading international threat to some countries, challenges related to violent extremism persist.
- Addressing root causes, promoting social inclusion, and enhancing international cooperation remain crucial in the fight against terrorism.