

# Tech Saksham

## Case Study Report

### Data Analytics with Power BI

#### “POWERED GLOBAL TERRORISM DATASET ANALYSIS”

#### “ST. JOHN’S COLLEGE, PALAYAMKOTTAI”

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# ABSTRACT

In the digital age, data has become an invaluable asset for global terrorism dataset analysis, particularly in the global terrorism. The proposed project, “Power BI Powered Global Terrorism Dataset Analysis,” aims to leverage Power BI, a global terrorism dataset includes all events that meet its criteria for terrorism and are documented by at least one high-quality source. Allows filtering out any events that may not meet one’s own definition of terrorism by sharing disaggregated data on specific characteristics. The Global Terrorism Dataset (GDT) documents more than 200,000 international and domestic terrorist attacks that occurred worldwide since 1970. The Global Terrorism Index (GTI) report is produced by the Institute for Economics & Peace (IEP) using data from Terrorism Tracker and other sources. GTI, the Institute for Economics & Peace (IEP) publishes the Global Terrorism Index, which was created by Steve Killelea, an IT entrepreneur, and IEP founder.

## INDEX

Sr. No.	Table of Contents	Page No.
1	Chapter 1: Introduction	4
2	Chapter 2: Services and Tools Required	6
3	Chapter 3: Project Architecture	7
4	Chapter 4: Modeling and Result	9
5	Conclusion	18
6	Future Scope	19
7	References	20
8	Links	21

## CHAPTER 1

### INTRODUCTION

#### 1.1 Problem Statement

The Global Terrorism Database (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. According to Grob-Fitzgerald (2005), terrorism can be broken down into four broad forms: national terrorism – terrorist activities involving national borders; revolutionary terrorism – activities aimed at the philosophical and political nature of government; reactionary terrorism – activities concerned with preventing ...

#### 1.2 Proposed Solution

In the solution of this problem, Power BI can be the terrorism, Systematic use of violence to create a general climate of fear in a population and thereby to bring about a particular political objective. It has been used throughout history by political organizations of both the left and the right, by nationalist and ethnic groups, and by revolutionaries. There are five crucial components of terrorism, an involvement of an act of violence, an audience, the creation of a mood of fear, innocent victims, and political goals or motive. The Global Terrorism Database--or GTD--began in 2001 when researchers at the University of Maryland obtained a large database originally collected by the Pinkerton Global Intelligence Services (PGIS).

#### 1.3 Feature

1. The Global Terrorism Database--or GTD--began in 2001 when researchers at the University of Maryland obtained a large database originally collected by the Pinkerton Global Intelligence Services (PGIS)..
2. The National Terrorism Advisory System (NTAS) is designed to communicate information about terrorist threats by providing timely, detailed information to the American public.

#### 1.4 Advantages

- Currently the most comprehensive unclassified database on terrorist attacks in the world
- Includes information on more than 88,000 bombings, 19,000 assassinations, and 11,000 kidnappings since 1970

- Includes information on at least 45 variables for each case, with more recent incidents including information on more than 120 variables
- More than 4,000,000 news articles and 25,000 news sources were reviewed to collect incident data from 1998 to 2017 alone

## 1.4 Scope

The scope of this project extends to all banking institutions that aim to leverage data for decision-making and customer engagement. The project can be further extended to incorporate more data sources and advanced analytics techniques, such as machine learning and artificial intelligence, to provide more sophisticated insights into customer behavior. Terrorism is the use of violence and intimidation, especially against civilians, in the pursuit of political, ideological, or religious goals. It is a tactic used by individuals or groups to achieve their objectives by creating fear and causing disruption.

Terrorism can take many forms, including bombings, assassinations, hijackings, and cyberattacks. It can be carried out by state actors or by non-state actors, such as terrorist organizations or extremist groups. The impact of terrorism is far-reaching, as it can cause physical harm, psychological trauma, and economic damage.

However, the problem of terrorism remains a significant global challenge, and efforts to address it must be ongoing and multifaceted.

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## CHAPTER 2

### SERVICES AND TOOLS REQUIRED

#### 2.1 Services Used

- **Data Collection and Storage Services:** GTD includes all events that meet its criteria for terrorism and are documented by at least one high-quality source.

- **Data Processing Services:** With details on various dimensions of each attack, the GTD familiarizes analysts, policymakers, scholars, and journalists with patterns of terrorism.
- **Machine Learning Services:** Azure Machine Learning or AWS Sage Maker can be used to build predictive models based on historical data.

## 2.2 Tools and Software used

### Tools:

- **Power BI:** The main tool for this project is Power BI, 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.

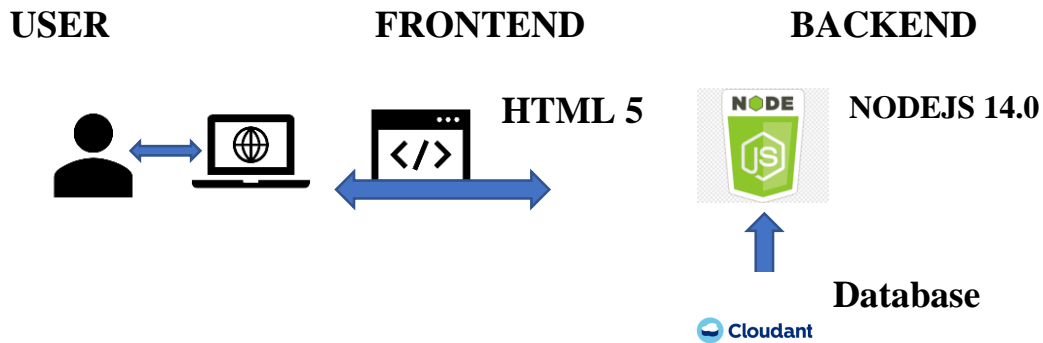
### Software Requirements:

- **Power BI Desktop:** This is a Windows application that you can use to create reports and publish them to Power BI.
- **Power BI Service:** This is an online SaaS (Software as a Service) service that you use to publish reports, create new dashboards, and share insights.
- **Power BI 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



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

1. **Data Collection:** Real-time customer data is collected from various sources like bank transactions, customer interactions, etc. This could be achieved using services like Azure Event Hubs or AWS Kinesis.
2. **Data Storage:** The collected data is stored in a database for processing. Azure SQL Database or AWS RDS can be used for this purpose.
3. **Data Processing:** The stored data is processed in real-time using services like Azure Stream Analytics or AWS Kinesis Data Analytics.
4. **Machine Learning:** Predictive models are built based on processed data using Azure Machine Learning or AWS Sage Maker. These models can help in predicting customer behavior, detecting fraud, etc.
5. **Data Visualization:** The processed data and the results from the predictive models are visualized in real-time using Power BI. Power BI allows you to create interactive dashboards that can provide valuable insights into the data.
6. **Data Access:** The dashboards created in Power BI can be accessed through Power BI Desktop, Power BI Service (online), and Power BI Mobile.

This architecture provides a comprehensive solution for real-time analysis of bank customers. However, it's important to note that the specific architecture may vary depending on the bank's existing infrastructure, specific requirements, and budget. It's also important to ensure that all tools and services comply with relevant data privacy and security regulations.

## **CHAPTER 4**

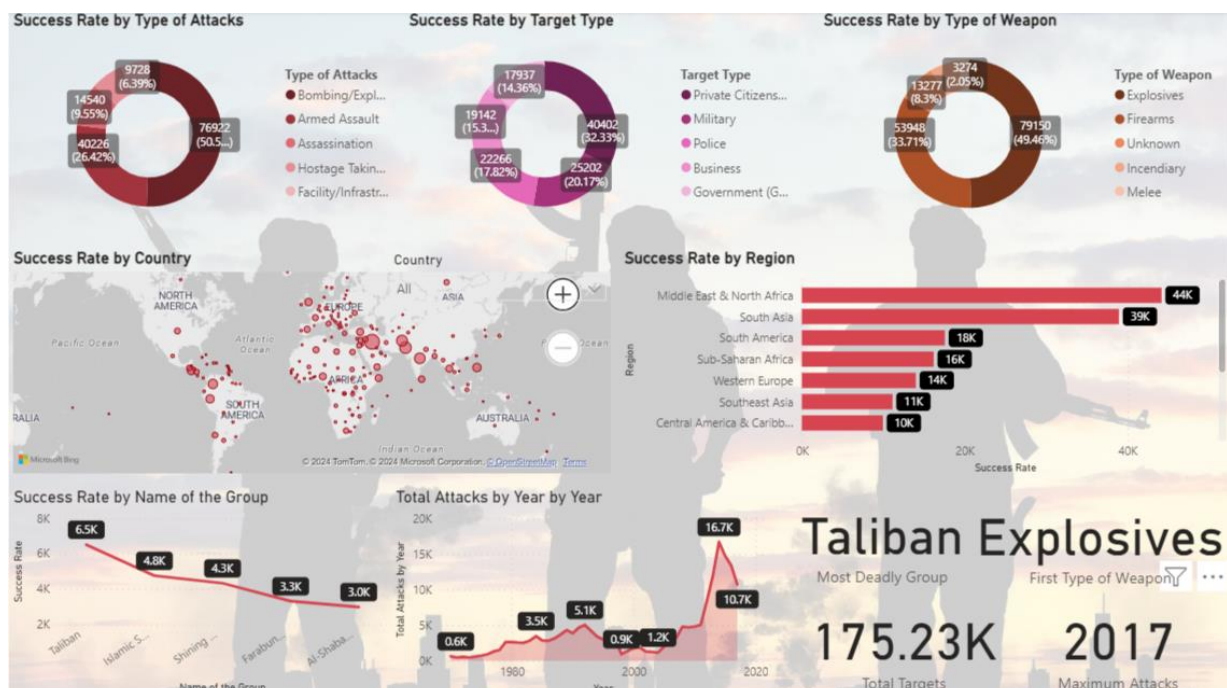
### **MODELING AND RESULT**

#### **Manage relationship**



The “disp” file will be used as the main connector as it contains most key identifier (account id, client id and disp id) which can be use to relates the 8 data files together. The “district” file is use to link the client profile geographically with “district id”

## Dashboard



## CONCLUSION

The project “Powered Global Terrorism Dataset Analysis” using Power BI has successfully demonstrated the potential of data analytics in the global terrorism. These trends in terrorism (diversity, decentralization, democratization, disinformation, and deadly) are shaping the future of violent extremism. This customary rule requires the following three key elements: (i) the perpetration of a criminal act (such as murder, kidnapping, hostage-taking, arson, and so on), or threatening such an act; (ii) the intent to spread fear among the population (which would generally entail the creation of public danger) or directly.

## **FUTURE SCOPE**

The future scope of this project is vast. The Global Congress provided a platform for victims of terrorism to directly share experiences, challenges, stories of their resilience, and contribution to wider society in a socially connected environment and to advocate for the strengthening and upholding of their rights and effective fulfilment of their needs. The following definition of terrorism is adapted from the official one used by the United States government: “Premeditated violence perpetrated against noncombatant targets by groups or clandestine agents, usually intended to influence an audience.