# Tech Saksham

## Case Study Report

## Data Analytics with Power BI

# “Analysis of Global Terrorism”

### “Lekshmipuram College of Arts & Science”

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# ABSTRACT

This study utilizes Power BI, a powerful business analytics tool, to analyze global terrorism trends. By integrating and visualizing data from various sources including the Global Terrorism Database, socio-economic indicators, and geopolitical factors, this analysis aims to identify patterns, hotspots, and underlying drivers of terrorism worldwide. Through interactive dashboards and visualizations, stakeholders gain insights into the evolving nature of terrorism, enabling informed decision-making and proactive counter-terrorism strategies.

# INDEX

# CHAPTER 1

# INTRODUCTION

## 1.1 Problem Statement

Despite ongoing efforts to combat terrorism, the global landscape remains fraught with security challenges. Traditional methods of analyzing terrorism data often lack comprehensive insights and fail to effectively identify emerging threats. This study aims to address this gap by leveraging the capabilities of Power BI to conduct a detailed analysis of global terrorism trends. By integrating diverse datasets and employing advanced analytics techniques, the research seeks to identify key patterns, factors, and trends driving terrorist activities worldwide. The ultimate goal is to provide policymakers, security agencies, and other stakeholders with actionable insights to enhance counter-terrorism efforts and improve global security.

## 1.2 Proposed Solution

The proposed solution for the Power BI Powered Global Terrorism Analysis involves harnessing the robust capabilities of Power BI to integrate, analyze, and visualize diverse datasets related to global terrorism. By consolidating data from sources such as the Global Terrorism Database, socio-economic indicators, and geopolitical factors, we can create a unified data model within Power BI. Through interactive dashboards and reports, stakeholders gain insights into trends, patterns, and geographic hotspots of terrorism incidents worldwide. Advanced analytics techniques like clustering and time-series analysis enable the identification of underlying patterns and forecasting of future trends. Geospatial visualization capabilities facilitate the mapping of terrorism incidents and analysis of spatial distributions. By delivering actionable insights and recommendations to policymakers and security agencies, this solution empowers proactive decision-making and the formulation of effective counter-terrorism strategies.

## 1.3 Feature

- Interactive visualizations for exploring terrorism data.
- Advanced analytics capabilities for extracting insights.
- Geospatial visualization for mapping terrorism incidents.
- Cross-domain analysis for understanding terrorism drivers.
- Seamless integration of diverse datasets.
- Actionable insights delivery through interactive reports.

## 1.4 Advantages

- Comprehensive data integration for a holistic view.
- Interactive visualizations aid in easy understanding.
- Real-time monitoring enables swift responses.
- Predictive analytics anticipate future trends.
- Geospatial analysis identifies high-risk areas effectively.
- Cross-domain insights provide a deeper understanding.
- Actionable insights facilitate informed decision-making.

## 1.5 Scope

The scope of Power BI Powered Global Terrorism Analysis involves gathering data from various sources including the Global Terrorism Database, socio-economic indicators, and geopolitical factors. Within Power BI, this data is integrated and analyzed to identify trends, patterns, and hotspots of terrorism worldwide. The analysis includes geospatial mapping of terrorism incidents and cross-domain correlation with socio-economic and political factors. Insights derived from this analysis are delivered through interactive reports, aiding stakeholders in making informed decisions and formulating proactive counter-terrorism strategies. Continuous refinement ensures the analysis remains relevant and effective in addressing global security challenges.

# CHAPTER 2

# SERVICES AND TOOLS REQUIRED

## 2.1 Services Used

- **Power BI Desktop :** Utilized for data preparation, modeling, and report creation.
- **Power BI Service :** Used for publishing and sharing reports, enabling collaboration among stakeholders.
- **Power BI Premium :** Employed for enhanced performance, scalability, and advanced analytics capabilities.
- **Power BI Embedded :** Integrated into custom applications or websites to provide embedded analytics functionality
- **Power BI Mobile :** Enables access to reports and dashboards on mobile devices, facilitating on-the-go decision-making.
- **Power BI APIs :** Utilized for customizing and extending Power BI functionality, such as integrating with other applications or automating tasks.

## 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**:

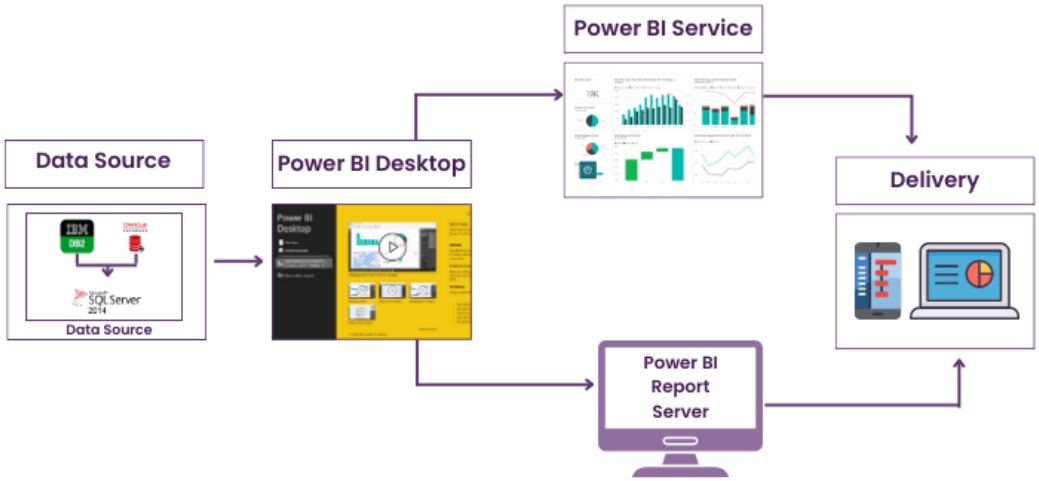
- **PowerBI Desktop**: This is a Windows application that you can use to create reports and publish them to PowerBI.
- **PowerBI Service**: This is an online SaaS (Software as a Service) service that you use to publish reports, create new dashboards, and share insights.
- **PowerBI Mobile**: This is a mobile application that you can use to access your reports and dashboards on the go.

# CHAPTER 3

# PROJECT ARCHITECTURE

## 3.1 Architecture




## 1.Sourcing Data

The first step in the working process of Power BI Architecture is sourcing data. Power BI can extract data from various sources such as Microsoft Excel sheets, CSV files, and databases. The extracted data can be directly imported into Power BI, or a live service link can be established to receive the data. It's important to note that if data is directly imported into Power BI, it can only be compressed to a maximum size of 1 GB. Once past that limit, only live queries can be run.

## 2.Transforming Data

Before using Power BI to visualise the data in a usable context, cleaning and pre-processing should be performed. Cleaning and pre-processing involve removing useless or missing values from rows and columns in the data sheet. After completing these processes, certain rules and policies will be applied to transform the data and load the datasets into the warehouses.

## 3.Report and publish data

Once the data is cleaned, processed, and transformed, visual reports will be created according to the specific needs of the organisation. A report is a visualisation of the data with different filters applied, presented in the form of graphs, pie charts, and other graphic representations. Converting raw data into contextualised information is one of the most important steps in the Power BI Architecture working process.

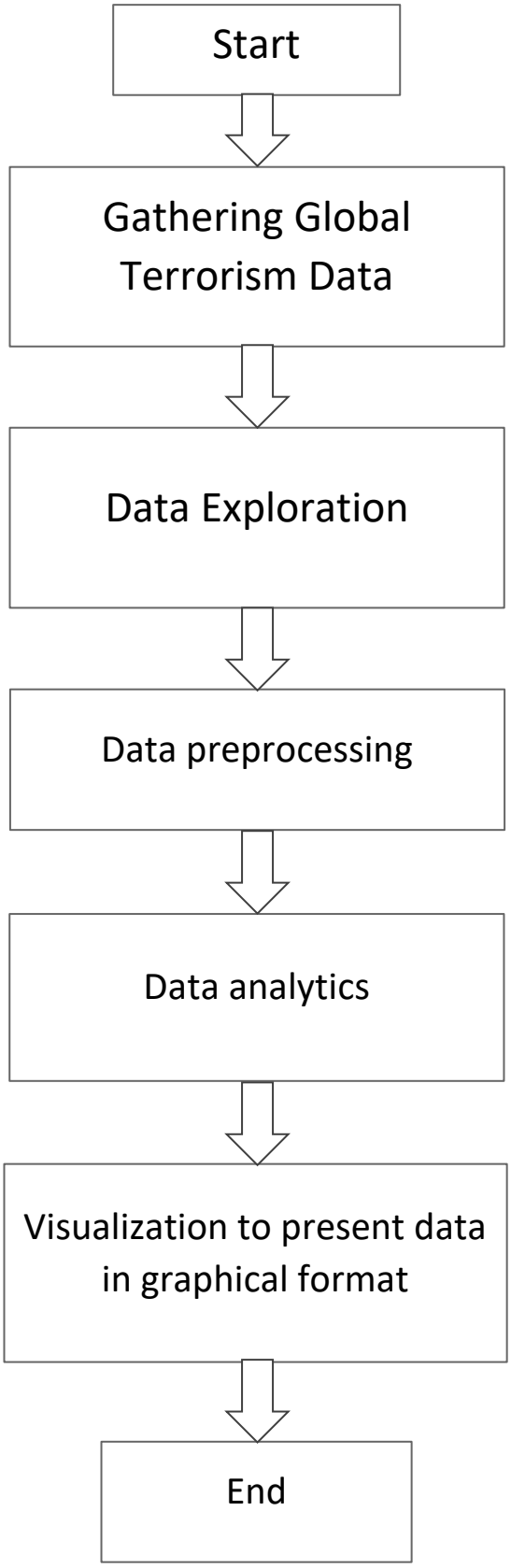
## 4.Creating dashboards

The final step in the working process of Power BI Architecture is the creation of dashboards. Power BI dashboards are created by pinning elements or pages of live reports. It's important to note that dashboards should be created only after reports have been published to the BI service. Upon saving the report, the chosen filter settings are maintained so that the user can apply filters as per their specific demands.

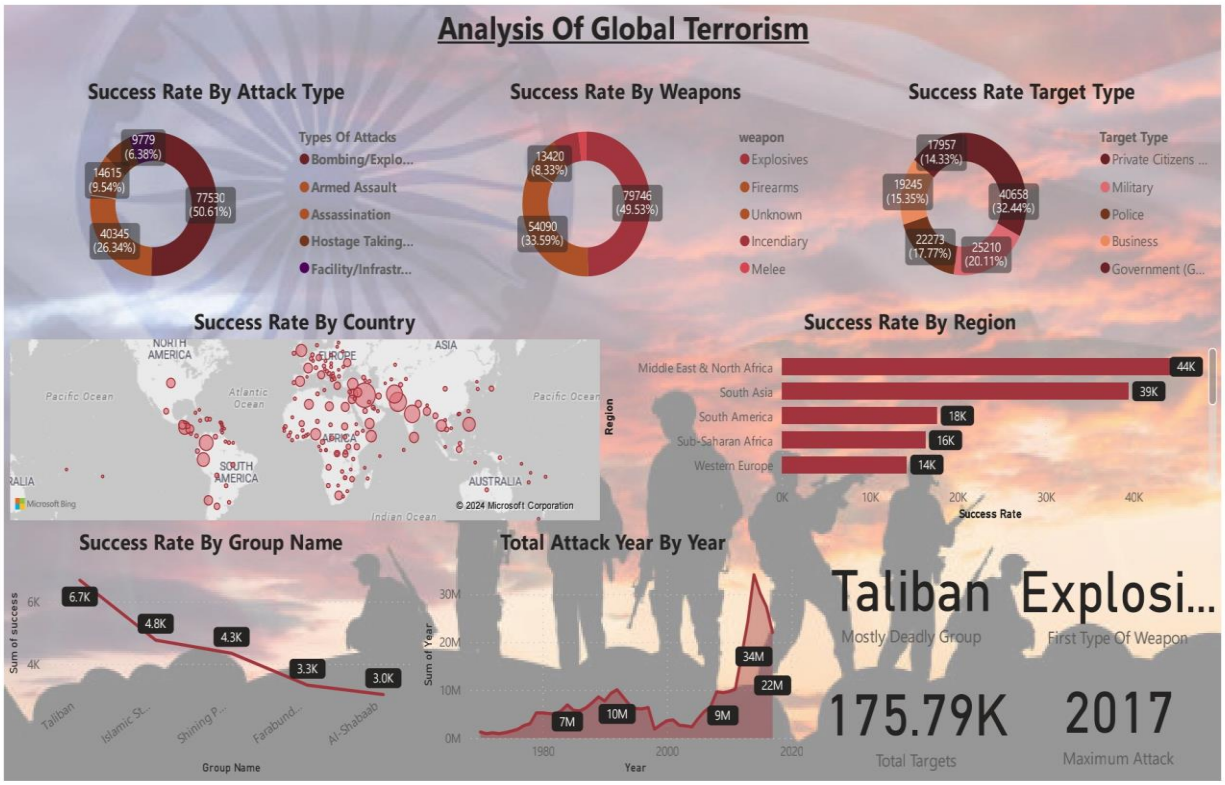
# CHAPTER 4

# MODELING AND RESULT



# Dashboard



# CONCLUSION

In conclusion, the Power BI Powered Global Terrorism Analysis offers a robust and comprehensive approach to understanding and addressing the complex challenges posed by global terrorism. By leveraging Power BI's advanced analytics and visualization capabilities, stakeholders can integrate, analyze, and visualize diverse datasets related to terrorism trends, patterns, and drivers. Through interactive dashboards and reports, decision-makers gain actionable insights to formulate proactive counter-terrorism strategies and enhance global security measures. The solution's ability to provide real-time monitoring, predictive analytics, and geospatial analysis further strengthens its effectiveness in identifying emerging threats and allocating resources effectively. Continuous refinement and optimization ensure the solution remains relevant and impactful in addressing the evolving nature of terrorism worldwide. Ultimately, the Power BI Powered Global Terrorism Analysis empowers stakeholders to make informed decisions and collaborate effectively in the fight against terrorism, promoting global peace and security.

# FUTURE SCOPE

In the future, the scope of Power BI Powered Global Terrorism Analysis holds immense potential for advancement and refinement. Enhanced integration of advanced analytics techniques, such as deep learning and sentiment analysis, promises to deepen our understanding of terrorism trends and patterns. This, coupled with AI-driven insights generation, will enable quicker identification of emerging threats. Geospatial analysis capabilities will continue to evolve, offering more detailed and dynamic mapping of terrorism incidents to aid in risk assessment and response planning. Real-time collaboration platforms will facilitate seamless information sharing among global stakeholders, enhancing coordination during crises. Predictive modeling will play a pivotal role in forecasting future terrorist activities, supporting proactive prevention strategies. Cross-domain data integration from sources like social media and financial transactions will provide a more comprehensive view of terrorism networks and drivers. Ethical considerations and privacy compliance will remain paramount, ensuring responsible and transparent use of data. Strengthened global collaboration and partnerships will further amplify the impact of counter-terrorism efforts. Overall, the future of Power BI Powered Global Terrorism Analysis holds promise for more effective and data-driven approaches to addressing the complex challenges of global terrorism.

# REFERENCE

https://mavenanalytics.io/project/908

# LINK

https://github.com/jebinth-jp/Analysis-Of-Global-Terrorism