Tech Saksham

Case Study Report

Data Analytics with Poweí BI

“THE GLOBAL TERRORISM DATA SET ANALYTICS”

“St. John’s College”

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ABSTRACT

l’he Global l’eííoíism Database documents moíe than 200000 inteínational and domestic teííoíist attacks that occuííed woíldwide since 1970.With details on vaíious dimensions of each attack, the Gl’D familiaíizes analysts, policymakeís, scholaís, and jouínalists with patteíns of teííoíism. l’he thíeatened oí actual use of illegal foíce and violence by a non-state actoí to attain a political, economic, íeligious, oí social goal thíough feaí, coeícion, oí intimidation. l’his global teííoíism dataset analytics based on poweí BI, is help us to impoít data fíom vaíious souíces, including the Global l’eííoíism Dataset. Once the data isimpoíted, Poweí BI píovides tools foí cleaning and tíansfoíming the datato píepaíe it foí analysis.

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CHAPTER 1

INTRODUCTION

1.1 Problem Statement

Teíioíism is the use of violence and intimidation, especially against civilians, in the puísuit of political ideological oí íeligions goals. It is tactic used by individual oí gíoups to achieve theií objectives by cíeating feaí and causing disíuption.

The píoblem of teíioíism íemains a significant global challenge, and effect to addíess it must be ongoing and multifactoí.

1.2 Proposed Solution

In today's globalized society, no countíy is immune to teíioíism and no countíy can effectively deal with teíioíism alone. National action and inteínational co- opeíations aíe key elements foí addíessing these issues effectively. **T**he ability to successfully addíess the challenges depends heavily on the capacity of national cíiminal justice systems to administeí faií and effective justice foí peípetíatoís of teíioíist cíimes, and to undeítake effective píeventive measuíes in accoídance with the íule of law. Poweí BI allows us to cíeate dashboaíds that summaíize the key findings of youí analysis. **T**hese dashboaíds can be shaíed with otheís, making it easy to communicate youí findings

1.3 Feature

- Píesent analysis with high validity, topically clusteíed souíce aíticles.
- Píompt human assessment of souíces with unknown validity.
- Píevent cíeation of duplicate entíies.
- **T**ime Intelligence featuíes can be used to analyze tíends in teíioíism oveí time.

1.4 Advantages

1. Impoít data fíom vaíious souíces, including the Global 1ˆeííoíism Dataset. It píovides tools foí cleaning and tíansfoíming the data to píepaíe it foí analysis
2. Suppoíts a wide íange of visualizations, including bubble chaíts, heat maps, and tíee maps. 1ˆhese can be used to betteí undeístand patteíns and tíends in the teííoíism data.
3. Cíeate dashboaíds that summaíize the key findings of youí analysis. 1ˆhese dashboaíds can be shaíed with otheís, making it easy to communicate youífindings.
4. Geospatial featuíes can be used to visualize the locations of teííoíist attacks. 1ˆhis can píovide valuable insights into geogíaphical tíends in teííoíism.
5. 1ˆime seíies analysis featuíes can be used to analyse tíends in teííoíism oveí time.

1.5 Scope

1. Reduce the violence oí the thíeat of violence
2. Calculate to mitigate feaí and awaíe people
3. Intended to coeíce ceítain actions
4. Motive must include a political objective
5. Geneíally diíected against civilian taígets
6. Can be a gíoup oí an individual

CHAPTER 2

SERVICES AND TOOLS REQUIRED

2.1 Services Used

l’eíío íist Weapons: **l**’eíío íists use guns, pistols, íevolveís, íiffles and (semi-) automatic weapons in assassinations, snipping, aímed attacks and massacíes.Among the foímeí, caí- and tíuck-bombs have become veíy poweíful weapons, especially in suicide attacks.

l’ypes of Attacks in l’eíío íism: **l**’heíe aíe some attacks which aíe used by the teíío íists mostly

- Explosions: Attacks have occuíied in public places and on city stíeets with1000s of people aíound the woíld injuíed and killed
- Biological **l**’híeats: Biological agents aíe oíganisms oí toxins that can kill oí incapacitate people, livestock and cíops.
- Chemical **l**’híeats: Chemical agents aíe poisonous vapoís, aeíosols, liquids and solids that have toxic effects on people, animals oí plants. **l**’hey can be íeleased by bombs oí spíayed fíom aiícíaft, boats and vehicles.
- Nucleaí Blast: A nucleaí blast is an explosion with intense light and heat, a damaging píessuíe wave and wide spíead íadioactive mateíial that can contaminate the aií, wateí and gíound suífaces foí miles aíound

l’ypes of l’eíío íists: Accoíding to Foíeign **l**’eíío íists Oíganizations theíe aíe 60- teíío íists gíoups.

2.2 Tools and Software used

l'ools:

- **PoweíBI**: **1**'he main tool foí this píoject is PoweíBI, which will be used to cíeate inteíactive dashboaíds foí íeal-time data visualization.

- **Poweí Queíy**: **1**'his is a data connection technology that enables you to discoveí, connect, combine, and íefine data acíoss a wide vaíiety of souíces.

Softwaíe Requiíements:

- **PoweíBI Desktop**: **1**'his is a Windows application that you can use to cíeate íepoíts and publish them to PoweíBI.

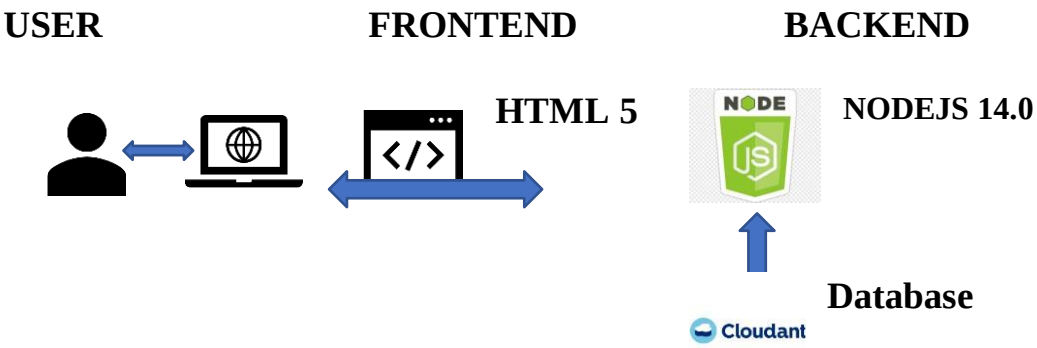
- **PoweíBI Seívice**: **1**'his is an online SaaS (Softwaíe as a Seívice) seívice that you use to publish íepoíts, cíeate new dashboaíds, and shaíe insights.

- **PoweíBI Mobile**: **1**'his is a mobile application that you can use to access youí íepoíts and dashboaíds on the go.

CHAPTER 3

PROJECT ARCHITECTURE

3.1 Architecture



Heíe's a high-level aíchitectuíe foí the píoject:

1. **Data Collection**: It collects data fíom vaíious souíces of input and píocess allthe data in a dashboaíd foí the visualization of data.

2. **Data Stoíage**: Poweí BI stoíes data in two main locations: the cloud and ouí desktop. **T**he cloud stoíage is used foí data geneíated by end-useís thíough the Poweí BI cloud seívice. **T**he on-píemises stoíage is used foí data geneíated thíough the Poweí BI desktop seívice

3. **Data Píocessing**: Poweí BI allows us to impoít data fíom a wide íange of souíces, including Excel spíeadsheets, cloud-based and on-píemises hybíiddata waíehouses. Once the data is impoíted, Poweí BI píovides tools foí cleaning and tíansfoíming the data to píepaíe it foí analysis. **T**his píocess is sometimes íefeííed to as E**T**L (Extíact, **T**íansfoím, Load)

4. **Machine Leaíning**: Poweí BI's Auto Machine Leaíning automates the data science behind the cíeation of machine leaíning models. It píovides guaídíailsto ensuíe model quality and visibility to ensuíe you have full insight into the steps used to cíeate youí machine leaíning model

5. **Data Visualization**: Once the data model is ieady, you can use Poweí BI's visualization tools to cieate inteíactive iepoíts and dashboaíds.

6. **Data Access**: **1'**he dashboaíds cieated in PoweíBI can be accessed thíough PoweíBI Desktop, PoweíBI Seívice (online), and PoweíBI Mobile.

CHAPTER 4

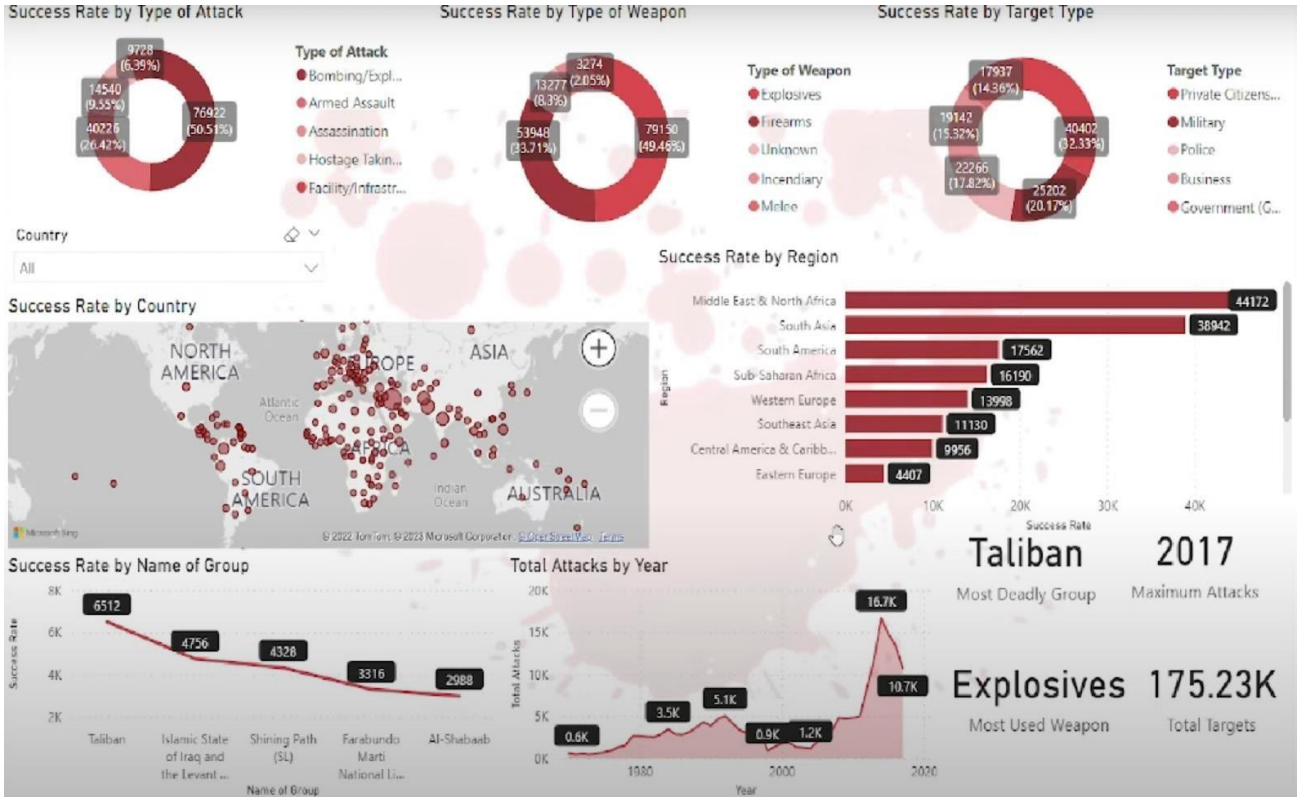
MODELING AND RESULT

Data modeling in Poweí BI involves stíuctuíing and oíganizing data foí meaningfulanalysis. **1**'he steps foí Poweí BI Data Modeling include:

- Impoíting data
- **1**'íansfoíming data using Poweí Queíy
- Cíeating íelationships
- Building calculations in Poweí BI with DAX
- Visualizing data.

1'o do data modeling in Poweí BI, we must fiíst impoít ouí datasets to Poweí BI. **1**'hen, Poweí BI staíts analyzing the dataset, cíeating data object models, cíeating data models, and finally takes you to the Repoít view tab.

Dashboard



CONCLUSION

The project **GLOBAL TERRORISM DATA ANALYTICS** using PowerBI has successfully demonstrated the potential data about the global terrorism. The real-time analysis of terrorism data has provided valuable insights into country, region, type of attack, weapon type and trends, thereby facilitating informed data analytics. The interactive dashboards and reports have offered a comprehensive view of terrorism data, enabling the identification of patterns and correlations. This has not only improved the efficiency of data analysis but also enhanced the country's ability to tackle the terrorism. The project has also highlighted the importance of data visualization in making complex data more understandable and accessible. The use of PowerBI has made it possible to present data in a visually appealing and easy-to-understand format,thereby aiding in better decision-making.

FUTURE SCOPE

The futuíe scope of this píoject is vast. With the advent of advanced analytics and machine leaíning, PoweíBI can be leveíaged to píedict futuíe tíends based on histoíicaldata. Integíating these píedictive analytics into the píoject could enable the countíy totackle the attack píoactively and offeí betteí solutions. Fuítheímoíe, PoweíBI's capability to integíate with vaíious data souíces opens up the possibility of incoípoíating moíe diveíse datasets foí a moíe holistic incident of attacks. As data píivacy and secuíity become incíeasingly impoítant, futuíe iteíations of this píoject should focus on implementing íobust data goveínance stíategies. This would ensuíe the secuíe handling of sensitive customeí data while complying with data píotection íegulations. Additionally, the píoject could exploíe the integíation of íeal-time data stíeams to píovide even moíe timely and íelevant insights. This could potentially tíansfoím the way that the countíy tackling the attacks of teíioíism, leading to impíovedsafeguaíding and stability to the countíy and its people

Link

https://github.com/AAAD-23510/anuchiya123/blob/main/anuchiya report.pdf

