Project Title	Data Governance and Security Dashboard
Tools	Tableau Desktop, SQL, Excel
Domain	Business Analyst
Project Difficulties level	beginner

Dataset : Dataset is available in the given link. You can download it at your convenience.

Click here to download data set

About Dataset

The World Bank's ESG Data Draft dataset provides information on 17 key sustainability themes spanning environmental, social, and governance categories.

In order to shift financial flows so that they are better aligned with global goals, the World Bank Group (WBG) is working to provide financial markets with improved data and analytics that shed light on countries' sustainability performance. Along with new information and tools, the World Bank will also develop research on the correlation between countries' sustainability performance and the risk and return profiles of relevant investments.

Example: You can get the basic idea how you can create a project from here

Data Governance and Security Tableau Project

Task:

Create an Interactive Dashboard for ESG Data by Country

1. Data Preparation:

- Country Code: Represents the country (e.g., "USA" for the United States, "IND" for India).
- Series Code: Represents different ESG indicators (e.g., CO2 emissions, renewable energy usage, social welfare index).
- Description: A brief explanation of each Series Code.

2. Objectives:

- Visualize and compare ESG indicators across different countries.
- Allow users to filter by specific ESG categories (Environment, Social, Governance).
- Enable users to view detailed descriptions of each Series Code.

3. Steps to Complete the Task:

A. Load the Data into Tableau:

- Import the dataset containing Country Code, Series Code, and Description.

B. Create a Main Dashboard with the Following Components:

- Map Visualization:
    - Plot countries on a world map using the Country Code.
    - Color-code the countries based on the selected ESG indicator (Series Code).
    - Add filters for users to select specific ESG categories (Environment, Social, Governance).
- Bar Chart:
    - Display a bar chart comparing the selected ESG indicator across multiple countries.
    - Use Country Code on the x-axis and the ESG value on the y-axis.
    - Allow sorting by ascending or descending order.
- Series Description Panel:
    - Create a panel or tooltip that shows the Description of the selected Series Code when a user hovers over a data point on the map or bar chart.
- Interactive Filters:
    - Include dropdown filters for users to select specific Series Codes and Categories (Environment, Social, Governance).
    - Allow filtering by Country Code to view data for a specific country.

C. Add Interactivity:

- Implement tooltips on the map and bar chart to show detailed information (Country Name, ESG value, Series Code description).
- Create a filter action that updates the bar chart based on the country selected on the map.

D. Design the Dashboard:

- Ensure the dashboard is visually appealing with clear titles and labels.
- Arrange the components logically (e.g., map at the top, bar chart below, filters on the side).
- Make sure the dashboard is responsive and easy to navigate.

4. Deliverables:

- A Tableau workbook containing the dashboard.
- A brief explanation of the insights derived from the visualizations.

This task will help you practice creating and organizing visualizations, applying filters, and enhancing interactivity within Tableau, all while working with real-world ESG data.

Example: You can get the basic idea how you can create a project from here

Project Overview

The goal of this project is to implement a Data Governance and Security Dashboard in Tableau. This dashboard will monitor and ensure the integrity, privacy, and security of data within the organization. It will track key metrics related to data governance policies, data access, and compliance with regulatory standards.

Data Governance Tableau Project

Project Overview

The goal of this project is to implement a Data Governance Dashboard in Tableau. This dashboard will monitor and ensure the integrity, privacy, and security of data within the organization. It will track key metrics related to data governance policies, data access, and compliance with regulatory standards.

Step 1: Data Preparation

Ensure your data sources cover the following metrics:

Data Quality:

- Date
- DataSource
- AccuracyRate
- CompletenessRate

- ConsistencyRate

Data Access:

- Date
- User
- Department
- Role
- AccessRequestID
- RequestStatus
- ApprovalTime

Data Privacy:

- Date
- User
- DataType
- AccessCount
- ComplianceStatus

Data Security:

- Date
- IncidentID
- IncidentType
- DetectionTime

- ResponseTime
- MeasuresTaken

Compliance:

- Date
- AuditID
- Regulation
- AuditStatus
- NonComplianceCount

Step 2: Tableau Dashboard Creation

1. **Connect Data Sources:**
    - Open Tableau Desktop and connect to your prepared data sources (CSV files, databases, etc.).
2. **Create Sheets for Each Metric:**
    - **Data Quality Sheet:**
        - **Line Chart:** Trend in data accuracy, completeness, and consistency over time.

sql

```
// Calculated fields for data quality

Data Accuracy Rate: `SUM([AccurateRecords]) / SUM([TotalRecords])`
```

```
Data Completeness Rate: `SUM([CompleteRecords]) / SUM([TotalRecords])`
Data Consistency Rate: `SUM([ConsistentRecords]) / SUM([TotalRecords])`
```

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- **Data Access Sheet:**
  - **Bar Chart:** Number of access requests, approvals, and denials.
  - **Heat Map:** Access requests by department or role.

sql

```
// Calculated fields for data access
Number of Data Access Requests: `COUNT([AccessRequestID])`
Number of Approved Requests: `COUNT(IF [RequestStatus] = 'Approved' THEN 1 ELSE NULL END)`
Average Time to Approve Requests: `AVG(DATEDIFF('day', [RequestDate], [ApprovalDate]))`
```

-
- **Data Privacy Sheet:**
  - **Pie Chart:** Percentage of access in compliance with privacy policies.
  - **Line Chart:** Number of data accesses over time.

sql

```
// Calculated fields for data privacy
Compliance Rate with Privacy Policies: `SUM(IF [ComplianceStatus] = 'Compliant' THEN 1 ELSE 0 END) / COUNT([ComplianceStatus])`
```

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- **Data Security Sheet:**
  - **Scatter Plot:** Security incidents by type and detection/response times.
  - **Bar Chart:** Number of unauthorized access attempts.

sql

```
// Calculated fields for data security
Number of Unauthorized Access Attempts: `COUNT(IF [AccessStatus] = 'Unauthorized' THEN 1 ELSE NULL END)`
```

-
- **Compliance Sheet:**
  - **Bar Chart:** Audit results.
  - **Line Chart:** Number of non-compliance incidents over time.

sql

```
// Calculated fields for compliance

Compliance Rate: `SUM(IF [AuditStatus] = 'Passed' THEN 1 ELSE 0

END) / COUNT([AuditStatus])`
```

    -

3. **Combine Sheets into a Dashboard:**
    - Create a new dashboard in Tableau.
    - Drag and drop the sheets created in the previous step onto the dashboard canvas.
    - Arrange the sheets to create a cohesive layout.
    - Add filters and interactive elements to allow users to drill down into specific metrics.
4. **Add Titles and Descriptions:**
    - Provide clear titles for each sheet and section of the dashboard.
    - Add descriptions to explain what each visualization represents.

Step 3: Final Report

Title: Data Governance Dashboard Report

1. Overview

- **Data Accuracy Rate:** 98%
- **Number of Unauthorized Access Attempts:** 5

- **Compliance Rate with Data Protection Regulations:** 95%

2. Data Quality

- **Data Completeness Rate:** 97%
- **Data Consistency Rate:** 96%
- **Trend Analysis:** Data quality has improved by 2% over the last quarter.

3. Data Access

- **Number of Data Access Requests:** 150
- **Number of Approved Requests:** 140
- **Average Time to Approve Requests:** 2 days

4. Data Privacy

- **Number of Access to Sensitive Data:** 50
- **Compliance with Privacy Policies:** 98%
- **Data Breaches:** 1 minor incident, resolved within 1 hour.

5. Data Security

- **Number of Security Incidents:** 3
- **Time to Detect and Respond:** Average 30 minutes
- **Measures Taken:** Increased monitoring, implemented multi-factor authentication.

6. Compliance

- **Compliance Audits Passed:** 4

- **Compliance Audits Failed:** 0
- **Non-Compliance Incidents:** 2, both resolved with corrective actions.

Conclusion: The Data Governance Dashboard provides a comprehensive overview of the organization's data governance posture. The dashboard helps in identifying areas for improvement and ensures that the organization is compliant with relevant data protection regulations. Regular monitoring and reporting will continue to enhance data governance practices.

Tableau Code and Calculated Fields

Here are the sample calculated fields in Tableau:

```
// Data Quality Calculations
Data Accuracy Rate: SUM([AccurateRecords]) / SUM([TotalRecords])
Data Completeness Rate: SUM([CompleteRecords]) / SUM([TotalRecords])
Data Consistency Rate: SUM([ConsistentRecords]) / SUM([TotalRecords])

// Data Access Calculations
Number of Data Access Requests: COUNT([AccessRequestID])
Number of Approved Requests: COUNT(IF [RequestStatus] = 'Approved' THEN 1
ELSE NULL END)
Average Time to Approve Requests: AVG(DATEDIFF('day', [RequestDate],
[ApprovalDate]))

// Data Privacy Calculations
Compliance Rate with Privacy Policies: SUM(IF [ComplianceStatus] = 'Compliant'
THEN 1 ELSE 0 END) / COUNT([ComplianceStatus])

// Data Security Calculations
```

```
Number of Unauthorized Access Attempts: COUNT(IF [AccessStatus] =
'Unauthorized' THEN 1 ELSE NULL END)

// Compliance Calculations
Compliance Rate: SUM(IF [AuditStatus] = 'Passed' THEN 1 ELSE 0 END) /
COUNT([AuditStatus])
```

Exporting the Dashboard

After creating the dashboard in Tableau:

1. Go to `File` > `Export As` > `Image/PDF` to save a static version of the dashboard.
2. Alternatively, you can publish the dashboard to Tableau Server or Tableau Public for interactive use.

This project plan provides a structured approach to implementing a Data Governance dashboard using Tableau, complete with data preparation guidelines, dashboard creation steps, and a final report template.

[Reference link]