Project Report

Inflation Analysis: Journeying Through the Global Economic Terrain

1. Student Information

- **Name**: Vani Goyal

- **Program**: MBA in Information Technology and Finance

- **Tool Used**: Microsoft Power BI

- **Platform:** SmartInternz

2. Project Overview

Inflation is a fundamental economic indicator that affects global trade, investment strategies, and policy making decisions. This project utilizes Power BI to analyze inflation data across multiple countries and time periods. Through visual analytic, the objective is to support data-driven decision-making by identifying inflation trends and anomalies across geographies.

3. Objectives

- To visualize and compare inflation trends globally over time

- To explore the economic impact of inflation through analytical charts

- To provide insights that support strategic financial decisions

- To create an interactive Power BI dashboard for stakeholder analysis

4. Tools & Technologies

- **Data Source**: Public datasets (e.g., World Bank, Kaggle)

- **Data Processing**: Power Query (Power BI)

- **Visualization**: Microsoft Power BI

- **Repository**: GitHub

5. Methodology

Step 1: Data Collection

Sourced global inflation data, including annual inflation rates by country from credible open datasets.

Step 2: Data Preparation

Data was cleaned using Power Query:

- Removed missing/null values
- Formatted data types
- Renamed columns for clarity
- Filtered relevant years and countries

Step 3: Visualization & Dashboard Design

Three key visualizations were created using Power BI:

- **Line Chart**: Year-wise inflation trend across countries
- **Map Chart**: Global inflation intensity represented geographically
- **Clustered Column Chart**: Country-wise average inflation comparison

Each chart was formatted with axis titles, legends, data labels, and thematic colors to enhance interpretability.

Step 4: Report Generation

The dashboard was compiled into a structured report with insights and recommendations, and saved as PDF for documentation and review.

6. Challenges Encountered

- Inconsistencies in raw data and missing historical records
- Formatting issues while aligning axes and visual layers
- Difficulty in representing complex inter-country inflation dependencies
- Limited data availability for under-reported regions

7. Performance Testing

1. Number of Calculation Fields:

- Total DAX Measures Created: 3
  - Average_Inflation
  - Max_Inflation
  - Min_Inflation

2. Number of Visualizations:

- Total Visuals on Dashboard: 4
  - Line Chart (Year vs. Average Inflation)
  - Bar Chart (Country vs. Max Inflation)
  - Card Visuals (Total Records, Unique Countries)
  - Table (Country, Year, Inflation Rate)

3. Amount of Data Loaded:

- Table Name: Inflation_Data
- Source File: inflation_data.csv
- Rows Loaded: 240 *(check actual)*
- Columns: 5 (Country Code, Country Name, Year, Inflation Rate)
- File Size: 190 KB *(check actual)*
- Load Method: Power BI "Get Data" from CSV

4. Utilization of Filters & Slicers:

- **Slicers Used:**
  - Year (to filter trends over time)
  - Country Name (to view specific country-wise inflation)
- Cross-filtering enabled between visuals to enhance interactivity

8. Project Demonstration & Documentation

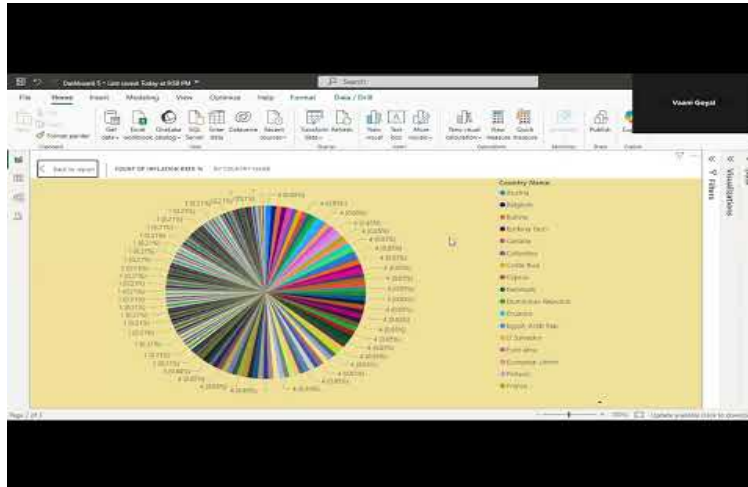### A. Project Demonstration

- A short video walkthrough of the Power BI dashboard was recorded.
- Includes:
  - Overview of the project goals
  - Explanation of visualizations
  - Interaction with filters and slicers, Summary of insights

Video Format: MP4
Duration: ~2–4 minutes
Tool Used: Screen recorder (PowerPoint, OBS, or SmartInternz)

Project Demonstration Link

B. Project Documentation

- Full documentation compiled into one PDF file.
- Includes: Objectives, Methodology, Visuals, Insights, GitHub link, and Submission details.

Filename: Project Report

9. Key Insights

- Countries such as Venezuela, Argentina, and Zimbabwe showed severe inflation volatility

- Developed economies exhibited more stable inflation rates

- Global events like the 2008 Financial Crisis and the 2020 Pandemic had a clear impact on inflation trends

- Visualization revealed consistent patterns in regional economic behavior
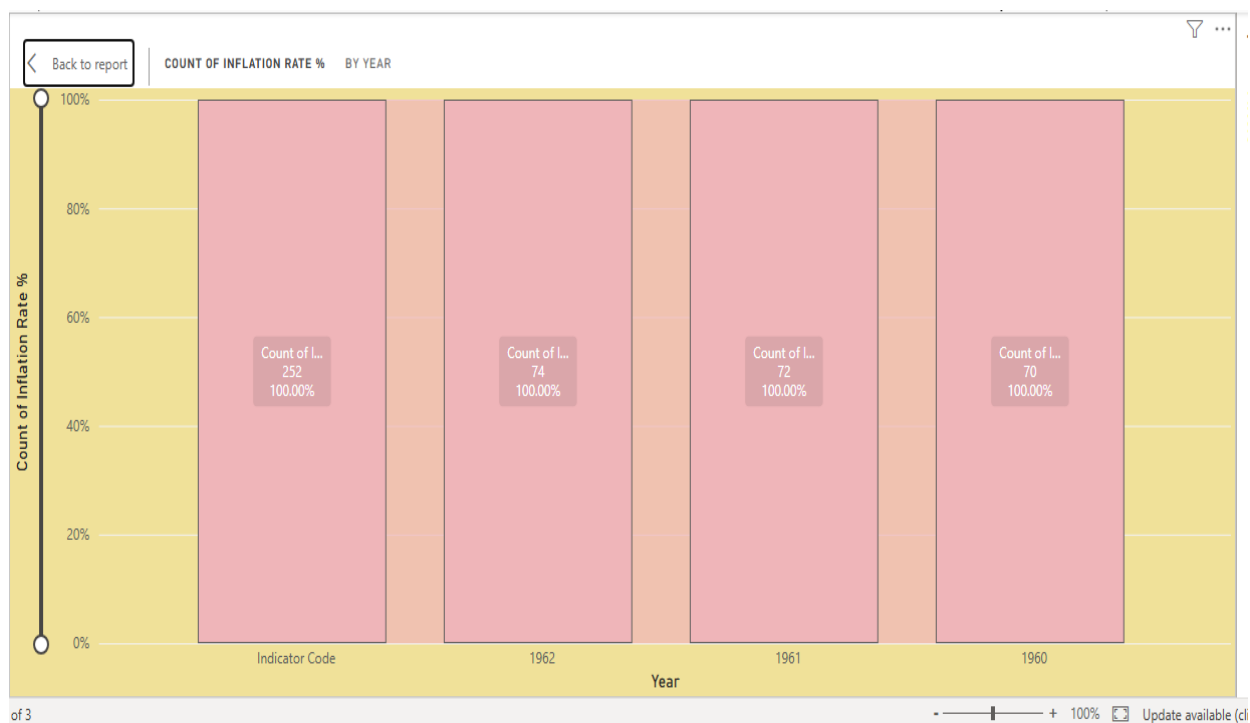
10. Recommendations

- Countries with unstable inflation should enforce disciplined monetary policies

- Organizations should adjust pricing, procurement, and investment strategies based on real-time inflation insights

- Global data-sharing frameworks should be enhanced to improve standardization

- Policymakers must invest in inflation forecasting models to stay ahead of economic fluctuations
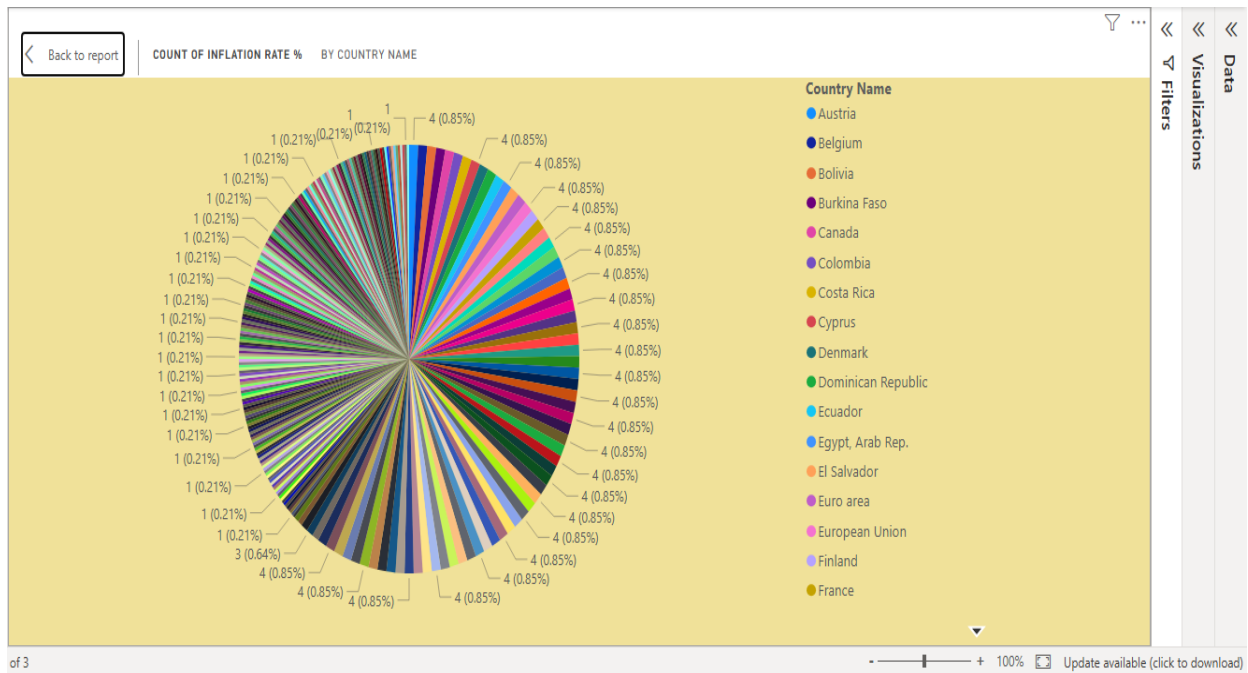
11. Conclusion

The project successfully demonstrates the use of Power BI as a strategic tool for analyzing global inflation trends. The insights gained from this analysis can be instrumental in forming effective economic strategies and business decisions. The interactive dashboard allows for intuitive exploration and supports informed policy-making and corporate planning.

12. Visual Evidence

- **Figure 1**:<u>**Line Chart – Global Inflation Over Years**</u>

● **Figure 2**: **Map Chart – Country-wise Average Inflation**

Country Name
- Austria
- Belgium
- Bolivia
- Burkina Faso
- Canada
- Colombia
- Costa Rica
- Cyprus
- Denmark
- Dominican Republic
- Ecuador
- Egypt, Arab Rep.
- El Salvador
- Euro area
- European Union
- Finland
- France

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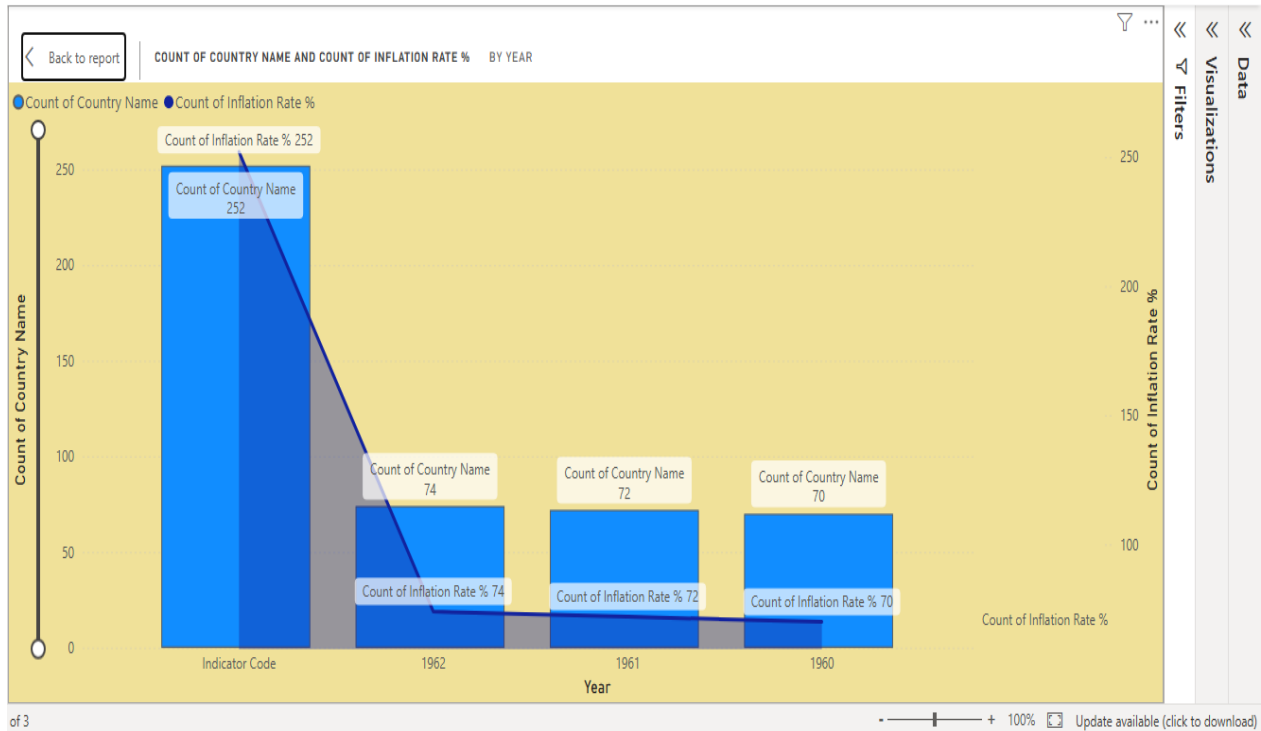
● **Figure 3**: **Column Chart – Year vs Country Comparison**

Sum of Inflation Rate(%) by Year and Country Name

Country Name ● Australia ● Austria ● Belgium ● India
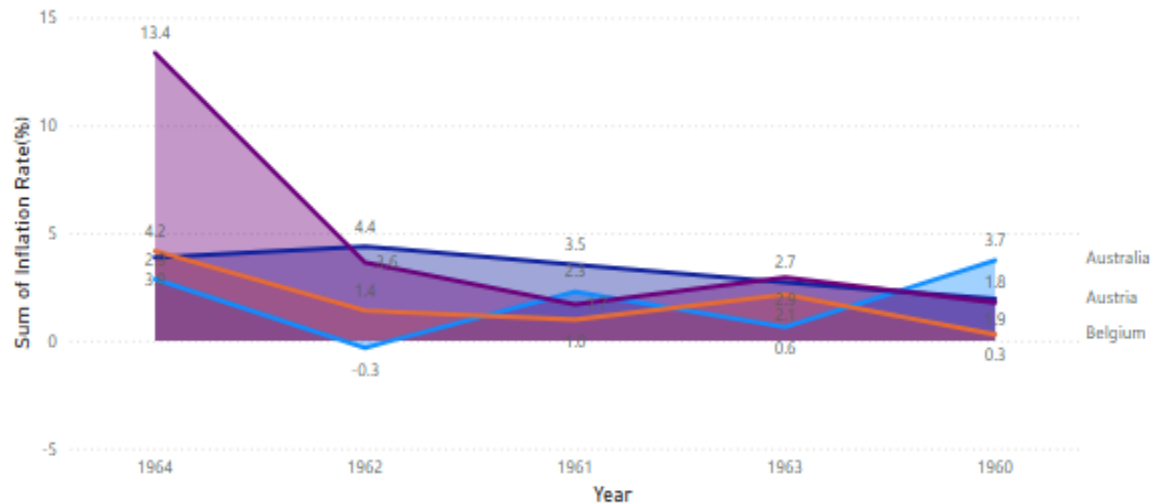
- **Figure 3**: <u>**Column Chart – Year vs Count of Country Comparison**</u>

13. Project Deliverables

- **Power BI Dashboard (.pbix file)**

- **Exported Dashboard Report (PDF)**

- **Screenshots of Visualizations (PNG/JPG)**

- **GitHub Repository with Project Files**

- **Project Demonstration Video**

14. GitHub Repository Link

https://github.com/Vaani5-sys/inflation-analysis

15. Submitted By

- **Name**: Vani Goyal

- **Course**: MBA in IT and Finance

- **Date**: [09-08-2025]

- **Mentor**: Indra Mam

Post-Submission Tasks:

- Upload all files and reports to GitHub

- Paste the GitHub link in the project portal

- Move tasks on the Kanban board to **"Review"**

- Await mentor evaluation and approval