

Analysis of Foreign Direct Investment (FDI) in India (2000 to 2017)

Executive Summary

Investment decisions often rely on understanding historical data and analysing it under different events to minimize risks. This project aims to analyse Foreign Direct Investment (FDI) in India over 17 years, focusing on sector-wise and year-wise investment trends. The goal is to identify key metrics, discover meaningful relationships between attributes, and provide actionable insights for optimizing investment strategies.

Problem Statement

Investment is a game of understanding historic data of investment objects under different events. To minimize risk and find equilibrium investment, analytics are applied. This project focuses on understanding Foreign Direct Investment (FDI) in India over the last 17 years, analysing sector-wise and year-wise investments, and identifying key metrics and meaningful relationships between attributes.

Objective:

To analyse the sector-wise and year-wise Foreign Direct Investment (FDI) in India from 2000-01 to 2016-17, identify key metrics and relationships between attributes, and provide insights for optimal investment strategies.

Data Source:

The dataset for this analysis was obtained from an internship with Unified Mentor. It contains detailed sector-wise and financial year-wise FDI data in India.

Methodology

1. **Data Cleaning and Preparation:**
 - Handling missing values.
 - Correcting data types.
 - Removing duplicates.
2. **Exploratory Data Analysis (EDA):**
 - Descriptive statistics to summarize FDI data.
 - Visualizing FDI trends over time.
 - Identifying top-performing sectors and years.
3. **Unpivoting Columns:**
 - Unpivoting sector-wise data to generate a long format dataset with 1071 rows for detailed analysis.
4. **Dashboard Creation:**
 - Developing interactive dashboards using BI tools like Power BI and Tableau.
 - Presenting insights and findings in a visually appealing and easy-to-understand format.

Expected Outcomes

- **Insights into FDI Trends:** Identification of key trends in FDI over the last 17 years, including sector-wise and year-wise analysis.
- **Performance Metrics:** Detailed analysis of FDI performance across different sectors and financial years.
- **Optimized Investment Strategies:** Recommendations for optimizing FDI strategies based on historical data and identified relationships.
- **Interactive Dashboards:** Creation of interactive dashboards for continuous monitoring and decision-making support.

Tools and Technologies

- **Data Manipulation:** Excel
- **Data Cleaning and Transformation:** Python, Pandas
- **Data Visualization and Dashboarding:** Power BI.
- **Other Tools:** Forage platform for internship-related tasks

Risks and Challenges

- **Data Quality:** Ensuring the accuracy and completeness of the data is crucial for reliable analysis.
- **Complexity in Data Integration:** Combining data from multiple sources and ensuring consistency can be challenging.
- **Dynamic Market Conditions:** Rapid changes in the market environment may affect the relevance of the analysis over time.
- **Technological Limitations:** Potential constraints related to the tools and technologies used for data processing and visualization.

Conclusion

This project aims to provide a comprehensive analysis of FDI in India, leveraging historical data to uncover key insights and relationships. By identifying trends and optimizing investment strategies, the project supports informed decision-making and strategic planning. The creation of interactive dashboards further enhances the ability to monitor and analyse FDI data continuously, enabling businesses and policymakers to make data-driven decisions.

Power BI file :<C:\Users\saima\OneDrive\Pictures\FDI.pbix>