Project Design Phase
Solution Architecture

Date	27 MARCH 2025
Team ID	PNT2025TMID06667
Project Name	Project - Power BI Inflation Analysis Journeying Through Global Economic Terrain.
Maximum Marks	4 Marks

Solution Architecture:

The solution architecture for the "**Power BI Inflation Analysis –** Journeying Through Global Economic Terrain" is designed to efficiently collect, process, analyze, and visualize inflation data in a real-time, scalable, and AI-driven manner. The system begins with data ingestion, where inflation-related information is extracted from multiple sources such as government databases (World Bank, IMF), financial APIs (OECD, Statista), and web scraping from market reports.

This data is then processed and transformed using Power BI Dataflows, ETL pipelines, and cloud storage solutions (Azure Data Lake, AWS S3, or Google BigQuery), ensuring structured and clean datasets. In the analytics layer, Power BI's AI Insights, DAX calculations, and machine learning models (ARIMA, Prophet, or LSTM) are used to forecast inflation trends, identify key economic drivers, and perform time-series analysis. The visualization layer provides interactive Power BI dashboards, enabling users to explore live inflation trends, country-wise comparisons, and predictive insights, with reports exportable in PDF, Excel, and PowerPoint formats.

The system is deployed on cloud platforms (Azure, AWS, or Google Cloud) to ensure scalability and high availability, with API integrations for seamless connectivity with banks, investment firms, and research institutions. This architecture ensures a comprehensive, automated, and user-friendly approach to inflation analysis, empowering policymakers, businesses, and researchers with real-time, data-driven decision-making capabilities.

Solution Architecture Diagram: