

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	31 January 2025
Team ID	PNT2025TMID06667
Project Name	Project - Power BI Inflation Analysis Journeying Through Global Economic Terrain.
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Data Integration	<ul style="list-style-type: none">-Connect to real-time financial APIs (IMF, World Bank, OECD)- Import inflation data from Excel, CSV, and SQL databases- Enable scheduled data refresh for up-to-date analysis
FR-2	Data Processing & Transformation	<ul style="list-style-type: none">- Clean and normalize inflation data- Aggregate inflation trends based on country, sector, and timeline- Apply currency conversion for global comparison
FR-3	Dashboard & Visualization	<ul style="list-style-type: none">-Display inflation trends using line charts, bar graphs, and heatmaps- Enable drill-down functionality for detailed analysis- Provide filters for country, sector, and time period
FR-4	Predictive Analytics & AI	<ul style="list-style-type: none">-Implement forecasting models (ARIMA, LSTM, Prophet)- Show historical vs. predicted inflation trends- Correlate inflation with GDP, interest rates, and unemployment

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The system should have an intuitive UI with interactive visualizations in Power BI, making inflation data easily understandable for users.
NFR-2	Security	All data connections should use secure authentication (OAuth, API keys, IAM roles), with encryption for sensitive financial data.
NFR-3	Reliability	The system should ensure 99.9% uptime with backup mechanisms for continuous data availability.
NFR-4	Performance	Dashboards should load within 3-5 seconds, even for large datasets, using DirectQuery and optimized DAX calculations.

NFR-5	Availability	Hosted on Azure, AWS, or Google Cloud with load balancing and auto-scaling to handle high traffic.
NFR-6	Scalability	The architecture should support increasing data sources, additional APIs, and enterprise-level usage without performance degradation.