Power BI Inflation Analysis: Journeying Through Global Economic Terrain

Introduction :

Inflation, a critical economic indicator, profoundly impacts businesses, consumers, and policymakers worldwide. In this scenario, a multinational corporation operating in diverse markets seeks to optimize pricing strategies, mitigate risks, and make informed investment decisions. Leveraging Power BI's analytical prowess, we delve into inflation data to offer tailored recommendations aligned with each market's unique economic conditions.

Our approach involves data collection, preparation, and modeling to build a robust analysis framework. Through insightful visualizations and strategic recommendations, we aim to equip stakeholders with actionable insights for informed decision-making. Our deliverables include an interactive Power BI dashboard showcasing inflation trends and a comprehensive report summarizing analysis findings and recommendations.

Scenario 1: Lack of Data Integration and Standardization
In the context of "Power BI Inflation Analysis: Journeying Through Global Economic Terrain," a key problem might be the lack of standardized data sources and integration methods. Different regions and organizations may report inflation data differently, leading to inconsistencies and challenges in aggregating and analyzing global inflation trends effectively within Power BI. This lack of standardization hampers the ability to provide accurate and comprehensive insights into inflation dynamics worldwide.

Scenario 2: Limited Historical Data Accessibility
Another challenge could be the limited accessibility to historical inflation data across various countries and regions. This scarcity of historical data poses a significant obstacle in building robust predictive models within Power BI for forecasting inflation trends accurately. Without a comprehensive historical dataset, analysts may struggle to identify long-term patterns and correlations necessary for making informed decisions and projections.

Scenario 3: Complex Economic Interdependencies
The intricate interdependencies among global economies pose a complex challenge in "Power BI Inflation Analysis: Journeying Through Global Economic Terrain." Fluctuations in one country's inflation rate can have ripple effects across other regions, making it difficult to isolate and analyze the drivers of inflation within individual economies. Effectively capturing and analyzing these interdependencies within Power BI requires sophisticated modeling techniques and access to diverse datasets, which may not be readily available or easily integrated into the analysis platform.

Technical Architecture:

Project Flow

To accomplish this, we have to complete all the activities listed below,

1) Data Collection
- o Collect the dataset,
- o Connect Data with Power BI

2) Data Preparation
- o Prepare the Data for Visualization

3) Data Visualizations
- o Visualizations

4) Dashboard
- o Responsive and Design of Dashboard

5) Report
- o Report Creation

6) Performance Testing
- o Amount of Data Rendered to DB
- o Utilization of Data Filters
- o No. of Calculation fields
- o No. of Visualizations/Graphs

7) Project Demonstration & Documentation
- o Record explanation Video for project end to end solution
- o Project Documentation-Step by step project development procedure

Milestone 1: Data Collection & Extraction from Database

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes and generate insights from the data.

Activity 1: Collect the dataset

Please use the link to download the dataset: https://www.kaggle.com/datasets/sazidthe1/global-inflation-data

Activity 1.1: Understand the data

Data contains all the meta information regarding the columns described in the CSV files.
Column Description of the Dataset:
1) Country name: Name of the Country.
2) Inflation Rate: Inflation rate of each country.
3) Region: Region of country which belongs
4) Year: represents the calendar year for which the corresponding inflation data is recorded.
5) AdjustedInflationRate: The 'Adjusted Inflation Rate' column is derived by multiplying the inflation rate by 0.01.
6) Inflation Rate Category: The 'Inflation Rate' column is categorized as high, medium, or low based on predefined thresholds.

Milestone 2: Data Preparation

Data preparation is a critical stage in the data analysis process, encompassing activities aimed at cleaning, transforming, and organizing raw data into a structured format suitable for analysis. This process involves identifying and addressing issues such as missing values, outliers, inconsistencies, and inaccuracies in the dataset, ensuring data quality and reliability.

Activity 1: Prepare the Data for Visualization

Preparing the data for visualization involves cleaning the data to remove irrelevant or missing data, transforming the data into a format that can be easily visualized, exploring the data to identify patterns and trends, filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualizations to gain insights into the performance and efficiency. Since the data is already cleaned, we can move to visualization.

Data Loading Video Link https://drive.google.com/file/d/1miqYNgSH2ccGxgy_Ci9T3GI_4_U-JUVj/view?usp=drivesdk

Data Cleaning Video Link

https://drive.google.com/file/d/1n4hcG960ZLJAC7HdP0hB15tyXfkxxC0P/view?usp=drivesdk

Milestone 3: Data Visualization

Data visualization is the process of creating graphical representations of data to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

Activity 1.1: Average Inflation Rate

Activity 1.2: Maximum Inflation Rate.

Activity 1.3: Total Number of Regions

Activity 1.4: Name of the country

Afghanistan

First country_name

Activity 1.5: Sum of inflation rate by year.

Activity 1.6: Sum of inflation rate by inflation rate category.

Activity 1.7: Sum of inflation rate by inflation rate category.

Activity 1.8: Sum of inflation rate and sum of adjusted inflation rate.

Activity 1.9: sum of inflation rate by inflation rate category

Activity 1.10: sum of inflation rate by country name.

Activity 1.11: country name and region name.

Milestone 4: Dashboard

A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance, manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

Activity :1- Responsive and Design of Dashboard

Explanation video link: https://drive.google.com/file/d/1mR6-FWfIzuQo6Sw9Rmqvwq2r1keqMotj/view?usp=drivesdk

Milestone 5: Report

A report is a comprehensive document that provides a detailed and structured account of data analysis, findings, and insights. It is typically used for in-depth analysis,

documentation, and communication of results. Reports are suitable for a diverse audience, including decision-makers, analysts, and stakeholders who need a comprehensive understanding of the data.

Report :

Explanation video link:
https://drive.google.com/file/d/1meudX7rMMVvVaizHCY4VoBkyOxUMVWXZ/view?usp=drivesdk

Milestone 6: Performance Testing

Performance testing is a critical component of software development aimed at evaluating the speed, responsiveness, and stability of an application under varying load conditions. By simulating real-world scenarios, such as heavy user traffic or high data volumes, performance testing helps identify potential bottlenecks, weaknesses, and areas for optimization within the system..

Activity 1: **Amount of Data Loaded**

"Amount of Data Loaded" refers to the quantity or volume of data that has been imported, retrieved, or loaded into a system, software application, database, or any other data storage or processing environment. It's a measure of how much data has been successfully processed and made available for analysis, manipulation, or use within the system.

Milestone 7: Project Demonstration & Documentation

Below mentioned deliverables to be submitted along with other deliverables

Activity 1:- Record explanation Video for project end to end solution

Activity 2:- Project Documentation-Step by step project development procedure

Create document as per the template provided

Customer Problem Statement Template

I am	I'm trying to	But	Because	Which makes me feel
Consumer	Understand how inflation impacts my purchasing power and cost of living across different regions	Economic data is complex ,scattered and difficult to interpret	Global inflation trends are influenced by multiple variables such as supply chain disruptions ,monetary policies	Uncertain about financial decisions and concerned about future expenses
Businesses	Analyze the impact of inflation on costs, pricing strategies	Economic data is vast and difficult to interpret	Inflation is driven by multiple global factors such as demand shifts, increase rates	Uncertain about pricing decisions, cost management and long term financial planning
Government	Monitor and analyze inflation trends to make informed policy decisions that stabilize economy and protect citizens	Economic data is vast and complex to interpret in real time.	Inflation is influenced by multiple global and domestic factors such as interest rate fluctuations, geo political events	Challenged in making timely to difficult to manage decisions

Template

Empathy map canvas

Use this framework to empathize with a customer, user, or any person who is affected by a team's work. Document and discuss your observations and note your assumptions to gain more empathy for the people you serve.

Originally created by Dave Gray at XPLANE

Share template feedback

Develop shared understanding and empathy

Summarize the data you have gathered related to the people that are impacted by your work. It will help you generate ideas, prioritize features, or discuss decisions.

WHO are we empathizing with?
CONSUMERS
BUSINESSES
GOVERNMENT

GOAL

THINK AND FEEL:
CONSUMER:
Prices will kept rising ∴ need to save more.
BUSINESSES:
Should we raise prices.
GOVERNMENT:
Should we raise interests rates further.
concern about public satisfaction.

What do they need to DO?
STAKEHOLDERS NEED TO RESEARCH MORE ON INFLATION ANALYSIS.

What do they HEAR?
CONSUMER:
Peoples are talking about grocery prices on socialmedia.
GOVERNMENT:
Central bank is raising interest rates to contorl inflation.
New government subsidies
BUSINESSES:
Major companies are increasing prices due to higher production costs.
Retailer offer more discount

PAINS
CONSUMER:
Reduced purchasing power.
BUSINESSES:
Demand decreases.
GOVERNMENT:
Citizens are protesting against rising food prices increase(OR) Basic needs prices increase.

GAINS
CONSUMER:
I have become more conscious of my spending and budgeting habits.
BUSINESSES:
Whave optimized our investment.
GOVERNMENT:
Increase tax returns.

What do they SEE?
CONSUMER:
Quantity decrease ,price increase.
BUSINESSES:
Changing customer behaviour.
GOVERNMENT:
External factors like oil prices increases

What do they SAY?
CONSUMER:
Everything is getting more expensive.
BUSINESSSES:
Consumer demand shifts.
GOVERNMENT:
We will introduce subsidies to ease the burden on households.

Stakeholders in inflation trend analysis—governments, businesses, investors, consumers, and policymakers—adapt their decisions based on economic indicators, market fluctuations, and policy impacts.

What do they DO?
CUSTOMER:
Buying cheaper products.
BUSINESSES:
Prices to maintain profitability.
GOVERNMENT:
Taxes increases and providing subsidies

Need some inspiration?
See a finished version of this template to kickstart your work.
Open example

Template

Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- **10 minutes** to prepare
- **1 hour** to collaborate
- **2-8 people** recommended

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

- **Team gathering**
  Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.
- **Set the goal**
  Think about the problem you'll be focusing on solving in the brainstorming session.
- **Learn how to use the facilitation tools**
  Use the Mural or Miro templates to run a happy and productive session.

Open article

Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes

Example

How to solve the challenges in analyzing inflation trends for a multinational corporation

Key rules of brainstorming

To run an smooth and productive session

- Stay in topic.
- Encourage wild ideas.
- Defer judgment.
- Listen to others.
- Go for volume.
- If possible, be visual.

Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

TIP
You can switch to sticky note and list the parcel (section to expand) one to each sticky!

Person 1 | Person 2 | Person 3 | Person 4

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes

TIP
Add a commonality tags to sticky notes that relate to each other: Behavior, Urgency, and Technology are common tags to classify within your mural.

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes

TIP
Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the placement by using the "bring to me" function in the **Party** mode of the keyboard.

After you collaborate

You can export the mural as an image or pdf to share with members of your company who might find it helpful.

Quick add-ons

- **Share the mural**
  Share a view link on the mural with stakeholders to keep them in the loop about the outcomes of the session.
- **Export the mural**
  Export a copy of this mural as a PNG or PDF to attach to emails, include in slides, or save in your drive.

Keep moving forward

- **Strategy blueprint**
  Define the components of a new idea or strategy.
  Open the template
- **Customer experience journey map**
  Understand customer needs, motivations, and obstacles for an experience.
  Open the template
- **Strengths, weaknesses, opportunities & threats**
  Identify strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan.
  Open the template

Need some inspiration?
See a finished mural in action in our Brainstorm & prioritize ideas template.
Open template

Scenario: [Existing experience through a product or service]	Entice How does someone become aware of this service?	Enter What do people experience as they begin the process?	Engage In the core moments in the process, what happens?	Exit What do people typically experience as the process finishes?	Extend What happens after the experience is over?
Experience steps What does the person (or people) at the center of this scenario typically experience in each step?	Business need awareness of inflation impacts across different markets before making strategic decisions	Business team gather inflation data from multiple sources	Companies analyze inflation impacts on raw material costs,wages and product pricing	Leadership reviews insights and decides on budget reallocations	Continous improvement of inflation analysis process
Interactions What interactions do they have at each step along the way? - **People:** Who do they see or talk to? - **Places:** Where are they? - **Things:** What digital touchpoints or physical objects do they use?	Introduction with financial analysts, government economic reports and AI-based forecasting tools	Collaborating with data scientists and economists to interpret inflation data	Engagement with financial strategists, vendors and local market analysts	Final reports shared with key stakeholders for implemention	Reguiar updates to inflation models based on new data
Goals & motivations At each step, what is a person's primary goal or motivation? ("Help me..." or "Help me avoid...")	To adjust pricing and supply chain decisions	Identify inflation driven risks and oppurtunities early	Balance cost control while maintaining product affordability	Ensure all teams align with inflation driven adjustments	Ensure ongoing alignment with corporate financial goals
Positive moments What steps does a typical person find enjoyable, productive, fun, motivating, delightful, or exciting?	Access to real time inflation dashboards that highlight country wise trends	Gaining competitive intelligence on how other business are adjusting to inflation	Optimizing inventory and procurement processes to mitigate inflation impacts	Confidence implementing proactive inflation mitigation strategies	Improved adoptability to inflation trends over time
Negative moments What steps does a typical person find frustrating, confusing, angering, costly, or time-consuming?	Delays in gathering inflation data lead to reactive instead of proactive strategies	Identify inflation driven risks and oppurtunities early	Balance cost control while maintaining product affordability	Ensure all teams align with inflation driven adjustments	Ensure ongoing alignment with corporate financial goals
Areas of opportunity How might we make each step better? What ideas do we have? What have others suggested?	Implement Ai- driven inflation tracking that sends alerts when inflation thresholds are crossed	Introduce AI-based models that automatically adjust forecasts for inflation variances	Use power BIs predictive analytics to simulate inflation scenario	Automate report generation with real time data integration	Establish feedback loops to refine inflation analysis tools

Product School
Created in partnership with Product School
Use an example

Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	31 January 2025
Team ID	LTVIP2025TMID21325
Project Name	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 collection and integration	Integrate data from various sources, including: Economic indicators (CPI, GDP, inflation rates).
FR-2	Data cleaning and processing	Handling missing values ,perform data transformation.
FR-3	Data visualization	Create interactive and dynamic visualizations
FR-4	Inflation analysis	Identifying trends and patterns in inflation data.
FR-5	Report Creation	Generate automate reports with insights.
FR-6	Data export	Export reports in pdf and excel format.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Design an intuitive and user-friendly interface, with clear navigation and minimal cognitive load.
NFR-2	**Security**	Implement proper security measures to protect sensitive economic data.
NFR-3	**Reliability**	Ensure the dashboard provides accurate and reliable data with proper data validation.
NFR-4	**Performance**	Ensure the dashboard responds quickly to user interactions, with a maximum load time of 5 seconds.
NFR-5	**Availability**	Ensure and support multiple user accessing simultaneously.

NFR-6	**Scalability**	Ensure the dashboard can handle large datasets and scale up or down as needed to accommodate changing data volumes.

Project Design Phase-II
Data Flow Diagram & User Stories

Date	31 January 2025
Team ID	LTVIP2025TMID21
Project Name	Power BI Inflation Analysis : journeying through global economic terrain.
Maximum Marks	4 Marks

Data Flow Diagrams: A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Data analyst	Data Collection	USN-1	As a Data analyst, I want to collect inflation data from multiple sources so that I can analyze global trends.	I can access a consolidated dataset from various regions.	high	Sprint-1
Data analyst	Data Cleaning	USN-2	As a Data analyst, I want to clean and standardize inflation data so that it is accurate and usable.	Data is structured, complete, and free of inconsistencies.	medium	Sprint-1
Data analyst	Data Visualization	USN-3	As a Data analyst, I want to visualize inflation trends using Power BI dashboards so that I can identify key patterns.	I can interact with real-time charts and graphs.	high	Sprint-2
Consumer	Inflation Analysis	USN-4	As a Consumer, I want to apply predictive models to forecast inflation so that I can support business strategy.	Predictive models generate inflation forecasts with high accuracy.	high	Sprint-2
Businesses	Report Creation	USN-5	As a Businesses, I want to create reports so that I can analyze specific markets.	I can create reports.	medium	Sprint-2
Government	Data Export	USN-6	As a Government, I want to export reports in different formats so that I can share insights with stakeholders	I can download reports in CSV, Excel, or PDF format.	medium	Sprint-2

Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	31 January 2025
Team ID	LTVIP2025TMID21325
Project Name	Power BI Inflation Analysis : journeying through global economic terrain.
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Data Collection	Gathering inflation data from global sources	Power BI, Excel
2.	Data Loading	Importing data into the analysis environment	Power BI
3.	Data Cleaning	Handling missing values, standardizing formats	Power BI
4.	Data Visualization	Creating charts, trends, and dashboards	Power BI
5.	Scenario-1	Average Inflation Rate	Power BI Visualizations (KPI Card)
6.	Scenario-2	Maximum Inflation Rate	Power BI Visualizations (KPI Card)
7.	Scenario-3	Total Number of Regions	Power BI Visualizations (KPI Card)
8.	Scenario-4	Inflation Rate change over a year	Power BI Visualizations (KPI Card)
9.	Scenario-5	Distribution Of Inflation rate Categories.	Power BI Visualizations (Area Chart)
10.	Scenario-6	Filter applied On Country Column	Power BI Visualizations (Pie Chart)
11.	Scenario-7	Average Inflation Rate Change by Country	Power BI Visualizations (Stacked Column Chart)
12.	Scenario-8	inflation rate and adjusted inflation rate change over years	Power BI Visualizations (Scatter Chart)
13.	Scenario-9	Count of Region By country	Power BI Visualizations (Filled Map)

14.	Scenario-10	inflation rate Distribution	Power BI Visualizations (Stacked Column Chart)
15.	Scenario-11	Top 3 inflation rate Countries	Power BI Visualizations (Donut Chart)
16.	Report Creation	Generating interactive inflation reports	Power BI
17.	Data Export	Exporting processed insights	Power BI, Excel

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Scalability	Handles large datasets covering multiple years	Power BI, Excel
2.	Interactivity	Allows filtering by country, year, inflation type	Power BI(DAX, Power Query)
3.	performance	Optimized queries for efficient analysis	Power BI(DAX)
4.	usability	User-friendly dashboards for economic insights	Power BI
5.	Automation	Automated data refresh for updated insights	Power BI

Problem-Solution fit canvas 2.0

Purpose / Vision

Define CS, fit into CC

1.CUSTOMER SEGMENTS

CS

Primary customers: Business executives, financial analysts, policymakers, multinational corporations.
Secondary customers: Investors, economic researchers, consultants.

6. CUSTOMER

CC

Data accessibility: Not all markets provide historical or standardized data.
Technical expertise: Businesses may lack Power BI skills for advanced analytics.
Budget: High-cost solutions (e.g., Bloomberg Terminal) may not be viable for all companies.

5. AVAILABLE SOLUTIONS

AS

Government reports (IMF, World Bank, central banks).
Financial news and market analysis (Bloomberg, Reuters).
Manually compiled Excel reports (prone to errors and inefficiencies).
Third-party economic databases (expensive, limited customization).

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS

J&P

Understand inflation trends across different regions.
Optimize pricing strategies based on inflation forecasts.
Mitigate risks due to currency fluctuations and inflationary pressures.
Make informed investment decisions in diverse economic environments.

9. PROBLEM ROOT CAUSE

RC

Data fragmentation across regions and reporting standards.
limited access to historical inflation trends.
conomic interdependencies making analysis complex.

7. BEHAVIOUR

BE

Direct actions: Collect inflation data, analyze trends, adjust business models.
Indirect actions: Monitor interest rates, exchange rates, and economic policies.

Focus on J&P, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS

Sudden inflation spikes impacting profitability.
Economic instability prompting risk assessment.
Need for data-driven decision-making in financial planning.
Competitive pressure to adjust pricing strategies efficiently.

4. EMOTIONS: BEFORE / AFTER

EM

Before: Uncertainty, frustration due to inconsistent and fragmented inflation data.
After: Confidence, clarity in decision-making with integrated, real-time inflation insights.

10. YOUR SOLUTION

SL

Power BI Dashboard integrating real-time inflation data from diverse sources.

Predictive analytics models for inflation forecasting.

Custom visualizations tailored for different business needs.

Automated data integration ensuring standardization across markets.

8. CHANNELS of BEHAVIOUR

CH

Online: Financial websites, economic dashboards, Power BI reports.

Offline: Business meetings, financial planning sessions, economic conferences.

Extract online & offline CH of BE

AMALTAMA

Project Design Phase

Proposed Solution Template

Date	15 February 2025
Team ID	LTVIP2025TMID21325
Project Name	Power BI Inflation Analysis: journeying through global economic terrain.
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	How to solve the challenges in analysing inflation trends for a multinational corporation. The challenge is to analyse historical inflation trends, predict future inflation rates, and understand their impact on different industries.
2.	Idea / Solution description	Implement predictive models to forecast trends and provide actionable insides for stakeholders. Interactive dashboards that track inflation rates across different countries.
3.	Novelty / Uniqueness	Ability to correlate inflation trends with other macroeconomic indicators like GDP, interest rates, and employment.
4.	Social Impact / Customer Satisfaction	Helps policymakers and businesses make informed financial decisions, reducing the risk of economic downturns. Assists businesses in pricing strategies, supply chain management, and financial planning.
5.	Business Model (Revenue Model)	API integrations for financial institutions and enterprises needing inflation-related data analytics.
6.	Scalability of the Solution	Can expand to include additional economic indicators, sectors, and regions. Power BI allows seamless scaling from small businesses to multinational corporations.

Project Design Phase

Solution Architecture

Date	15 February 2025
Team ID	LTVIP2025TMID21325
Project Name	Power BI Inflation Analysis : journeying through global economic terrain
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behaviour, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.

Example - Solution Architecture Diagram:

Power BI
Power BI

Project Planning Phase

Project Planning Template (Product Backlog, Sprint Planning, Stories, Storypoints)

Date	15 February 2025
Team ID	LTVIP2025TMID21325
Project Name	Power BI Inflation Analysis : journeying through global economic terrain.
Maximum Marks	5 Marks

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Data Collection	USN-1	As a Data analyst, I want to collect inflation data from multiple sources so that I can analyze global trends	2	High	Baggu Lellavathi
Sprint-1	Data Cleaning	USN-2	As a Data analyst, I want to clean and standardize inflation data so that it is accurate and usable.	3	medium	Bonela Bhavani
Sprint-2	Data Visualization	USN-3	As a Data analyst, I want to visualize inflation trends using Power BI dashboards so that I can identify key patterns.	5	high	Bommali Sowmya
Sprint-2	Inflation analysis	USN-4	As a Consumer, I want to apply predictive models to forecast inflation so that I can support business strategy.	3	high	Bommali Sowmya
Sprint-2	Report creation	USN-5	As a Businesses, I want to create reports so that I can analyze specific markets	3	medium	Bora Jayalakshmi

Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	24	2 Days	20FEB 2025	21FEB 2025	24	21 FEB 2025
Sprint-2	24	2 Days	22FEB 2025	23FEB 2025	24	23FEB 2025
Sprint-3	24	2 Days	24FEB 2025	26FEB 2025	24	26FEB 2025
Sprint-4	24	2 Days	27FEB 2025	28 FEB 2025	24	28FEB 2025

Velocity:

Sprint-2	Data Export	USN-6	As a Government, I want to export reports in different formats so that I can share insights with stakeholders	2	low	Bora Jayalakshmi

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{sprint\ duration}{velocity} = \frac{20}{10} = 2$$

FEB
MAR
APR
MAY
Sprints
GI-1 Data collection
GI-2 collect dataset
GI-3 connect data with powe...
GI-4 Data preparation
GI-5 handling missing values
GI-6 handling categorical val...
GI-7 Data visualization
GI-8 Prepare Visualization
GI-9 design of dashboard
GI-10 Report
GI-11 Report Creation
GI-12 Number of visualizations
DONE
+ Create Epic

Projects / GLOBAL INFLATION
All sprints
Complete sprint
Search
Epic
Sprint
GROUP BY: None
Insights
View settings
TO DO
IN PROGRESS
DONE 8
DATA VISUALIZATION
GI-8
design of dashboard
GI-9
Report Creation
REPORT
GI-11
Number of visualizations
GI-12
+ Create issue
Sprint progress
100% done
Done 100%
In progress 0%
Not started 0%
Sprint burndown
8 points done, 0 points to go
Feb 20
Feb 23
Feb 25
Feb 27
Feb 28
Remaining work
Guideline
Your sprint scope has increased by 8 points

Project Development Phase
Model Performance Test

Date	10 February 2025
Team ID	LTVIP2025TMID21
Project Name	Power BI Inflation Analysis : journeying through global economic terrain.
Maximum Marks	

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Screenshot / Values
1.	Data Rendered	**Downloading The Dataset** Please use the link to download the dataset: link **Activity 1.1: Understand the data** Data contains all the meta information regarding the columns described in the CSV files. Column Description of the Dataset: 1) Country_name: Name of the Country. 2) Inflation Rate: Inflation rate of each country. 3) Region: Region of country which belongs 4) Year: represents the calendar year for which the corresponding inflation data is recorded. 5) AdjustedInflationRate: The 'Adjusted Inflation Rate' column is derived by multiplying the inflation rate by 0.01 . 6) InflationRateCategory:The 'Inflation Rate' column is categorized as high, medium, or low based on predefined thresholds.
2.	Data Preprocessing	

3.	Utilization of Data Filters	
4.	DAX Queries Used	
5.	Dashboard design	No of Visualizations / Graphs – 11
6	Report Design	No of Visualizations / Graphs -11